

# Catalogue of Geadephaga (Coleoptera, Adephaga) of America, north of Mexico

Yves Bousquet<sup>1</sup>

<sup>1</sup> Agriculture and Agri-Food Canada, Central Experimental Farm, Ottawa, Ontario, Canada

Corresponding author: Yves Bousquet (yves.bousquet@agr.gc.ca)

---

Academic editor: Terry Erwin | Received 24 May 2012 | Accepted 19 September 2012 | Published 28 November 2012

---

**Citation:** Bousquet Y (2012) Catalogue of Geadephaga (Coleoptera, Adephaga) of America, north of Mexico. ZooKeys 245: 1–1722. doi: 10.3897/zookeys.245.3416

---

## Abstract

All scientific names of Trachypachidae, Rhysodidae, and Carabidae (including cicindelids) recorded from America north of Mexico are catalogued. Available species-group names are listed in their original combinations with the author(s), year of publication, page citation, type locality, location of the name-bearing type, and etymology for many patronymic names. In addition, the reference in which a given species-group name is first synonymized is recorded for invalid taxa. Genus-group names are listed with the author(s), year of publication, page citation, type species with way of fixation, and etymology for most. The reference in which a given genus-group name is first synonymized is recorded for many invalid taxa. Family-group names are listed with the author(s), year of publication, page citation, and type genus. The geographical distribution of all species-group taxa is briefly summarized and their state and province records are indicated.

One new genus-group taxon, *Randallius* new subgenus (type species: *Chlaenius purpuricollis* Randall, 1838), one new replacement name, *Pterostichus amadeus* new name for *Pterostichus vexatus* Bousquet, 1985, and three changes in precedence, *Ellipsoptera rubicunda* (Harris, 1911) for *Ellipsoptera marutha* (Dow, 1911), *Badister micans* LeConte, 1844 for *Badister ocularis* Casey, 1920, and *Agonum deplanatum* Ménétériés, 1843 for *Agonum fallianum* (Leng, 1919), are proposed. Five new genus-group synonymies and 65 new species-group synonymies, one new species-group status, and 12 new combinations (see Appendix 5) are established.

The work also includes a discussion of the notable private North American carabid collections, a synopsis of all extant world geadephagan tribes and subfamilies, a brief faunistic assessment of the fauna, a list of valid species-group taxa, a list of North American fossil Geadephaga (Appendix 1), a list of North American Geadephaga larvae described or illustrated (Appendix 2), a list of Geadephaga species described from specimens mislabeled as from North America (Appendix 3), a list of unavailable Geadephaga names listed from North America (Appendix 4), a list of nomenclatural acts included in this catalogue (Appendix 5), a complete bibliography with indication of the dates of publication in addition to the year, and indices of personal names, supraspecific names, and species-group names.



**Keywords**

Ground beetles, Trachypachidae, Rhysodidae, Carabidae, North America

**Introduction**

The Adephaga, a name coined by the Swiss entomologist and botanist Joseph Philippe de Clairville [1742-1830] in 1806, represents the second largest suborder of Coleoptera with an estimated 39,300 species described to 2005. The group is undisputedly natural, based on the presence of several synapomorphies in the adult and immature stages (Beutel and Ribera 2005: 53; Beutel et al. 2008; Lawrence et al. 2011). The term Adephaga comes from the Greek word *adephagos* meaning gluttonous, greedy, in reference to the predaceous habits of adults and larvae of the vast majority of the species. Conventionally the Adephaga are divided into two groups, the Geadephaga for the terrestrial families and the Hydradephaga for the aquatic families.

The extant hydradephagan families include the Gyrinidae (about 875 species), Haliplidae (about 220 species), Noteridae (about 250 species), Amphizoidae (five species), Hygrobiidae (six species), Dytiscidae (about 3,700 species), Aspidytidae (two species), and Meruidae (one species). Some studies, based on structural features of the adult (Burmeister 1976; Baehr 1979) and larva (Ruhnau 1986) as well as molecular data (Shull et al. 2001; Ribera et al. 2002; Hunt et al. 2007), suggest that the Hydradephaga is monophyletic. Other studies, including recent DNA sequence analyses (Maddison et al. 2009), indicate a polyphyletic origin for the complex.

The extant geadephagan groups include the trachypachids (six species), rhysodids (about 355 species), cicindelids (about 2,415 species), and carabids (about 31,490 species). The monophyletic origin of the Geadephaga was supported in some structural and molecular studies but rejected in others (see Maddison et al. 2009 for an overview). While the taxonomic concept of the hydradephagan families is stable, that of the geadephagan families is not. Several authors consider either the trachypachids, rhysodids, or cicindelids as Carabidae.

This work catalogues all geadephagan taxa of America, north of Mexico. The last catalogue covering the Geadephaga of the region is that of Bousquet and Laroche in 1993. Since then relatively few taxonomic studies have been published on the North American fauna. The increased interest toward the inadequately known but amazingly rich Neotropical Region is probably one of the reasons behind the situation. So, is there a need for this catalogue? For one, it is more informative than the previous one. It includes, besides the usual information on nomenclature, the type locality of each available species, locations of the primary type specimens, references to the original synonymies of invalid names, and a short description of the geographical distribution of each species. Furthermore, a number of errors were discovered in the previous catalogue and needed to be corrected.



## Brief history

The first checklist / catalogue covering the North American Geadephaga was the checklist of beetles of the United States by Friedrich Ernst Melsheimer [1784-1873] published in July 1853. The interest for this work originated with the establishment in 1842 of the first entomological society in America, The Entomological Society of Pennsylvania. The compilation of this list was one of the main objects of the Society (Sorensen 1995: 17) and it prevailed upon Melsheimer, the first and only President of the Society, to complete the task. The manuscript was delivered in 1848 to the Smithsonian Institution in Washington. Its secretary, Joseph Henry, asked Samuel S. Haldeman and John L. LeConte to advise on its publication. The two gentlemen volunteered to update the manuscript, which delayed its release considerably. The work was a straightforward list of valid species, with abridged references and synonyms but without distributional data, arranged under the valid generic names. Although limited to the United States, it included more than 90% of the species known from North America at the time. Melsheimer, a physician by profession, was the son of Frederick Valentine Melsheimer [1749-1814] who in 1806 published the first book on American entomology, a 60-page booklet entitled "*Catalogue of insects of Pennsylvania. Part first.*" It enumerates 111 genera and 1,363 species of Coleoptera (Meisel 1929: 367), though almost all of them are *nomina nuda*.

In April 1866, John Lawrence LeConte [1825-1883] published the first part of a checklist of the Coleoptera of North America (north of Mexico) for the Smithsonian Institution. It covered the Adephaga and a large section of the Polyphaga. The first 49 pages, which included the Adephaga, were reprinted with minor modifications from a list already issued in March 1863. The list included synonyms but no geographical information. The second part of the checklist, covering the Chrysomeloidea and Curculionoidea, was never published. Two additional checklists of North American beetles would be published in the United States during the XIX Century, both straightforward lists without geographical data. The first one, issued in 1874, was authored by George Robert Crotch [1842-1874], a British coleopterist who at the time was assistant to Hermann Hagen at the Museum of Comparative Zoology. A supplement to Crotch's checklist was authored in 1880 by Edward Payson Austin, an amateur coleopterist and member of the Cambridge Entomological Club in its early years. The second checklist was published in 1885 by Samuel Henshaw [1852-1941], then assistant to Professor Hyatt at Lowell Technological Institute. Three supplements, in 1887, 1889, and 1895, were later issued by Henshaw.

In Europe, the German Max Gemminger [1820-1887] and Freiherr Edgar von Harold [1830-1886] published, between 1868 and 1876, a checklist of beetles of the world in 12 volumes, compiling 77,008 species over 3,800 pages. The Geadephaga were included in the first (Carabidae including cicindelids and trachypachids), second (paussids on pages 700-706), and third volumes (rhysodids on pages 867-868), all issued in 1868. Along with each specific name the authors listed the publication year as well as the original reference and region(s) of capture. This work spurred a large



number of additions and corrections by many coleopterists. It stood alone in its class until the publication of the *Coleopterorum Catalogus* under the editorship of Walther Junk and Sigmund Schenkling. Published between 1909 and 1940, this catalogue was issued in 170 parts forming 30 volumes and involved the participation of more than 60 entomologists. A list by parts and another by families can be found in Blackwelder (1957: 1022–1034). The Geadephaga were covered in parts 1 (Rhysodidae by Raffaello Gestro in 1910), 5 (Paussinae by R. Gestro in 1910), 86 (Cicindelinae by Walther Horn in 1926), 91, 92, 97, 98, 104, 112, 115, 121, 124, 126, and 127 (Carabidae, including trachypachids, by Ernst Csiki between 1927 and 1933). Second editions of the Rhysodidae, by Walter D. Hincks in 1950, and Paussinae, by Emile Janssens in 1953, were issued much later.

While the *Coleopterorum Catalogus* was being published in Berlin, Charles William Leng [1859–1941], then director of the museum at the Staten Island Institute of Arts and Sciences, released in 1920 his catalogue of the Coleoptera of America, north of Mexico, still known as the “Leng catalogue.” His goal was “to enumerate systematically all the species of Coleoptera described prior to January 1, 1919 ... with consecutive numbers, synonyms, citation of original description, and an indication of distribution.” Leng and Andrew J. Mutchler in 1927 (covering the years 1919–1924) and 1933 (for 1925–1932), Richard E. Blackwelder in 1939 (for 1933–1938), and Blackwelder and his wife, Ruth M. Blackwelder, in 1948 (for 1939–1947) published supplements to Leng’s catalogue.

In 1972, Ross H. Arnett, Jr. [1919–1999], the catalyst behind the birth of the Coleopterist’s Society and its journal *The Coleopterists Bulletin*, initiated the “North American beetle fauna project” (NABF) with the help of a small group of coleopterists. The main goal of this cooperative adventure was to “produce a series of manuals for the identification of the species of beetles of the United States and adjacent Canada, and adjacent Mexico.” Although no such book was ever published, a preliminary checklist of North American beetles, known as the “Red Version,” was compiled by 1976 by Richard E. Blackwelder and Arnett. This version was used as a “working copy” for the next one, the “Yellow Version” defined as the “definitive checklist and the one which will be kept up-to-date.” Of this version, only two families would be compiled and published (July 1977), the Cupedidae by Arnett and the Carabidae (including trachypachids but excluding cicindelids) by Terry L. Erwin, Donald R. Whitehead, and George E. Ball. The “Red Version” was reissued with modifications in 1983 under the editorship of Arnett.

In November 1978, the Science and Educational Administration, USDA, released its first fascicle, covering the family Heteroceridae, of “A catalogue of the Coleoptera of America north of Mexico.” The goal was to “supplant the Leng catalogue and supply additional essential information.” A total of 34 fascicles, treating various family-group taxa, would be published up to February 1997. Among the fascicles, one only, the Rhysodidae by Ross T. Bell in 1985, deals with Geadephaga.



In 1993, Bousquet and Larochelle published the first catalogue specifically devoted to the geadephagan beetles of North America. They listed, for the first time, the original combination of every available species-group taxon and provided a general idea of the distribution of each species by listing state and province records. One of the goals behind their work was to stimulate interest toward publication of distributional records as done regularly in Europe.

In 1998, Wolfgang Lorenz issued the first edition of his “Systematic list of extant ground beetles of the world” compiling 32,567 species (in 1861 genera) of Geadephaga. Despite being limited to scientific names with their authors and publication years, the list soon became a useful tool to those interested in carabids. A second edition was released in 2005, compiling the same information for 34,281 extant species, placed in 1929 genera.

The first catalogue of the world Coleoptera published is that of Schönherr issued in four parts, 1806, 1808, 1817 and 1826. The Carabidae were grouped in the following genera: *Scarites* (23 species), *Cychrus* (seven species), *Manticora* (two species), *Carabus* (340 species), *Calosoma* (12 species), *Galerita* (nine species), *Brachinus* (16 species), *Anthia* (27 species), *Agra* (three species), *Collyris* (four species), *Odocantha* [sic!] (seven species), *Drypta* (four species), *Cicindela* (67 species), *Elaphrus* (11 species), *Scolytes* [sic!] (three species), all included in the first volume (1806), and *Paussus* (ten species) and *Cerapterus* (two species) included in the third volume (1817). Overall 547 species of Geadephaga were listed along with references and synonyms. By comparison, the number of Carabidae (including Cicindelinae) listed in the four catalogue editions of the Dejean collection amounted to 104 (first edition, 1802), 908 (second edition, 1821), 2494 (third edition, 1833), and 2791 (fourth edition, 1836).

A comparison of the number of valid species and genera between this and previous checklists / catalogues is presented in Table 1.

**Table 1.** North American Geadephaga species/genera counts in checklists.

Publications	Trachyp	Rhysod	Cicindel	Carabid	Total
Melsheimer 1853	0	3/1	64/4	935/112	1002/117
LeConte 1866	2/1	2/2	65/4	1090/107	1159/117
Gemminger & Harold 1868	2/1	2/1	61/5	1167/124	1232/131
Crotch 1874a	2/1	2/2	67/4	1097/118	1168/125
Henshaw 1885	2/1	4/2	70/4	1179/114	1255/121
Leng 1920	2/1	4/2	114/4	2207/207	2327/214
<i>Coleopterorum catalogus</i> 1926-33	6/1	4/2	70/4	2916/144	2996/151
Erwin et al. 1977	3/1	9/2 <sup>1</sup>	109/4 <sup>2</sup>	2308/169	2429/176
Bousquet & Larochelle 1993	3/1	8/2	107/4	2230/183	2348/190
Present catalogue	3/1	8/2	112/12	2316/193	2439/208

<sup>1</sup> Species count from Bell (1985b)

<sup>2</sup> Species count from Boyd (1982)



## Nomenclatural and distributional information

The information on species-group taxa comprises a nomenclatural and a distributional component. The nomenclatural component consists of the scientific name with its author, date and page of publication, the type locality (see section *Type locality* under “Nomenclature” below), and the repository of the name-bearing type of each valid and invalid taxon. In addition, the reference in which a given scientific name is first synonymized is listed. Such references were difficult to find for several names, simply because they were never compiled before. Taxa listed as varieties subsequently to their original descriptions were not considered as listed in synonymy but those listed as aberrations or as “simple varieties” were. Codens used for collection repositories are given in the next section. When available, the accession numbers of name-bearing types for each institution are recorded.

This catalogue deals with extant available taxa. Fossil taxa are listed in Appendix 1. Unavailable names found in the literature are listed in Appendix 4 without comment. Listings of valid species-group names are alphabetic but listings of invalid names are chronologic. Synonyms of adventive and Holarctic species found in North America are selective. Misidentifications by subsequent authors are not listed. All species-group names are given in their original combinations.

The distributional component consists of a list of state and province records, using the same two-letter postal service style abbreviations used in the 1993 catalogue (Table 3), and a short description of the distribution, usually referring to the northeasternmost, northwesternmost, southwesternmost, and southeasternmost states or provinces. In addition, records for Cape Breton Island, the Queen Charlotte Islands, Vancouver Island, and the Channel Islands are indicated in parentheses after their respective provinces or states. Western Hemisphere countries are listed for species found south of the area covered. States and provinces placed in quotation marks in the descriptive section indicate that only the state or province was given without further precision in the reference cited. The starting point for the distributional records used in this work is Bousquet and Larochelle’s (1993) catalogue. However, many of their records were undocumented or came from old lists and were not always reliable. State and province records undocumented or considered doubtful are shown in square brackets following the accepted records. Except for the *Amara* records which come from identifications generally made by Fritz Hieke, almost all records from CMNH specimens are based on identifications made by Robert L. Davidson, those from LSAM specimens on identifications made by Igor Sokolov, and those from CNC, MCZ, and USNM specimens from identifications or confirmations made by myself. The records provided by Ken Karns and Brian Raber are based on identifications made by Robert L. Davidson.

The information on supraspecific taxa consists of the scientific name with its author and date and page of publication. Type species of genus-group taxa are also given, in their original combinations, followed by the valid names in parentheses when applicable, and type genera are listed for family-group taxa. Etymology is given for all



**Table 2.** Two-letter abbreviations for political regions covered by this catalogue.

AB	Alberta	MA	Massachusetts	OH	Ohio
AK	Alaska	MB	Manitoba	OK	Oklahoma
AL	Alabama	MD	Maryland	ON	Ontario
AR	Arkansas	ME	Maine	OR	Oregon
AZ	Arizona	MI	Michigan	PA	Pennsylvania
BC	British Columbia	MN	Minnesota	PE	Prince Edward Island
CA	California	MO	Missouri	PM	St.Pierre and Miquelon
CO	Colorado	MS	Mississippi	QC	Quebec
CT	Connecticut	MT	Montana	RI	Rhode Island
DC	District of Columbia	NB	New Brunswick	SC	South Carolina
DE	Delaware	NC	North Carolina	SD	South Dakota
FL	Florida	ND	North Dakota	SK	Saskatchewan
GA	Georgia	NE	Nebraska	TN	Tennessee
GL	Greenland	NF	Newfoundland	TX	Texas
IA	Iowa	NH	New Hampshire	UT	Utah
ID	Idaho	NJ	New Jersey	VA	Virginia
IL	Illinois	NM	New Mexico	VT	Vermont
IN	Indiana	NS	Nova Scotia	WA	Washington
KS	Kansas	NT	Northwest Territories	WI	Wisconsin
KY	Kentucky	NU	Nunavut	WV	West Virginia
LA	Louisiana	NV	Nevada	WY	Wyoming
LB	Labrador	NY	New York	YT	Yukon Territory

valid generic names and for some of the invalid names; the works of Brown (1956) and Cailleux and Komorn (1981) have been particularly useful.

The listing of valid supraspecific taxa is “phylogenetic,” starting with taxa putatively branching off early along the evolutionary path of the group. Synonyms of supraspecific taxa are listed chronologically. If readily available, the first reference in which a given genus-group name is synonymized is included.

In the references section, titles of journals are cited in full. Titles of papers and books using alphabets other than Latin have been translated into English and the original language listed in square brackets after the title. An improvised title is given in square brackets, in the language used by the author(s), to papers without formal title. Unless otherwise noted, all references listed were seen. Except when only the year was found, the date of publication [DP] is given in square brackets at the end of each citation.

**Institution / collection acronyms and abbreviations**

Collections cited in the catalogue are referred to by the abbreviations listed below.

- ALM      Alabama Museum of Natural History, Tuscaloosa, Alabama, USA
- AMNH    American Museum of Natural History, New York, New York, USA



<b>ANSP</b>	Academy of Natural Sciences, Philadelphia, Pennsylvania, USA
<b>BMNH</b>	The Natural History Museum, London, United Kingdom
<b>BYUC</b>	Brigham Young University, Provo, Utah, USA
<b>CAS</b>	California Academy of Sciences, San Francisco, California, USA
<b>CMC</b>	Cincinnati Museum of Natural History, Cincinnati, Ohio, USA
<b>CMN</b>	Canadian Museum of Nature, Gatineau, Quebec, Canada
<b>CMNH</b>	Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, USA
<b>CNC</b>	Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Ontario, Canada
<b>CUIC</b>	Cornell University Insect Collection, Cornell University, Ithaca, New York, USA
<b>DAPC</b>	Darren A. Pollock collection, Eastern New Mexico University, Portales, New Mexico, USA
<b>DEI</b>	Institute für Pflanzenschutzforschung (formerly Deutsches Entomologisches Institut), Kleinmachnow, Eberswalde, Germany
<b>EMEC</b>	Essig Museum of Entomology Collection, University of California, Berkeley, California, USA
<b>ETHZ</b>	Entomologisches Institut, Eidgenössische Technische Hochschule, Zürich, Switzerland
<b>FFPC</b>	Foster Forbes Purrington collection, The Ohio State University, Columbus, Ohio, USA
<b>FMNH</b>	Field Museum of Natural History, Chicago, Illinois, USA
<b>FSCA</b>	Florida State Collection of Arthropods, Gainesville, Florida, USA
<b>GNM</b>	Göteborgs Naturhistoriska Museum, Göteborg, Sweden
<b>HMUG</b>	Hunterian Museum, University of Glasgow, Glasgow, United Kingdom
<b>INHS</b>	Illinois Natural History Survey, Champaign (Urbana), Illinois, USA
<b>IRSN</b>	Institut Royal des Sciences Naturelles, Brussels, Belgium
<b>IZWP</b>	Museum and Institute of Zoology of the Polish Academy of Sciences, Warszawa, Poland
<b>KSUC</b>	Kansas State University, Manhattan, Kansas, USA
<b>LACM</b>	Los Angeles County Museum of Natural History, Los Angeles, California, USA
<b>LMMC</b>	Lyman Entomological Museum, McGill University, Macdonald Campus, Sainte-Anne-de-Bellevue, Quebec, Canada
<b>LSAM</b>	Louisiana State Arthropod Museum, Baton Rouge, Louisiana, USA
<b>LSL</b>	Linnean Society, London, United Kingdom
<b>MCZ</b>	Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA
<b>MHNG</b>	Muséum d'Histoire Naturelle, Geneva, Switzerland
<b>MHNP</b>	Muséum National d'Histoire Naturelle, Paris, France
<b>MSB</b>	Museum of Southwestern Biology, University of New Mexico, Albuquerque, New Mexico, USA
<b>MSNG</b>	Museo Civico di Storia Naturale, Genoa, Italy



<b>MSNM</b>	Museo Civico di Storia Naturale, Milano, Italy
<b>MSNT</b>	Museo Civico di Storia Naturale, Trieste, Italy
<b>MSUE</b>	Michigan State University, East Lansing, Michigan, USA
<b>MVM</b>	Museum Victoria, Melbourne, Australia
<b>NCSU</b>	North Carolina State University, Raleigh, North Carolina, USA
<b>NHMW</b>	Naturhistorisches Museum Wien, Wien, Austria
<b>NIAS</b>	National Institute for Agro-environmental Sciences, Tsukuba, Japan [formerly National Institute of Agricultural Sciences, Tokyo]
<b>NMNS</b>	National Museum of Nature and Science, Tokyo, Japan
<b>NMP</b>	National Museum, Prague, Czech Republic
<b>NRSS</b>	Naturhistoriska Riksmuseet, Stockholm, Sweden
<b>NSNH</b>	Nova Scotia Museum of Natural History, Halifax, Nova Scotia, Canada
<b>ODAC</b>	Oregon Department of Agriculture, Plant Division, Salem, Oregon, USA
<b>ORUM</b>	Collection Ouellet-Robert, Université de Montréal, Montreal, Quebec, Canada
<b>OSAC</b>	Oregon State Arthropod Collection, Oregon State University, Corvallis, Oregon, USA
<b>OSUO</b>	Ohio State University, Columbus, Ohio, USA
<b>PMNH</b>	Peabody Museum of Natural History, Yale University, New Haven, Connecticut, USA
<b>PURC</b>	Purdue State University, West Lafayette, Indiana, USA
<b>SIM</b>	Staten Island Museum, Staten Island, New York, USA
<b>SMEK</b>	Snow Museum of Entomology, University of Kansas, Lawrence, Kansas, USA
<b>SMTD</b>	Staatliches Museum für Tierkunde, Dresden, Germany
<b>TAMU</b>	Texas A&M University, College Station, Texas, USA
<b>TMB</b>	Magyar Természettudományi Múzeum, Budapest, Hungary
<b>TME</b>	Texas Museum of Entomology, Pipe Creek, Texas, USA
<b>UAIC</b>	University of Arkansas, Fayetteville, Arkansas, USA
<b>UASM</b>	Strickland Museum, University of Alberta, Edmonton, Alberta, Canada
<b>UBC</b>	Spencer Entomological Museum, University of British Columbia, Vancouver, British Columbia, Canada
<b>UCD</b>	University of California, Davis, California, USA
<b>UCM</b>	University of Colorado Museum, Boulder, Colorado, USA
<b>UICU</b>	University of Illinois, Urbana, Illinois, USA
<b>UMAA</b>	University of Michigan, Ann Arbor, Michigan, USA
<b>UMM</b>	Philipps-Universität Marburg, Zoologische Sammlung, Marburg, Germany
<b>UMO</b>	The University Museum, University of Oxford, Oxford, United Kingdom
<b>UMSP</b>	University of Minnesota, Saint Paul, Minnesota, USA
<b>USMT</b>	Ueno Science Museum, Tokyo, Japan
<b>USNM</b>	National Museum of Natural History, Smithsonian Institute, Washington, DC, USA
<b>USS</b>	University of Sydney, Sydney, Australia



<b>UZI</b>	Uppsala Universitet, Zoologiska Museum, Uppsala, Sweden
<b>VMNH</b>	Virginia Museum of Natural History, Martinsville, Virginia, USA
<b>WSU</b>	Washington State University, Pullman, Washington, USA
<b>ZILR</b>	Zoological Institute, Academy of Sciences, Saint Petersburg, Russia
<b>ZMH</b>	Zoologiska Museum, University of Helsinki, Helsinki, Finland
<b>ZMHB</b>	Zoologisches Museum, Humboldt Universität, Berlin, Germany
<b>ZMLS</b>	Zoological Museum, Lund University, Lund, Sweden
<b>ZMMU</b>	Zoological Museum, Moscow University, Moscow, Russia
<b>ZMUA</b>	Zoologisch Museum, Universiteit van Amsterdam, Amsterdam, The Netherlands
<b>ZMUC</b>	Zoologisk Museum, Universitets Copenhagen, Copenhagen, Denmark
<b>ZMUO</b>	Zoological Museum, University of Oslo, Oslo, Norway
<b>ZMUT</b>	Zoological Museum, University of Turku, Turku (= Åbo), Finland

Besides those used for provinces and states (see Table 2), the following abbreviations are used in the text:

<b>B.P.</b>	Before Present
<b>CAN</b>	Canada
<b>CBI</b>	Cape Breton Island
<b>CHI</b>	Channel Islands (Santa Barbara Islands)
<b>DEN</b>	Denmark
<b>DP</b>	Date of publication
<b>FRA</b>	France
<b>ICZN</b>	International Commission on Zoological Nomenclature
<b>QCI</b>	Queen Charlotte Islands
<b>USA</b>	United States of America
<b>VCI</b>	Vancouver Island

In addition, the International Commission on Zoological Nomenclature is sometimes abridged to “Commission” and United States of America to “United States.”

## Geographical terms

For simplicity, North America, north of Mexico, is referred to simply as North America in the text. Middle America refers to Mexico and the republics of Central America taken collectively. The West Indies refers to the Greater and Lesser Antilles and the Bahamas. The North American continent proper is referred to as North and Middle America.

For practical reasons, the zoogeographical regions of the world are defined following national boundaries as much as possible. The Nearctic Region corresponds to Canada, the continental United States, Saint-Pierre and Miquelon, and Greenland. Although the region extends into Mexico, its southern limit is difficult to define and



often varies depending on the group under study. This concept implies that North America and the Nearctic Region are equivalent in this work. The Neotropical Region comprises Middle America and South America. The Afrotropical Region consists of Africa, including Madagascar and a number of smaller islands of the Indian Ocean, such as the Comoros, the Mascarene Islands, and the Seychelles, and of the Atlantic Ocean, such as Cape Verde Islands and São Tomé, but excludes the northern countries of Morocco (including Western Sahara), Algeria, Tunisia, Libya, and Egypt west of the Suez Canal, and the Canary and Madeira Islands. The limits of the Palaearctic Region are similar to those used in the *Catalogue of Palaearctic Coleoptera* (Löbl and Smetana 2003: 8). The region thus comprises Europe, Africa north of the Sahara, and Asia as far south as the Arabian Peninsula, Pakistan, Jammu and Kashmir, Himachal Pradesh, Uttar Pradesh, Nepal, Sikkim, Bhutan, Arunachal Pradesh, China, and Taiwan. The Oriental Region is Asia south of the regions used to define the southern limit of the Palaearctic Region. It includes all the Malay Archipelago (except New Guinea). The Australian Region comprises Australia, New Zealand, New Guinea, and some smaller islands of the Pacific, such as Fiji, New Britain, New Caledonia, and Solomon Islands.

The New World consists of the Nearctic, Neotropical, and Australian Regions combined and the Old World of the Oriental, Palaearctic, and Afrotropical Regions grouped. The Northern Hemisphere is the Nearctic and Palaearctic Regions combined and the Southern Hemisphere is the Afrotropical, Oriental, Australian, and Neotropical Regions united. The Western Hemisphere consists of the Nearctic and Neotropical Regions and the Eastern Hemisphere of the Palaearctic, Afrotropical, Oriental, and Australian Regions. Far East used in reference to the Palaearctic Region includes the Russian Far Eastern Region, the Korean Peninsula, Japan, Taiwan, and China excluding the Autonomous Regions of Inner Mongolia, Sinkian Uighur, and Tibet. Middle East is used for the southwestern Asian countries, including Egypt, Turkey, Syria, Lebanon, Israel, Jordan, Saudi Arabia, Yemen, Oman, Iraq, Iran, Afghanistan, and Pakistan.

The adjective “Holarctic” is used to denote a taxon that occurs naturally in both the Nearctic and Palaearctic Regions. The adjective “Australian” (as in “Australian species”) refers to the zoogeographical region, not to the country itself. The adjective “worldwide” is used to denote a genus-group or family-group taxon represented by at least one native species in all six zoogeographical regions as defined above including both the European and Asian parts of the Palaearctic Region. The adjective “endemic” indicates that the taxon is found only in the region listed.

Names of geographical places are given in their current English forms based on *Merriam-Webster's Geographical Dictionary*, third edition (1997).

## Nomenclature

The rules outlined in the fourth edition of the International Code of Zoological Nomenclature, published in 1999, have been followed throughout this catalogue. The following are comments about some nomenclatural issues.



*Principle of priority.* Priority for identical taxa made available the same year, whether under the same name or not, is determined by the date, other than the year, of publication. If not specified in the work itself, the publication date is the earliest day or month on which the work is demonstrated to be in existence (ICZN 1999: Article 21.3). When both works are published or assumed to be published the same day, precedence is determined by the First Reviser (Article 24.2). Unless listed in the work itself, dates of publication besides the year can be demonstrated only for some works. Those without specific dates are listed as published the last day of the year (Article 21.3.2) and priority goes to the work with a “demonstrated” date of publication. However, the situation is subject to change with new bibliographic discoveries, which could challenge the validity of synonyms (as well as relative precedence of homonyms and validity of nomenclatural acts) and bring nomenclatural instability. In this catalogue, priority was given to the publication “in prevailing usage” when the dates of publication were determined from external sources.

*New taxa.* In the XVIII and first half of the XIX Century it was common practice for authors not to indicate the attribution of the new species-group taxa. Instead, some authors added the word *mihi* after the specific name, usually to indicate a taxon that the author, himself, was describing. Several collectors provided names for their specimens, even for undescribed ones, and these specimens often circulated among European coleopterists through exchange, gift, or sale. Many undescribed species were subsequently described or illustrated under the collector’s names by different authors. For these, citations are provided in this catalogue only to the first description or illustration of each species unless the term “new species” or an equivalent expression (such as an asterisk preceding the specific epithet as in Say 1823a<sup>1</sup>) was included with the species-group name subsequently described or illustrated. Sometimes a species was described / illustrated by different authors the same year under the same names. One example concerned several species (i.e., *Patrobus foveocollis*, *Patrobus fossifrons*, *Pterostichus adstrictus*, *Pterostichus ventricosus*, and *Pterostichus pinguedineus*)<sup>2</sup> described by Eschscholtz in 1823 in the *Mémoires de la Société Impériale des Naturalistes de Moscou* (volume 6) and illustrated by Fischer von Waldheim on plates available the same year (Sherborn 1922: liii), but included in his *Entomographie de la Russie* (volume 2) issued in 1824. In such cases, citations are given for the oldest description / illustration (for exceptions see previous entry, *Principle of priority*) but references to subsequent descriptions / illustrations are noted after the entry of the valid name.

*New taxa first published as synonyms.* The International Commission on Zoological Nomenclature admits the availability of taxa first published in an available work as

<sup>1</sup> These asterisks were dropped in the publication of Say’s entomological works by LeConte.

<sup>2</sup> These names have been credited to Eschscholtz by almost all authors I have seen although there are proper citations of Fischer von Waldheim’s plates in Eschscholtz’s work. This suggests that the plates were available before the publication of Eschscholtz’s work. However because Fischer von Waldheim’s validation of the names is through illustrations, it is always possible that Fischer von Waldheim simply gave Eschscholtz the position of these species on his forthcoming plates.



junior synonyms and adopted before 1961 as valid taxa or treated as senior homonyms (ICZN 1999: Article 11.6.1). In such cases the taxa date from their first publication as synonyms. Even though this ruling has existed since the publication of the ICZN first edition in 1960, it has rarely been enforced in the carabid literature. A few cases were found during the preparation of this catalogue. For example, *Notiophilus sylvaticus* has been credited in the past to Eschscholtz (1833: 24) but the name was first proposed as a junior synonym of *Notiophilus biguttatus* Fabricius by Dejean (1831: 589). The name is credited to Dejean (1831) in this catalogue. It is possible that other cases like this one will eventually be found.

*Lectotype.* Prior to 2000, a lectotype could be selected by using the term “the type” instead of “lectotype” (ICZN 1999: Article 74.5). The words “type” and “holotype” are also acceptable if the author unambiguously selects a particular syntype to act as the unique name-bearing type of the taxon. This is the case for almost all designations using the word “type” or “holotype” relating to North American Carabidae published after 1950, in particular by George E. Ball and his students. In this catalogue the expression “lectotype [as type]” or “lectotype [as holotype]” applies to such cases. Unfortunately the Commission does not mandate the addition of “lectotype” labels to selected specimens, which often creates ambiguity when authors fail to do so.

*Type locality.* According to the ICZN (1999: Article 76.1), the type locality is the geographical place of capture of the primary type (holotype or lectotype). In the absence of a primary type, the type locality encompasses the localities of all the syntypes (Article 73.2.3). This information can be obtained from labels attached to primary types or to syntypes or from the original publication (referred to as “original citation” in the text) whichever is more inclusive, or inferred from the title of the publication or even from the name of the species. When a neotype is designated, its place of capture becomes the type locality (Article 76.3) even if the specimen was collected outside the original area. In this catalogue, type localities taken from labels or from original publications are listed as indicated although the order of the elements is sometimes changed; any additional information is placed in square brackets. Many species described in the XVIII and XIX Centuries had but little informative place of origin, such as a country, state, province, or large geographical area (e.g., Rocky Mountains or Lake Superior). Lindroth (1961-1969) restricted the type locality of several of these North American species by selecting a specific locality or a county within the original region specified. This practice is followed in this catalogue and specific type localities are selected for several species-group taxa. Of course, only localities where a given species was actually collected can be selected.

## Notable private carabid collections

Many North American species of carabids described in the XIX and beginning of the XX Centuries were from specimens held in private collections. The whereabouts of these collections are important to taxonomists. Some of the more significant ones are discussed.



## PIERRE FRANÇOIS MARIE AUGUSTE DEJEAN (1780-1845) COLLECTION

Dejean, a French military officer by profession, certainly held the largest private beetle collection of his time, which he built through exchanges, purchases, gifts, and his own collecting in various parts of Europe. He described a total of 289 new carabid species-group taxa from North America, of which 182 (63%) had not been described earlier according to the present catalogue. At the sale of his collection in 1840, the carabid section (which also included the agyrtid genus *Pteroloma*) was the most significant, not only because it contained 3,014 species and 17,914 specimens, but because it was the only one to include name-bearing types. Dejean did not describe a new species-group taxon during his lifetime that he did not consider a carabid. Dejean's carabid collection (including tiger beetles) was purchased for 7,000 francs by Marquis F. Thibault de LaFerté-Sénectère who sold it, along with his own carabids, to Baron Maximilien de Chaudoir [*q.v.*] in 1859. Dejean's carabid specimens are at MHNP today. Lindroth (1955b) discussed the name-bearing types and status of almost all North American species described by Dejean.

## THOMAS SAY (1787-1834) COLLECTION

Say was the first naturalist born in North America to describe new species of beetles from this continent. In the course of 17 years (1817-1834), he described 164 carabid species from North American material which he believed were new to science. Based on their current status, 142 (87%) had effectively not been previously described. Say left his collection by verbal bequest through his wife to the Academy of Natural Sciences in Philadelphia in 1834 (Weiss 1936: 277). After his death, which occurred in October of the same year, the collection was shipped from New Harmony, Indiana, to Philadelphia through New Orleans. In 1836, Charles Pickering sent Say's insects to Thaddeus W. Harris in Cambridge, Massachusetts, in order to "put them in good order, and return them in a condition to be preserved" (Harris to D.H. Storer, 2 November 1836). In the same letter Harris reported "They [Say's specimens] arrived about the middle of July; but on examination were found to be in a deplorable condition, most of the pins having become loose, the labels detached, and the insects themselves without heads, antennae and legs, or devoured by destructive larvae, and ground to powder by the perilous shakings which they had received in their transportation from New Harmony." In a letter to C.J. Ward, dated 8 March 1837, Harris wrote "I assure you that Mr. Say's cabinet does not contain one half of the species which he has described; of the insects in it, many are without names, and all more or less mutilated, and so badly preserved that most of them are now absolutely worthless." On July 16, 1838, Harris indicated in a letter to S.G. Morton (see Fox 1902: 11) that he had "been obliged to bake a considerable part of the insects lately belonging to Mr. Say twice, and some of them three times, in order to destroy the vermin with which they are infested." Say's collection was returned to the Academy of Natural Sciences in Philadelphia in March 1842 "in such a state of ruin and dilapidation as to be almost useless" (Ruschenberger 1852: 25).

During his life, Say sent some of his specimens abroad including many to Dejean in Paris (see Dejean 1826: vi). Fortunately Dejean's carabid collection has remained



intact and in good condition to this day. In their attempt to bring taxonomic stability to Say's names, Lindroth and Freitag (1969) selected lectotypes for eight carabid species described by Say for which Say's authentic specimens could be located in Dejean's collection. They also designated neotypes from the MCZ material for 131 of the remaining 156 of Say's species leaving the tiger beetles (14 species) and a few taxa, all currently considered invalid, without type specimens. Say's species were interpreted by Lindroth and Freitag from LeConte's concept according to his collection. LeConte never saw Say's collection and his interpretation of Say's species came exclusively from the original descriptions which he considered adequate: "The entire destruction of his [Say's] original specimens would be the subject of much greater regret, were it not for the fact that his descriptions are so clear as to leave scarcely a doubt regarding the object designated. I am thus enabled to assign to nearly all of his Coleoptera their proper place in the modern system" (LeConte 1859d: vi).

#### THADDEUS WILLIAM HARRIS (1795-1856) COLLECTION

Harris, well known for his work in economic entomology (his profile having appeared on every cover of the *Journal of Economic Entomology* for more than 35 years), described 28 new carabid species from North America. Ten (36%) are considered valid in this catalogue. To his defence, several of his species were made available by the posthumous publication of some of his letters several decades after they were written. At Say's suggestion, Harris sent his entire collection to Thomas Say in Philadelphia, in 1825, who labeled the specimens as well as he could. Harris' collection, which included "4,838 specimens in 2,241 species of Coleoptera," contained "many typical specimens described by Harris, Say, and others" (Scudder 1860: 72). It was bought by friends in 1858 and presented to the Boston Society of Natural History. Harris' collection was transferred to the Museum of Comparative Zoology at Cambridge in April 1941 (Darlington 1941b: 273) where it stands separately from the general collection in two standard 25 drawer cabinets.

#### GUSTAV GRAF VON MANNERHEIM (1797-1854) COLLECTION

Mannerheim, a Finnish noble by birth and wealthy by inheritance, described 72 new North American carabid species, all from Alaska and California. Of these, 23 (32%) had not been described previously. Mannerheim never visited the New World and his descriptions were based on specimens brought back chiefly by Russian collectors such as Johann F. Eschscholtz, Eduard L. Blaschke, Egor L. Tschernikh, and Il'ia G. Vosnesensky. His library and personal collection, which consisted, at the end, of 18,000 species and nearly 100,000 specimens, were sold for the sum of 8,000 silver rubles by his widow, Countess Eva Mannerheim, in 1855 to the University of Helsinki. The money used to buy the collection came from a loan made by the Emperor to the University with the understanding that the University will pay back annually the sum of 500 rubles to the Imperial Bank of Finland which will use it for poor- and work-houses in the country (Rein 1857). Mannerheim's collection is kept separately at the University of Helsinki (Silfverberg 1995: 43).



## JULES ANTOINE ADOLPHE HENRI PUTZEYS (1809-1882) COLLECTION

Putzeys described 38 new North American species of carabids; 15 (39%) are listed as valid in this catalogue. He worked in close collaboration with Chaudoir, the leading carabidologist of the time, and described several new species from specimens in Chaudoir's collection. These specimens are now in MHNP. He also gave many of his own types to Chaudoir. His personal collection was bequeathed in 1885 to the *Société Royale Belge d'Entomologie* under the care of the *Musée Royal d'Histoire Naturelle* in Brussels. Putzeys' collection consisted of 26,429 specimens of carabids (including cicindelids) and 6,123 species (Preudhomme de Borre 1885: clx) as well as many other beetles and various insects.

## VICTOR DE MOTSCHULSKY (1810-1871) COLLECTION

Motschulsky, a Russian Imperial Army Colonel, described 121 new geadephagan species from North America; 27 (22%) were undescribed at the time based on current practice. A large part of this material came from a 10-month trip he made in 1853-54 to the United States and Panama. He collected at several locations including New York, Niagara Falls, Cleveland, Cincinnati, Cawington, Lexington, the Mammoth Cave, Nashville, Louisville, New Orleans, Mobile, Montgomery, Atlanta, Washington, D.C., and Philadelphia. In the last city, he visited LeConte, Haldeman, Melsheimer, and Zeigler. The first three gentlemen gave Motschulsky several specimens from their collections including "types" (Motschulsky 1856: 16). LeConte also identified part of the beetles Motschulsky collected in Louisiana, Alabama, Georgia, and Carolina. Motschulsky's main collection, which included almost 60,000 specimens and about 4,000 types of beetles, was bequeathed to the *Société Impériale des Naturalistes de Moscou*. It was stored in poor condition and suffered considerable damage before it was acquired in 1911 by the Zoological Museum, Moscow Lomonosov State University (Antonova 1991: 72). Keleinikova (1976) catalogued the carabid syntypes of Motschulsky's collection at ZMMU.

## SAMUEL STEHMAN HALDEMAN (1812-1880) COLLECTION

Haldeman described 45 new carabid species from North America; 22 (49%) had not been described previously. In 1869 Haldeman, who had purchased Hentz's collection, sold his collection of beetles to Simon Snyder Rathvon of Lancaster, Pennsylvania, "for about what the cases cost" (Rathvon in Geist 1881: 125). Rathvon's collection and library were purchased for \$1,000 by Henry Bobb of East Greenville, Pennsylvania, and presented to the Franklin and Marshall College in Lancaster, Pennsylvania, as a memorial of his son (Dubbs 1903: 369). In a letter dated April 1875 and addressed to Alexander Agassiz (see below), John L. LeConte stated that he owned "all the unique types" of Haldeman. This leads one to speculate that Haldeman, a close friend of LeConte, gave his name-bearing specimens to LeConte prior to selling his collection to Rathvon.

## MAXIMILIEN STANISLAVOVITCH BARON DE CHAUDOIR (1816-1881) COLLECTION

Russian aristocrat of French origin, Chaudoir was not the typical insect collector. He made a single extensive collecting trip in his life, a 40 day-journey to the Caucasus in



company of M.H. Hochhuth in 1845. His collection was mostly built through purchases and gifts. The single most significant purchase was LaFerté-Sénectère's carabid collection in 1859 which included Dejean's original specimens. In January 1874 Chaudoir gave his tiger beetle specimens, representing 713 species, to MHNP. After his death in May 1881 his collection passed into the hands of René Oberthür in Rennes as agreed upon between Chaudoir and the Oberthür brothers. Over nearly five decades, Chaudoir described 126 new carabid species based on specimens collected in North America; 58 (46%) had not been described earlier based on this catalogue.

René Oberthür died in April 1944 and his collection, certainly one of the two largest private beetle collections ever built, was classified as "monument historique" in January 1948 by the French government. The collection, which included at least five million specimens, was acquired for the sum of 32 million francs by the Muséum d'Histoire Naturelle in Paris (MHNP) in 1951 (Cambefort 2006: 249).

#### HENRY ULKE (1821-1910) COLLECTION

Although Ulke described only two North American carabids in his life, *Bembidion nevadense* in 1875 and *Pterostichus johnsoni* in 1889, his collection, which he sold in 1900 to the Carnegie Museum in Pittsburgh, was used extensively by LeConte and Horn and contains numerous syntypes of new species described by the two coleopterists. However, recognition of many of these syntypes can be difficult. Sometimes all syntypes were retained by LeConte and Horn while on other occasions all or some of them were returned to Ulke. Furthermore, syntypes returned to Ulke were often reincorporated in his collection with others of the same species from the same place. Usually these were marked with a number or colored square, but since many syntypes were left unmarked at the time, it is sometimes impossible to recognize them at the Carnegie Museum (Robert L. Davidson pers. comm. 2008).

#### JOHN LAWRENCE LECONTE (1825-1883) COLLECTION

LeConte is without doubt the most outstanding North American coleopterist of the XIX Century, not only because he described 514 new genus-group and about 4,730 new species-group taxa of beetles (Henshaw 1882: 270), but because he was the first to work seriously on the classification of the North American fauna. During his scientific activity, which lasted almost 40 years, he described 724 new species-group taxa of Geadephaga from North America, 439 (61%) of which were not previously described. LeConte built his collection through his own collecting but also from gifts he received and identifications he provided to many persons from whom he usually retained all or some of the specimens. There is also little doubt that his father, Major John Eaton LeConte<sup>3</sup>, left his collection to his son. Evidence supporting this can be found in

<sup>3</sup> By 1825, Major LeConte had sent Dejean more than 600 species of beetles (Dejean 1825: xxv). He also visited Paris in 1828 and gave Dejean a huge ["une immense"] collection of insects from the United States (Dejean 1828: vi). All species named "*lecontei*" by Dejean were in the honour of the Major and not his son.



LeConte (1856a: 49) when he indicated that his second specimen of *Cicindela blanda* “came from the old collection of my father.” LeConte was a generous man and often offered some of his specimens to visitors (such as Motschulsky [*q.v.*]) or sent some to acquaintances (such as Chaudoir [*q.v.*] and Putzeys [*q.v.*]) though it seems that he retained at least one specimen of each species. Unfortunately in the XIX Century the type concept for species-group taxa was not developed and LeConte sometimes gave the only syntype he had in his collection and retained one or more specimens that he acquired after the original descriptions. Therefore, syntypes of some of LeConte’s species are not in his collection. Moreover, syntypes of some of his species are difficult to find in his collection. LeConte had the habit of mixing the specimens of the new species he considered later as synonyms with those of the valid species. Since many of his specimens only bear a colored disc for label, syntypes of several of his species are not readily ascertainable.

In April 1875, LeConte wrote to his friend Alexander Agassiz, director of the Museum of Comparative Zoology in Cambridge, and expressed the wish that his collection be deposited at the museum after his death<sup>4</sup>. His collection was packed and transported by his longtime friend George Horn. It now stands separate from the general collection along with that of Horn.

LeConte used small colored paper disks to indicate the provenance of his specimens. The color system used is as follows:

<b>PALE BLUE</b>	Lake Superior, Canada
<b>PINK</b>	Middle states, i.e., Maryland, Delaware, New York, New Jersey, Pennsylvania, and possibly also Connecticut and Rhode Island
<b>PALE PINK</b>	Vermont, New Hampshire, Massachusetts
<b>WHITE</b>	Northern and eastern states, Canada, and possibly also Alaska
<b>ORANGE (brick red)</b>	Southern and Gulf states, i.e., Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and possibly also eastern Tennessee and Arkansas
<b>DARK RED</b>	Texas
<b>YELLOW</b>	Ohio, Illinois, Indiana, Missouri, western Tennessee, Kentucky, and possibly Iowa and the southern edge of the Great Lakes
<b>PALE GREEN</b>	Nebraska, Kansas, North Dakota, South Dakota, Oklahoma, Colorado, Wyoming, Montana
<b>DARK GREEN</b>	New Mexico
<b>BLACK</b>	Utah
<b>SILVER</b>	Arizona and Valley of Gila (so including also southwestern New Mexico)

<sup>4</sup> A copy of the letter was published in *The Coleopterists Bulletin* in December 1961.



<b>SILVER WITH EDGE CUT</b>	Baja California, Mexico
<b>GOLD</b>	California
<b>DARK BLUE</b>	Oregon, Washington
<b>BROWN</b>	Russian America, i.e., probably the region around Colony Ross, a farming community about 75 miles north of San Francisco along the coast in California, and Alaska

#### GEORGE HENRY HORN (1840-1897) COLLECTION

A physician by profession, Horn authored or coauthored more than 250 papers, in which he described 154 new genera and more than 1,600 new species of beetles, including 103 North American Geadephaga. Based on the current classification, 75 (73%) of his new geadephagan species had not been described previously. His collection and library were bequeathed to the American Entomological Society, which deposited them at the Academy of Natural Sciences in Philadelphia. In October 1974, the Horn and William G. Dietz collections were delivered to the Museum of Comparative Zoology in return for the Scudder and Morse orthopteroid insects of the MCZ (Philip D. Perkins pers. comm. 2004; see Lawrence 1973: 151). Horn's collection is preserved along with that of LeConte apart from the general collection.

#### THOMAS LINCOLN CASEY (1857-1925) COLLECTION

From 1884 to the end of his life, Casey described 1,864 new species-group taxa of North American Geadephaga; only 307 (16%) had not been described previously based on current concepts. Still many of his remaining "valid species" have not been subsequently studied, particularly those belonging to small species of the tribe Harpalini, and a substantial proportion will certainly end up in synonymy. Furthermore, several of Casey's species are valid simply by chance as he did not recognize or study the proper characters (such as the male genitalia) that distinguished them from their closely related taxa known at the time. His collection, consisting of almost 117,000 specimens, including name-bearing types for more than 9,200 species-group taxa (Buchanan 1935: 7; Blackwelder 1950: 65), was built through Casey's own collecting and by purchases. It was bequeathed to the United States National Museum in Washington, D.C. Casey (1918: 291) stated that "about a dozen" of his types "disappeared from ... [his] collection while temporarily at the Cambridge Museum." The syntypes of some of these species (e.g., *Bembidion militare*, *Tachys occultator*, *Amara pallida*, *Amara ferruginea*, and *Amara marylandica* among Carabidae) are at the MCZ. Casey did not designate holotypes as such and therefore, unless he expressly indicated in the original description that he had but a single specimen or that a lectotype had been designated, all type specimens in his collection are syntypes.

#### WILLIS STANLEY BLATCHLEY (1859-1940) COLLECTION

Blatchley described 12 new North American carabid species; only two (17%) are considered valid in this work. His library and large insect collection, which included 470

name-bearing specimens, were given to Purdue University. Blatchley did not select type specimens in his publications but subsequently designated lectotypes [as types] for all the new species he had described (Blatchley 1930: 33–50).

#### CHARLES FREDERIC AUGUST SCHAEFFER (1860–1934) COLLECTION

Schaeffer, curator of the insect collection at the Museum of the Brooklyn Institute of Arts and Sciences, described 30 new carabid species; 22 (73%) are still valid today. In 1929, the Brooklyn Museum transferred 37,100 insect specimens, including many of Schaeffer's carabid types, to the USNM (Debbie Feher pers. comm. 2008). Currently the type material of 25 (possibly 26) of Schaeffer's species-group taxa are in the USNM. It is clear in his 1910 paper that Schaeffer was selecting one of the specimens from his series as "the type." However he may not have labeled them as such because lectotypes have been designated for several of his new species by various authors.

#### HENRY CLINTON FALL (1862–1939) COLLECTION

A teacher by profession, Fall owned one of the largest private collections of North American beetles toward the end of his life, with an estimated 250,000 specimens (including those of Charles Liebeck which came to Fall in the 1930s) representing between 14,000 and 15,000 species or about 90% of the fauna of the time (Darlington 1940a: 46) if one excludes the "species" described by Casey. Over a period of about 40 years, Fall described 47 new North American carabid species-group taxa; 31 (66%) are still considered valid today. He left his collection, together with his correspondence, notebooks, and reprints, to the Museum of Comparative Zoology at Harvard University where his specimens are kept separately at the end of each genus in the general collection. In one of his 1910 papers, Fall designated holotypes (as "the type") for the first time. From this publication, "type" specimens labeled as such in his collection are considered holotypes. All original specimens of his new species described prior to 1910 should be considered syntypes. Type labels on some of these specimens were probably added after the publication of the original descriptions.

#### ROLAND HAYWARD (1865–1906) COLLECTION

Hayward, a member of the Boston Stock Exchange and of the Boston Society of Natural History, described 42 new species of carabids from North America, all in the tribe Bembidiini and the genus *Amara*. Currently 32 (76%) are considered valid. His collection, which he built through purchases, gifts, exchanges, and his own collecting in New England as well as in Colorado, Manitoba, and New Brunswick, was bequeathed to the Museum of Comparative Zoology in Cambridge. Hayward did not designate type specimens for his new species.

#### EDWIN COOPER VAN DYKE (1869–1952) COLLECTION

Professor Van Dyke described 73 new carabid and one new trachypachid species from North America; 54 (73%) of which had not been described previously based on their



current status. His collection, consisting of about 200,000 specimens (Essig 1953: 88), was presented to the California Academy of Sciences in 1924 where the holotypes of all but three of his 74 new species of Geadephaga are currently stored.

#### HOWARD NOTMAN (1881-1966) COLLECTION

Notman described 38 new carabid species from North America between 1919 and 1929; 21 (55%) had not been described previously based on their current status. In 1948 he donated his entire collection to the Staten Island Institute of Arts and Sciences, where it is still today (Smetana and Herman 2001: 118). Based on Hennessey's (1990) type catalogue of that institution, type specimens of all new species Notman collected himself, most from the Adirondacks where he owned a summer home, are in his collection in SIM (18 in total). He also described several new species from material owned by institutions, such as the USNM. Notman did not designate type specimens in his papers of 1919 and 1920 but did so after.

### Classification of Geadephaga

Unfortunately, there is no consensus among coleopterists concerning the classification of Geadephaga even at the family level. Some authors rank the cicindelids, rhysodids, and trachypachids as Carabidae while others consider one, two, or all three groups as distinct families. Even the paussines are sometimes raised to family level by modern authors. At this time, I prefer to classify the Geadephaga into three families, i.e., Trachypachidae, Rhysodidae, and Carabidae.

Following Jeannel's (1941b-1942) classification of the carabids of France, a number of authors, mostly French and Spanish taxonomists, still recognized several families of "ground beetles." Such an approach does not add anything to the understanding of carabid evolution. It simply adds another level to the Linnaean classification. If Jeannel's approach is followed, it could and should have an impact on the classification of the other adephagan groups, particularly the dytiscids. Since I have been under the influence of Lindroth's work on the carabids of Canada and Alaska, Jeannel's approach seems to me unjustified.

Following is a discussion of the family-group taxa of Geadephaga.

**Family Trachypachidae.** Monophyly of this family is well supported by larval and adult apomorphies (Arndt and Beutel 1995; Beutel 1994; Beutel 1998). The systematic position of this group, however, is contentious. Bell (1966b, 1967), Bills (1976), Evans (1977a, 1985), Hammond (1979), Ward (1979), Burmeister (1980), Roughley (1981), Nichols (1985c), Beutel and Belkaceme (1986), Ruhnau (1986), Beutel and Roughley (1988), Acorn and Ball (1991), Arndt (1993), Deuve (1993), Arndt and Beutel (1995), Arndt (1998), and Beutel (1998) provided or discussed elements suggesting that trachypachids are more closely related to hydradephagans or part of Hydradephaga (i.e., Dytiscoidea) than to carabids. While most authors have regarded

the Hydradephaga and Carabidae as distinct phyletic lineages, Bills (1976) and Nichols (1985c) argued that the hydradephagan-trachypachid lineage may have arisen within the Carabidae. Kavanaugh (1986) reevaluated the evidence supporting relationships of Trachypachidae with Hydradephaga. He concluded that trachypachids could be the sister-group of carabids and ranked the group as a subfamily within the Carabidae. Ponomarenko (1977) also postulated, from fossil evidence, that trachypachids and carabids are sister-groups that evolved from a common eodromeid ancestor. Beutel and Haas (1996), Kavanaugh (1998: 337), Fedorenko (2009), Dressler and Beutel (2010), and Martínez-Navarro et al. (2011) found support for monophyly of a clade including trachypachids and carabids. Recent molecular studies also suggested that trachypachids are more closely related to Geadephaga than to Hydradephaga (Shull et al. 2001; Maddison et al. 2009). In addition, pygidial gland compounds in trachypachids are more similar to those known from Carabidae than from Hydradephaga (Attygalle et al. 2004: 586). In this catalogue, trachypachids are included in the Geadephaga and given family rank.

The Trachypachidae includes two extant genera: *Systolosoma* Solier with two species in Chile and Argentina and *Trachypachus* Motschulsky with four species, one in Eurasia and three in western North America.

Many putative trachypachid fossils were found in Mesozoic deposits of Asia. Ponomarenko (1977), who studied the material, included all seven genera of trachypachid fossils in a distinct subfamily, Eodromeinae. Beutel (1998: 83) pointed out that the affinities between trachypachids and eodromeines are unclear because there are no apparent synapomorphic character states between the two groups.

**Family Rhysodidae.** Traditionally ranked as a distinct family, rhysodids (also known as wrinkled bark beetles) have been included within the family Carabidae in recent years by several authors following evidence or discussion provided by Bell and Bell (1962), Bell (1970), Forsyth (1972), Reichardt (1977), Baehr (1979), Beutel (1990, 1992c), Yahiro (1996), Bell (1998), Liebherr and Will (1998), and others. Some authors have treated the group as a tribe related to Scaritini or Clivinini. Reichardt (1977: 393) stated that rhysodids were “closest” to salcediines and Bell (1998: 268) even suggested that the genus *Solenogenys* Westwood, traditionally included within the Salcediini, is the sister-group to rhysodids. Erwin (1991a: 10) on the other hand included rhysodids within his subfamily Psydrinae along with gehringiines, psydrines, moriomorphines, patrobines, trechines, zolines, pogonines, and bembidiines. Molecular data published by Maddison et al. (1999: 125) suggest that rhysodids could be the sister-group to cicindelids and that both could be closely related to the subfamily Harpalinae. Others taxonomists, however, have continued to treat the rhysodids as a distinct family. Regenfuss (1975) and Nagel (1979) suggested that the Rhysodidae could be the sister-group of the remaining Geadephaga; Deuve (1993: 100) the sister-group to the other Adephaga (with the possible exception of Gehringiinae); Beutel and Roughley (1988) the sister-group of the remaining Adephaga excluding Gyrinidae; Beutel (1992a, 1993, 1998) the sister-group to Car-



abidae (without trachypachids). Recently Makarov (2008) found no evidence from the larval morphology suggesting that rhysodids are specialized Carabidae. Instead rhysodid larvae share several features with those of the suborder Archostemata. At this time, I prefer to rank rhysodids as a distinct family based on tradition but also on the fact that there is no solid morphological or molecular evidence presented to date pointing out that the Carabidae (with or without trachypachids) are paraphyletic in regard to rhysodids.

About 355 species of rhysodids are currently known and are placed into seven family-group taxa, namely Leoglymmiini, Medisorini, Rhysodini, Dhysorini, Sloanoglymmiini, Omoglymmiini, and Clinidiini. These taxa are usually ranked as subtribes when rhysodids are included in the carabids. I have followed Bousquet and Laroche (1993) in listing them as tribes. Only the last two-mentioned tribes are represented in North America.

TRIBE LEOGLYMMIINI. This tribe contains a single species, *Leoglymmius lignarius* (Olliff), from Australia. Contrary to other rhysodids, the minor setae on antennomeres 5-10 are arranged in broad bands encircling the distal third of the segment and the mentum is separated from the ventral lobe of the gena by a distinct suture in its anterior half.

TRIBE MEDISORINI. A single species, *Medisores abditus* Bell and Bell, belongs to this tribe. The few known specimens have been found in Cape Province in the Republic of South Africa.

TRIBE RHYSODINI. This tribe is confined to the Eastern Hemisphere and includes about 25 species in three genera: *Rhysodes* Germar (two Palaearctic species), *Kupeus* Bell and Bell (one New Zealand species), and *Kaveinga* Bell and Bell (23 Australian species).

TRIBE DHYSORINI. This tribe includes ten species placed in three genera, *Dhysores* Grouvelle in Africa, *Tangarona* Bell and Bell in New Zealand, and *Neodhysores* Bell and Bell in South America.

TRIBE SLOANOGLYMMIINI. This tribe has been proposed for one species, *Sloanoglymmius planatus* (Lea), endemic to southeastern Australia. The genus is taxonomically isolated and its relationship to other rhysodid genera is obscure.

TRIBE OMOGLYMMIINI. This tribe includes 180 species placed in eight genera. The group is represented in all zoogeographical regions but less so in Australia, Africa, and South America (Bell and Bell 1978: 66). The two North American species belong to the subgenus *Boreoglymmius* Bell and Bell, of the genus *Omoglymmius* Ganglbauer, along with one Japanese species. According to Bell and Bell (1983: 141), the two North American species are probably more closely related to each other than either is to the Japanese species.

TRIBE CLINIDIINI. This tribe contains about 135 species placed in the genera *Clinidium* Kirby, *Rhyzodiastes* Fairmaire, and *Grouvellina* Bell and Bell. The species are found in all zoogeographical regions, including Madagascar, but are absent from the African continent. The North American fauna has only six species, five in the east and one in the west, included in the subgenus *Arctoclinidium* Bell of the genus *Clinidium*. This subgenus also contains three Palearctic species, one in Japan and two in Europe. According to Bell and Bell (1985: 77), the North American species and the Japanese one form a clade and the European species another clade. These authors also placed the Japanese species, *C. veneficum* Lewis, as the sister-group to *C. valentinei* Bell of eastern North America.

**Family Carabidae.** Monophyly of the Carabidae, as defined here, is not evident. The layout of the prehypopharyngeal setae in the larvae (Beutel 1993) and the development of antennal pubescence in the adults (Beutel 1995) have been suggested as synapomorphies for the family. However, Arndt et al. (2005: 138) considered these character states not very convincing given the variation involved in the structures. Recent molecular sequence analyses conducted by Maddison et al. (2009) found little support for monophyly of the group no matter if the trachypachids, rhyssodids, and/or cicindelids were included or excluded unless the Carabidae was considered equivalent to the Geadephaga. Therefore, the Carabidae, as defined here, could be paraphyletic in regard to rhyssodids, trachypachids, and possibly even to Hydradephaga.

Carabids are found on all continents, except Antarctica, and on most islands. They range from well above the arctic circle to Tierra del Fuego and South Georgia in the Southern Hemisphere. Based on Lorenz's (2005) checklist, 33,920 valid species are recognized.

The current classification of the Carabidae is based mainly on morphological data of adults although molecular sequence data have been used recently to discuss various aspects of carabid phylogeny. Despite several attempts there is no consensus on the classification of several subfamilies or tribes. This is particularly evident among 'basal grade' carabids.<sup>5</sup>

Fossils belonging to the family Carabidae are known from the early Jurassic (Ponomarenko 1977) which suggests that the family emergence dates back to the beginning of the Jurassic or the end of the Triassic (Kryzhanovskij 1983). Ponomarenko (1977) proposed two family-group taxa of Carabidae among Mesozoic fossils, the subfamily Protorabinae for five genera and the tribe Coniunctiini for two genera.

The world classification of family-group taxa, which has been adopted for the North American fauna in this catalogue, is outlined in Table 3.

<sup>5</sup> Following Maddison *et al.* (1999: 104), the expression 'basal grade carabids' is restricted to lineages branching off early along the evolutionary path of the family, 'middle grade carabids' to the lineages placed by Jeannel (1941b) in his 'Stylifera' and 'higher carabids' to the numerous lineages currently included in the subfamily Harpalinae.



**Table 3.** Classification of world family-group taxa of Carabidae. Taxa represented in North America are followed by a dot.

Subfamily Nebriinae	Subfamily Siagoninae
Tribe Pelophilini •	Tribe Enceladini
Tribe Opisthiini •	Tribe Siagonini
Tribe Nebriini •	Tribe Lupercini
Tribe Notiokasiini	Subfamily Melaeninae
Tribe Notiophilini •	Tribe Melaenini
Subfamily Cicindinae	Subfamily Gehringiinae
Tribe Cicindini	Tribe Gehringiini •
Subfamily Carabinae	Subfamily Trechinae
Tribe Cychrini •	Tribe Trechini •
Tribe Pamborini	Tribe Zolini
Tribe Ceroglossini	Tribe Bembidiini •
Tribe Carabini •	Tribe Pogonini •
Subfamily Cicindelinae	Subfamily Patrobinae
Tribe Amblycheilini •	Tribe Lissopogonini
Tribe Manticorini	Tribe Patrobini •
Tribe Megacephalini •	Subfamily Psydrinae
Tribe Cicindelini •	Tribe Psydrini •
Tribe Ctenostomatini	Subfamily Moriomorphinae
Tribe Collyridini	Tribe Moriomorphini
Subfamily Loricerae	Tribe Amblytelini
Tribe Loricerini •	Subfamily Nototylinae
Subfamily Elaphrinae	Tribe Nototylini
Tribe Elaphrini •	Subfamily Paussinae
Subfamily Omophroninae	Tribe Metriini •
Tribe Omophronini •	Tribe Mystopomini
Subfamily Migadopinae	Tribe Ozaenini •
Tribe Amarotypini	Tribe Protopaussini
Tribe Migadopini	Tribe Paussini
Subfamily Hiletinae	Subfamily Brachininae
Tribe Hiletini	Tribe Crepidogastrini
Subfamily Scaritinae	Tribe Brachinini •
Tribe Pasimachini •	Subfamily Harpalinae
Tribe Carenini	Supertribe Pterostichitae
Tribe Scaritini •	Tribe Morionini •
Tribe Clivinini •	Tribe Cnemalobini
Tribe Salcediini	Tribe Microcheilini
Tribe Dyschiriini •	Tribe Chaetodactylini
Tribe Promecognathini •	Tribe Cratocerini
Tribe Dalyatini	Tribe Abacetini •
Subfamily Broscinae	Tribe Pterostichini •
Tribe Broscini •	Tribe Zabрини •
Subfamily Apotominae	Tribe Metiini
Tribe Apotomini	Tribe Drimostomatini

Tribe Chaetogenyini	Tribe Enoicini
Tribe Dercylini	Tribe Atranini •
Tribe Melanchitonini	Tribe Catapieseini
Tribe Oodini •	Tribe Lachnophorini •
Tribe Peleciini	Tribe Pentagonicini •
Tribe Brachygnathini	Tribe Odacanthini •
Tribe Bascanini	Tribe Calophaenini
Tribe Panagaeini •	Tribe Ctenodactylini •
Tribe Chlaeniini •	Tribe Hexagoniini
Tribe Cuneipectini	Tribe Cyclosomini •
Tribe Orthogoniini	Tribe Somoplatini
Tribe Idiomorphini	Tribe Masoreini
Tribe Glyptini	Tribe Corsyrini
Tribe Amorphomerini	Tribe Sarothrocrepidini
Supertribe Harpalitae	Tribe Graphipterini
Tribe Licinini •	Tribe Lebiini •
Tribe Harpalini •	Tribe Dryptini
Tribe Geobaenini	Tribe Galeritini •
Tribe Omphreini	Tribe Zuphiini •
Tribe Sphodrini •	Tribe Physocrotaphini
Tribe Platynini •	Tribe Anthiini
Tribe Perigonini •	Tribe Helluonini •
Tribe Ginemini	Tribe Xenaroswellianini
	Tribe Pseudomorphini •

**Subfamily Nebriinae.** This subfamily includes the tribes Nebriini, Notiokasiini, Notiophilini, Opisthiini, and Pelophilini. All but notiokasiines are Northern Hemisphere elements and represented in North America. Evidence supporting monophyly of Nebriinae is not overwhelming. The only known synapomorphy in the adult stage is the asetose parameres (Kavanaugh and Nègre 1983), a character state found in other, clearly unrelated carabid lineages. Arndt (1993: 21) listed three putative synapomorphies upon examination of the larval morphology. The molecular data analyses by Maddison et al. (1999: 125) provided only moderate support for monophyly of the subfamily and Kavanaugh’s (1998) phylogenetic analysis suggested that this subfamily represents a grade rather than a clade.

The subfamilies Nebriinae and Carabinae could be closely related as pointed out by Jeannel (1940: 7), Bell (1967: 105), Beutel (1992c: 57), and Su et al. (2004: 49). Both groups have open procoxal cavities, contrary to the remaining carabids. In addition, the external lamella of the metepimeron is completely covered and functionally replaced by an extension of the hind margin of the anepisternum (Beutel 1992c: 57). Some authors (e.g., Lorenz 2005: 125) also include the cicindines within the subfamily suggesting a close relationship between these groups. Based on similarities in the genitalia, Deuve (1993: 125) raised the possibility that the Hydradephaga, trachypachids, omophronines, and nebriines form a clade.



TRIBE PELOPHILINI. This tribe includes a single genus, *Pelophila* Dejean, which has been retained in the tribe Nebriini until recently. Two species are known, both living in the boreal and subarctic regions: one is circumpolar, the other restricted to Canada and Alaska. Kavanaugh (1996: 34) suggested that the genus represents the sister-group to the remaining Nebriinae. One of Kavanaugh's (1998: Fig. 2) cladograms suggested that *Pelophila* is more closely related to the tribe Nebriini than are the Opisthiini, Notiophilini, and Notiokasiini.

TRIBE OPISTHIINI. This tribe includes two genera with five species and is doubtless monophyletic. Kavanaugh and Nègre (1983: 564) argued that opisthiines could be the sister-group to the remaining Nebriinae. On the other hand, Kavanaugh's (1996: Fig. 1A) most parsimonious tree suggested that this tribe is the sister-group to Notiophilini and that these two tribes, along with Notiokasiini, form a clade which represents the sister-group to Nebriini.

TRIBE NEBRIINI. This tribe contains about 600 species in the Palaearctic, Nearctic, and northern parts of the Oriental Regions. However, the group is clearly more diverse in the Palaearctic. The main genera of the tribe are *Leistus* Frölich, *Archastes* Jedlička, and particularly *Nebria* Latreille with more than 60% of the species. The limits of the genus *Nebria* are not quite settled. Kavanaugh (1995, 1996) regarded *Nippononebria* Uéno (including *Vancouveria* Kavanaugh) as the sister-group to *Leistus* while Ledoux and Roux (2005) listed *Nippononebria* and *Vancouveria* as subgenera of *Nebria* and suggested they form the sister-group to *Eonebria* Semenov and Znojko and *Sadonebria* Ledoux and Roux, a complex of 60 Palaearctic species.

TRIBE NOTIOKASIINI. This tribe contains a single species, *Notiokasis chaudierei* Kavanaugh and Nègre, found in South America. Although the relationships of the tribe are obscure (Kavanaugh and Nègre 1983), Kavanaugh (1996: 33) found 12 synapomorphies supporting monophyly of a clade including notiokasiines, notiophilines, and opisthiines.

TRIBE NOTIOPHILINI. The tribe includes a single genus, *Notiophilus* Duméril, very characteristic in the adult stage. The larvae, however, are similar in most structural features to those of Nebriini as pointed out by van Emden (1942). Jeannel (1941b: 175) included Notiophilini, Nebriini (with *Pelophila*), and Opisthiini in his family Nebriidae, suggesting implicitly a close relationship between the three groups. Kavanaugh's (1996: Fig. 1A) most parsimonious cladogram suggested a sister-group relationship between Notiophilini and Opisthiini based on adult and larval morphological data. Based on confluent procoxal cavities, Nichols (1985c: Fig. 5) considered the tribe to be the sister-group to {Omophronini + Trachypachini + Hydradephaga}. Erwin (1991a: 11) noted that notiophilines, along with omophronines, hiletines, and trachypachids, have the first mesotarsomere slightly dilated and with squamate setae underneath. However, it remains to ascertain whether this character state is synapomorphic or convergent. Based on female reproductive tracts, Liebherr and Will (1998: 146) suggested

that the tribe Notiophilini represents the sister-group to {Opisthiini + Nebriini (with *Pelophila*) + Omophronini}.

Notiophilines, with about 55 species described to date, live in the Nearctic and Palaearctic Regions and at higher altitudes in the northern parts of the Neotropical and Oriental Regions. They are more speciose in Asia than anywhere else. The phylogenetic relationships of the species have not been studied yet.

**Subfamily Cicindinae.** This subfamily includes two species, *Archaeocindis johnbeckeri* (Bänninger) from the Persian Gulf (Kuwait and Iran) and *Cicindis horni* Bruch from the Córdoba Province of Argentina. Very little can be said at this time about the relationships of the subfamily except that it represents a basal grade carabid taxon. Kryzhanovskij (1976a: 87) associated cicindines with paussines (excluding metriines) and nototylinines; Nagel (1979, 1987) and Roig-Juñent et al. (2011) viewed them as the sister-group to paussines. Ball (1979: 100), however, doubted such proposed affinities between cicindines and paussines. Erwin (1985, 1991a), followed by Lorenz (2005: 125), included the Cicindini in the Nebriitae. Kavanaugh and Erwin (1991) studied the structural features and reviewed the relationships of the group. They concluded that cicindines are best placed in a distinct supertribe near the Nebriitae and Elaphriitae (*sensu* Kryzhanovskij 1976a: 88). Kavanaugh's (1998: Fig. 3) phylogenetic analysis using 153 characters of adult external and male genitalic structures suggested that cicindines may be closely related to omophronines, carabines, cycrines, and cicindelines. Aspects of the behaviour and life history of the Argentine species have been published recently (Erwin and Aschero 2004).

**Subfamily Carabinae.** This subfamily contains about 1,300 species (Lorenz 2005: [i]) placed in four tribes: Cycrini, Pamborini, Ceroglossini, and Carabini. Most authors agree that the subfamily is monophyletic. According to Deuve (2004: 32), adults of this group are characterized by two significant autopomorphies: the presence of two strip-like apodemes flanking the basal orifice of the median lobe of the aedeagus and the presence of an alveolus on the epipleurite of the abdominal segment IX at the opening of the defensive gland. Arndt (1998: 179) noted several autopomorphies in larvae of Carabinae: an extensive decrease of number of setae on the tergites and sternites with an increase in the number of pores, size reduction of the sensorial appendage on antennomere III, and a markedly sclerotized body.

**TRIBE CYCHRINI.** This well-defined and likely monophyletic group of about 200 species is restricted to the Northern Hemisphere. Osawa et al. (2004: 31) and Su et al. (2004: 49), based on molecular data, argued that the tribe is probably the sister-group to the remaining clades of the subfamily. Moore (1966b), Prüser and Mossakowski (1998: 316), and Arndt (1998: 180), based on morphological data, suggested that pamborines are the closest relatives to cycrines. Jeannel (1941b: 167) indicated that cycrines are more closely related to pamborines and ceroglossines than to carabines (*sensu stricto*) and calosomatines based on the shape of the parameres.



Relationships among the four genera have not been investigated. Whether or not *Sphaeroderus* Dejean and *Scaphinotus* Dejean, the two endemic North American genera, are sister-groups, as suggested by Erwin (2007a: 139), remains to be investigated. For example, Prüser and Mossakowski (1998: 316) listed several putative synapomorphies suggesting that *Cychrus* Fabricius and *Sphaeroderus* are sister-groups (*Cychropsis* Boileau was not included in their analysis). The phylogenetic tree by Osawa et al. (2004: Fig. 5.2) based on molecular sequence data suggested that *Scaphinotus* is the sister-group to the remaining Cychrini and *Sphaeroderus* the sister-group to *Cychropsis*.

TRIBE PAMBORINI. The 13 species currently included in this tribe are placed in two genera: *Pamborus* Latreille from Australia and the monospecific *Maoripamborus* Brookes from New Zealand. Jeannel (1941b: 94) stated that pamborines are more closely related to ceroglossines than to any other Carabinae.

TRIBE CEROGLOSSINI. This tribe comprises only the genus *Ceroglossus* Solier (eight species and 46 subspecies) which is restricted to Chile and western Argentina. The genus has traditionally been included within the Carabini but recent analyses based on molecular sequence data suggest that ceroglossines are more closely related to pamborines than to carabines (Prüser and Mossakowski 1998: 297; Su et al. 2004: 50) or form the sister-group to the remaining members of Carabinae (Osawa et al. 2004: Fig. 5.2). Arndt (1998: 179) found evidence from the larval morphology to support the latter hypothesis.

TRIBE CARABINI. Carabines rank among the most popular groups for beetle collectors. Adults of many species are elegant, colorful, and large (often exceeding 15 mm). Such interest has generated a market for these beetles, particularly in Europe, and unfortunately also a race to describe new varieties, morphs, and aberrations. More than 1,080 species of Carabini are recognized today worldwide. They inhabit all zoogeographical regions but are much more diverse in the Palaearctic Region than anywhere else.

The supraspecific classification of Carabini is debated. Some authors recognize only two genera, *Carabus* Linnaeus and *Calosoma* Weber, while others admit many, more or less clearly defined genera which are often grouped in two subtribes: Carabina and Calosomatina. I have followed the first approach and list all North American species in the genera *Carabus* (15 species) and *Calosoma* (41 species). The main difference between the two genera is the regression (or complete disappearance) of the ostial ligula of the aedeagus in members of *Carabus* (Deuve 2004: 33).

Based on morphological (larvae and endophallus of adults) and molecular sequence data, Deuve (2004) recognized eight major lineages within the genus *Carabus*: Spinulati, Digitulati, Lipastrimorphi, Archicarabomorphi, Tachypogenici, Metacarabi, Arcifera, and Neocarabi. The North American species are arrayed in nine subgenera: *Carabus s.str.* belongs to the Digitulati, *Archicarabus* Seidlitz to Archicarabomorphi, *Tachypus* Weber to Tachypogenici, *Megodontus* Solier to Neocarabi, and *Diocarabus* Reitter, *Homoeocarabus* Reitter, *Aulonocarabus* Reitter, *Hemicarabus* Géhin, and *Tanaocarabus* Reitter to Metacarabi.

Jeannel (1940: 68) recognized two major lineages within the calosomatines: the *Calosomes lobés* with a membranous ligula at the proximal opening of the male median lobe and the *Calosomes ongulés* with a chitinized ligula. The first lineage is represented in the Australian and Palaearctic Regions, and by six species belonging to the genus-group taxa *Calosoma s.str.* and *Calodrepa* Motschulsky in the Nearctic Region, the West Indies, and Mexico. The second lineage was divided by Jeannel (1940: 69–71) into three clades, the phyletic series of *Castrida-Caminara* represented in North America by a single species belonging to the genus-group taxon *Castrida* Motschulsky, the phyletic series of *Callisthenes* represented in the Nearctic Region by 23 species of the taxa *Chrysostigma* Kirby and *Callistenia* Lapouge, and the phyletic series of *Callitropa* represented in North America by 11 species of *Blaptosoma* Géhin, *Carabosoma* Géhin, *Camegonia* Lapouge, and *Callitropa* Motschulsky.

The systematic position of *Aplothorax burchelli* Waterhouse, a species endemic to the island of Saint Helena off the west coast of Africa, is controversial. Jeannel (1940) included the taxon within his *Calosomes ongulés* but Basilewsky (1972: 18–22) was convinced that the species is a relict of an old clade that evolved before the splitting of the *Carabus* and *Calosoma* lineages. He advocated placing the species in a distinct tribe which, in his opinion, was as justified as those of Pamborini and Ceroglossini.

**Subfamily Cicindelinae.** This group, referred to as the tiger beetles, has been regarded traditionally as a distinct family, but more and more coleopterists include it within the carabids. There is little doubt, based on characters of adults and larvae, that cicindelinae form a monophyletic lineage. Relationships of the group, however, remain uncertain. It has been regarded as the sister-group to the remaining Carabidae by Nichols (1985c) and as the sister-group to Carabidae (minus paussines) by Regenfuss (1975). A close affinity between this subfamily and the Carabinae has been suggested by Erwin and Sims (1984: 366), Deuve (1993: 160; 2004: 32), Kavanaugh (1998: 338), and Liebherr and Will (1998: 151), although Liebherr and Will also emphasized that the Cicindelinae could instead be closely related to Promecognathini and Amarotypini. Maddison et al. (1999) indicated that most of their phylogenetic analyses of 18 rDNA place the Cicindelinae and Rhysodidae as sister-groups, near the Harpalinae. They also pointed out that the alternative placement of the cicindelinae outside the Carabidae was more parsimonious than placing them among the basal-grade carabids. Deuve (2004: 32) noted two exceptional and primitive character states shared between cicindelinae and carabines: presence of the abdominal tergite X in the male and presence of a phallobase on the aedeagus. He also pointed out numerous similarities between the two groups: the ectodermal genital ducts of the females are almost identical with a vagina differentiated in a bursa copulatrix, the presence of a sclerotized ligular apophysis, the presence of a filiform spermatheca and absence of an accessory gland, the presence of rod-shaped apophyses on the female abdominal epipleurites VIII allowing the formation of a telescopic egg-laying tube, the parameres of the aedeagus are glabrous and symmetrical, the endophallus often shows comparable dentiform sclerites, the digestion is extra-oral,



and the ventral surface of the adult body often shows metallic coloration, an exceptional character state in the Adephaga.

This subfamily currently includes more than 2,500 species distributed worldwide, except Tasmania, Antarctica, and remote oceanic islands, with the greatest diversity in the tropics (Pearson 1988). Tiger beetles are classified by most authors, following Horn (1926), into two major lineages, *Alocosternales* with a very narrow and deeply longitudinally-furrowed metepisternum in the adult and *Platysternales* with a wider metepisternum that has either no longitudinal furrow or a horseshoe-shaped furrow posteriorly. These groups are often listed as supertribes Collyriditae and Cicindelitae respectively. However, based on a combined analysis of molecular and morphological data, Vogler and Barraclough (1998: 254) noted that collyridites nested within the cicindelites, rendering the latter paraphyletic. Arndt (1998: 178) also noted that, based on larval character states, Cicindelitae and the tribe Megacephalini are not monophyletic. Based on the above information, the species of Cicindelidae are simply placed here in six tribes without further grouping.

TRIBE AMBLYCHEILINI. This tribe includes the genera *Omus* Eschscholtz and *Amblycheila* Say represented in North America and Mexico, and the genus *Pycnochila* Motschulsky with one species in the Strait of Magellan. Amblycheilines have been classified in the past within the megacephalines but larval characters (Arndt and Putschkov 1997) and mitochondrial and nuclear RNA gene sequences (Vogler and Barraclough 1998: 251) suggest a basal position for amblycheilines, well removed from the true megacephalines. The tribe, however, may well be a grade rather than a clade. For example, Arndt (1998: 178) placed *Omus* as the sister-group to the remaining Cicindelinae based on larval characters.

TRIBE MANTICORINI. This tribe includes 14 species, arrayed in the genera *Mantica* Kolbe (one rarely collected species from southern Namibia) and *Manticora* Fabricius (13 Afrotropical species). Contrary to other tiger beetles, males of this tribe have asymmetric mandibles and unexpanded protarsomeres (Werner 2000: 22).

TRIBE MEGACEPHALINI. This tribe includes about 200 species arrayed in 11 genera (see Naviaux 2007: 15). Even without the amblycheilines, monophyly of the tribe is doubtful. For example, the genus *Oxycheila* Dejean, traditionally considered a member of Megacephalini, nested with rather strong support within the basal groups of Cicindelini in Vogler and Barraclough's (1998: 254) cladistic analysis based on molecular and morphological data.

TRIBE CICINDELINI. This tribe is by far the most diversified clade of tiger beetles. The number of recognized genera varies to a great extent among taxonomists. In this work the 98 North American species (202 species-group taxa) are placed in nine genera. All but two (*Cylindera* and *Cicindela*) of these genera are New World endemics. Arndt (1998: 178) stated that Cicindelini forms the sister-group to {Ctenostomatini + Collyridini}.

**TRIBE CTENOSTOMATINI.** This tribe includes two genera: *Ctenostoma* Klug with about 115 Neotropical species, and *Pogonostoma* Klug with about 110 Madagascan species. Members of this tribe are synapomorphic in lacking the articulated hook at the extremity of the inner lobe of the maxilla (Jeannel 1946: 104).

**TRIBE COLLYRIDINI.** This tribe contains about 335 species in Asia, of which one extends into the Australian Region. The species are arrayed in two subtribes: Tricondyliina for the genera *Derocrania* Chaudoir (16 species) and *Tricondyla* Latreille (about 45 species), and Collyridina for the genera *Protocollyris* Mandl (16 species), *Neocollyris* Horn (about 250 species), and *Collyris* Fabricius (ten species). Naviaux (1994: 149) indicated the structural differences between the two subtribes.

**Subfamily Loricerae.** This subfamily contains a single genus, *Loricera* Latreille, although some authors have treated *Elliptosoma* Wollaston, with one species from Madeira, as a distinct genus. The group is restricted to the Nearctic and Palaearctic Regions with some taxa found on mountains in the northern parts of the Neotropical and Oriental Regions. Loricerini is a basal grade taxon with obscure affinity. Jeannel (1941b: 80) associated loricerines with the Carabinae, Nebriinae, Cicindelinae, Elaphrinae, Omophroninae, and Siagoninae (including *Promecognathus*) in his *Caraboidea Simplicia*, characterized by the absence of metepimeric lobes (Jeannel 1941b: 93). Bell (1967: 105) included loricerines within his *Anisochaeta Isopleuri* along with elaphrines, scaritines, and cicindelids. Arndt (1993: 22) found several common derived larval features in larvae of Loricerae and Cicindelinae to suggest a sister-group relationship between the two taxa. Maddison et al. (1999: 126) pointed out that placement of *Loricera* within {Migadopini + Amarotypini} received relatively strong support in their 18S rDNA analyses. These three taxa were also recovered as a monophyletic unit in analyses of the same gene by Ribera et al. (2005: 290). Vigna Taglianti and Rossi (1998: 515) indicated that loricerines could be closely related to elaphrines based on the presence of the same parasitic laboulbeniales species found on these groups. Erwin (2007a: 69) listed Elaphrini as the sister-group to Loricerini.

Recently Sciaky and Facchini (1999) described a new subgenus (*Plesioloricera*) for the new Chinese species *L. balli* which has eight, instead of 12 or more, striae. This species could possibly be the most basal taxon of the genus.

Klausnitzer (2003) described a new species, *Loricera electrica*, based on a larva found in Baltic amber. He believes the species probably belongs to the *pilicornis* group as defined by Ball and Erwin (1969).

**Subfamily Elaphrinae.** This subfamily includes a single tribe with obscure relationships. Bell (1967) listed the Elaphrini within his *Isopleuri* along with Loricerini, Scariini, and Cicindelini. Following Jeannel's (1941b: 214) intuition, both Kryzhanovskij (1976a: 88) and Erwin (1985: 469) considered the elaphrines as the sister-group to Migadopini (with and without *Amarotypus* respectively) and this hypothesis was supported by Deuve's (1993: 160) study of the female genitalia and Roig-Juñent's (1998:



Figs 9-10) parsimony analysis using 33 adult and larval characters. On the other hand, Goulet (1983: 445) regarded Melaenini and the subtribe Broscina as the taxa most closely related to Elaphrini. This possibility was found most parsimonious by Maddison et al. (1999) based on their molecular sequence analysis which did not, however, include melaenine exemplars. In addition, Yahiro (1990: 42) reported a similar type of alimentary canal in elaphrines and broscines. Roig-Juñent's (1998) parsimony analysis shows that elaphrines are not related to broscines. Parsimony analysis based on the female reproductive tract characters placed Elaphrini as the sister-group to {Opisthiini + Nebriini + Notiophilini + Omophronini} or near the Promecognathini and Amarotypini (Liebherr and Will 1998: 146).

The tribe is represented only in the Northern Hemisphere and includes three genera, all represented in the Nearctic Region.

**Subfamily Omophroninae.** This subfamily includes a single genus, *Omophron* Latreille. Some authors have suggested that Omophronini, Trachypachidae, and the Hydradephaga form a monophyletic group. Putative synapomorphies proposed for the complex include the presence, in the larvae, of an undivided cardo and a dorsal insertion of the femoro-tibial extensor (Ruhnau 1986) and, in the adults, the atrophy of intertergal muscle M24 (Bils 1976), partial housing of the procoxae by the mesosternum, and the prominent prosternal process contacting the metasternum (Nichols 1985c). Deuve (1993: 160) noted the presence of a peculiar sclerotized structure (named "*sclerite helminthoïde*") in the female genitalia of omophronines, nebriines (*sensu lato*), trachypachids, and the Hydradephaga which raises the possibility of close phylogenetic affinities between these groups. Jeannel (1941b: 219) suggested that cicindelinae were most closely related to omophronines. Bell (1967: 106) indicated that Omophronini might be aberrant *Hemipleuri*, a group including nebriines (*sensu lato*) and carabines (*sensu lato*). Kavanaugh (1998: 338), based on a parsimonious analysis of adult characters, suggested a close affinity between Omophroninae, Carabinae, and Cicindelinae. Liebherr and Will (1998: 156) listed several "potentially synapomorphic characters" supporting placement of omophronines with nebriines (*sensu lato*) and their preferred cladogram, based on 20 characters of female ovipositors and reproductive tracts, placed them as the sister-group to notiophilines. Many authors, however, have treated the Omophronini as a basal-grade taxon with unclear affinity. Based on larval character states, Landry and Bousquet (1984) found no evidence to indicate a sister-group to Omophronini. Such conclusions were also reached by Beutel (1991) from his study of the larval head and adult thoracic structures. Erwin (2007a: 63) indicated the possibility that cicindines were closely related to omophronines.

The genus *Omophron* includes about 70 species and is represented in all zoogeographical regions except the Australian one. There is no evidence yet known to suggest that the Nearctic or the Western Hemisphere species form a clade within the genus.

**Subfamily Migadopinae.** This subfamily currently consists of two tribes: Amarotypini and Migadopini. One of the main character states of the group is the presence of a

long scutellar stria reaching the apical declivity of the elytra (Jeannel 1938b: 4) as in members of *Pelophila*. This characteristic, however, is absent in members of the genus *Aquilex* Moret, which have a short scutellar stria (Moret 2005: 30). Jeannel (1938b) revised the species of migadopines (as Migadopidae) and classified them into two groups: Monolobinae for the Chilean genus *Monolobus* Solier (two species) and Migadopinae for the remaining genera which are represented in South America and in the Australian Region. He also postulated that elaphrines were without doubt the group most closely related to migadopines in the Northern Hemisphere (Jeannel 1938b: 10). Moore et al. (1987: 65) included the migadopines from Australia within the supertribe Elaphritae.

**TRIBE AMAROTYPINI.** This tribe includes a single species, *Amarotypus edwardsii* Bates, from New Zealand. Until recently the species was placed in the tribe Migadopini but it differs by having a setiform unguitractor plate between the tarsal claws which is missing in migadopines. Erwin (1985: 469) postulated that Amarotypini could be the sister-group to {Migadopini + Elaphrini}. In Liebherr and Will's (1998: Fig. 57) preferred cladogram, based on 20 characters of the female ovipositors and reproductive tract, amarotypines were positioned as the sister-group to promecognathines. In Roig-Juñent (2004: Fig. 1) phylogenetic analysis, based on 57 characters of the adult morphology, the genus *Amarotypus* Bates nested inside the remaining migadopine genera, as the sister-group to {*Calathosoma* + *Stichonotus*}.

**TRIBE MIGADOPINI.** This group of about 30 species in 15 genera is restricted to the temperate areas of the Neotropical and Australian Regions. Moret (2005: 30) recently proposed the subtribe Aquilicina for the genera *Aquilex* Moret (one species in Ecuador) and *Rhytidognathus* Chaudoir (one species in Uruguay). He also pointed out the close relationship between the South American genus *Lissopterus* Waterhouse (two species from the Tierra del Fuego Archipelago and Falkland Islands) and the New Zealand genera *Loxomerus* Chaudoir (five species) and *Calathosoma* Jeannel (one species). The phylogenetic analysis performed by Roig-Juñent (2004) do not support Moret's conclusions although *Aquilex* was recovered as the sister-group to the other migadopine genera. Liebherr and Will (1998: 147) alluded to the possibility that the tribe is not monophyletic.

**Subfamily Hiletinae.** This subfamily includes two genera, *Hiletus* Schiødte (= *Camaragnathus* Bocandé) with six species in tropical Africa and *Eucamaragnathus* Jeannel with 15 species in the Afrotropical (six species), Oriental (five species), and Neotropical (four species) Regions. Jeannel (1941b: 80; 1946: 209) postulated that hiletines were closely related to scaritines (*sensu lato*) based mainly on the fact that these two taxa were the only *disjuncti* (i.e., with disjunct mesocoxae) with the metepimera lobed as in the *conjuncti*. Erwin and Stork (1985: 445) believed that hiletines were related to cnemalobines (as Cnemacanthini), elaphrines, migadopines, promecognathines, pseudomorphines, scaritines, and siagonines based on some tarsal character states and suggested that this complex forms the sister-group to the paussine-brachinine clade based

on the presence of distinct epimera, brushy non-styliform parameres, long empodial unguitractor plates, and non-conjunct mesocoxae. They also concluded that hiletines represent the sister-group to {scaritines + cnemalobines (as *Cnemaanthini*) + pseudomorphines} and that this clade was characterized by having a single long guard seta at the apex of the fifth tarsomere which projects between the two tarsal claws.

**Subfamily Scaritinae.** This subfamily is inadequately defined and possibly polyphyletic. The species possess a mesothoracic peduncle which frees the prothorax from the elytra and allows greater mobility (Basilewsky 1973: 9). It includes about 1,870 species worldwide which are grouped in this work into eight tribes: Pasimachini, Carenini, Scaritini, Clivinini, Dyschiriini, Salcediini, Promecognathini, and Dalyatini. Until the subfamily is better defined, it is difficult to comment on its relationships. Jeannel (1938a: 206) underlined a number of morphological features in the adults suggesting that scaritines and hiletines shared a common ancestor. Lindroth (1969b: xxiii) hypothesized that the similarities in “habitus and general organization” between scaritines (including promecognathines, clivinines, and dyschiriines) and broscines are probably an indication of close affinity.

**TRIBE PASIMACHINI.** This tribe is represented by the genera *Pasimachus* Bonelli, with 32 species ranging collectively from southern Canada to Panama, and *Mouhotia* Laporte, with three species in eastern Asia. Monophyly of this group is doubtful. Bänninger (1950: 484) noted that if pasimachines and carenines are retained as distinct subtribes, *Mouhotia* cannot be placed in either of them and a separate subtribe would need to be established. To avoid proposing a new family-group name, *Mouhotia* is included here in the Pasimachini. Lorenz (2005: 132) included it with the carenines.

Relationships of the tribe have been little discussed. Sloane (1905b: 103) retained pasimachines and carenines under one family-group name implying a close relationship between the two groups. Nichols (1988a: 214) argued that Pasimachini is the sister-group to the tribe Carenini.

**TRIBE CARENINI.** This clade, which is endemic to Australia, includes about 195 species placed in ten genera. The genus *Scaraphites* Westwood (seven Australian species), usually listed as a member of this tribe (e.g., Lorenz 2005: 133), has been removed from it and placed in the tribe Scaritini by Moore and Lawrence (1994: 512). According to Moore and Lawrence (1994: 503), carenines represent the sister-group to the remaining Scaritini (*sensu lato*, i.e., pasimachines, scaritines, clivinines, dyschiriines).

**TRIBE SCARITINI.** This tribe, with about 495 species in 42 genera, is represented in all zoogeographical regions but is predominantly tropical. Four subtribes are currently recognized: Acanthoscelitina (one Afrotropical species in *Acanthoscelis* Dejean), Oxylobina (about 30 Oriental species in *Oxylobus* Chaudoir), Scapterina (about 25 Australian-Oriental-Afrotropical species in *Passalidius* Chaudoir, *Scapterus* Dejean, *Parathlibops* Basilewsky, *Thlibops* Putzeys, and *Steganomma* Macleay), and Scaritina (including



the Madagascan storthodontines and dyscherines and the Afrotropical ochyropines [one species] and corintascarines [one species]), with the bulk of the species. Jeannel (1946: 220) assigned scapterines to his Clivininae.

The North American fauna is represented by seven species of *Scarites* Fabricius.

**TRIBE CLIVININI.** This tribe is the most diversified group of the subfamily with about 60 genera. The inclusion of the clivinines within the Scaritinae has not been challenged often but parsimony analysis based on the female reproductive tract by Liebherr and Will (1998) suggests that clivinines could be more closely related to rhysodids than to scaritines. They also emphasized that the defensive secretions of the pygidial glands differ drastically between the two groups: clivinines use ketones or quinones while scaritines eject aliphatic acids.

At least three putative clades are recognized within the tribe and are usually ranked as subtribes. The forcipatorines, exclusively Neotropical, include the genera *Camptidius* Putzeys (one species), *Camptodontus* Dejean (14 species), *Forcipator* Maindron (four species), *Kultianella* Perrault (two species), *Obadius* Burmeister (two species), and *Stratiotes* Putzeys (two species). According to Perrault (1994: 686), members of this clade differ from those of remaining clivinines in having the ligula truncate and glabrous instead of prolonged and with at least one apical seta, the gula either vanishing posteriorly or very narrow instead of wide, the first antennomere asetose instead of having an apical seta (except in a few genera), the penultimate labial palpomere glabrous (except in one genus) instead of having two setae (except in some genera), and the clypeus glabrous (except in two species) instead of having a seta on each side. Another clade, the ardistomines, is restricted to the Western Hemisphere. Bousquet (2006c) restricted the group to the genera *Ardistomis* Putzeys, *Semiardistomis* Kult, and *Aspidoglossa* Putzeys whose members have a projection on pleurite VII. Kult (1950b) also included the genus *Neoreicheia* Kult. Whitehead (in Reichardt 1977: 386, 391) remarked that *Oxydrepanus* Putzeys was “doubtless related to *Neoreicheia*” and probably belonged to the ardistomine radiation along with such Old World genera as *Reicheia* Saulcy, *Syleter* Andrewes, and allies. Basilewsky (1973: 276) indicated that ardistomines are relatively closely related to dyschiriines. The third clade, the reicheiines, is represented only in the Old World and contains many genera including *Reicheia* Saulcy, *Trilophus* Andrewes, *Typhloreicheia* Holdhaus, *Trilophidius* Jeannel, and *Leleuporella* Basilewsky.

Iablokoff-Khnzorian (1960: 93) described a new genus, *Dyschiriomimus*, from Baltic amber which he viewed as an intermediate taxon between *Dyschirius* and *Clivina*. However, Fedorenko (1996: 37) believed the taxon is a typical clivinine more closely related to *Trilophus* and *Oxydrepanus* than to *Clivina*.

**TRIBE SALCEDIINI.** This tribe includes four genera placed in three subtribes following Bell (1998): *Salcedia* Fairmaire (nine Indo-African species) in Salcediina, *Holoprizus* Putzeys (one Amazonian species) and *Solenogenys* Westwood (three Brazilian species) in Solenogenyina, and *Androzelma* Dostal (one Vietnamese species) in Androzelmina. According to Bell (1998: 264), salcediines, forcipatorines, and clivinines form a well-

defined clade supported by the following synapomorphies: the metepimeron is lobate and overlaps the anterior corners of abdominal sternum 2; the elytron possesses a ventral carina in form of a projected lobe which engages the dorsal angles of abdominal sternum VII; the labial pits on the mentum each have a posterior duct opening into the submental suture contrary to other scaritines in which the ducts open anteriorly to the suture and distant from it. Bell (1998: 265) also indicated that rhysodids shared three synapomorphies with salcediines (excluding *Androzelma*): a kind of coating on the exoskeleton, minute and retractile palpi, and a distinct lobe on which the eye is located. Furthermore among salcediines, members of *Solenogenys* share two synapomorphies with rhysodids: the medial margins of the ventral groove of the head are oblique, nearly straight, and meet near the “neck” condyle and the mandible has a dorsolateral lobe. Based on the above evidence, Bell (1998: 269) concluded that *Solenogenys* is the sister-group to rhysodids.

TRIBE DYSCHIRIINI. Relationships of this tribe within the Scaritinae are not documented. Fedorenko (1996: 37) suggested that dyschiriines share a common ancestor with clivinines but failed to disclose any characteristics that would support this claim. Jeannel (1946: 214) combined the ardistomines and dyschiriines in his Dyschiriitae.

TRIBE PROMECOGNATHINI. This small and well-defined tribe includes one genus with two species in western North America and four genera with six species in Cape Province in South Africa. Jeannel (1941b: 244; 1946: 206) postulated that promecognathines were closely related to siagonines without, however, offering any evidence. Lindroth (1961a: 125) and Kryzhanovskij (1976a: 88) associated promecognathines with scaritines (*sensu lato*) implying a close relationship between the two groups. Several apomorphic features, including details of the chaetotaxy, structure of the mouthparts and thorax, and marked similarity in their specialized way of attacking millipedes suggest that promecognathines could be closely related to peleciines. However, Straneo and Ball (1989) regarded the similarities between the two groups as evolutionary convergence.

McKay (1991) described a fossil from Cretaceous crater lake deposits at Orapa, Botswana, under the name *Palaeoaxinidium orapensis*, which he believed represents the sister-group to the Promecognathini.

TRIBE DALYATINI. Molecular (Ribera et al. 2005) and morphological (Mateu and Bellés 2004) data suggest that the single, highly modified cave species of this tribe, *Dalyat mirabilis* Mateu from southeastern Spain, could be the sister-group to promecognathines.

**Subfamily Broscinae.** This subfamily includes a single tribe with about 290 species in 34 genera, arrayed in five subtribes (see Roig-Juñent 2000): Axonyina (five species), Broscina (about 75 species), Nothobroscina (about 90 species), Barypodina (about 25 species), and Creobiina (about 95 species). Broscines are represented in all major regions of the world, except the Afrotropical Region, but are more diverse in the Australian Region than anywhere else. They live almost exclusively in temperate areas,

with only a few groups extending to the edges of the tropics. Several authors have suggested explicitly or implicitly that broscines are closely related to apotomines but Liebherr and Will's (1998) morphological data on the female reproductive tract and the molecular sequence data provided by Maddison et al. (1999) did not support such an association. Erwin (1991a: 10) included broscines, apotomines, melaenines, and cymbionotines in his subfamily Broscinae.

Roig-Juñent's (2000) parsimony analysis based on morphological characters of adults suggested that the three native North American genera (*Broscosoma*, *Zacotus*, and *Miscodera*) form a clade.

**Subfamily Apotominae.** This subfamily includes a single genus, *Apotomus* Illiger, with about 15 species in warm temperate and tropical regions of the Eastern Hemisphere and one species in Brazil. Kryzhanovskij (1976a: 88) and Moore et al. (1987: 122) associated apotomines with broscines and in several classifications these two groups are placed sequentially in the text. However, Roig-Juñent's (1998: Fig. 10) parsimony analysis using 33 characters placed apotomines as the sister-group to melaenines (no *Cymbionotum* exemplars were included). Liebherr and Will (1998: 150) noted that apotomines do not have conjunct mesocoxae as in broscines and the other members of Jeannel's *Stylifera* and that the placement of apotomines within the *Stylifera* should be rejected. They placed apotomines as a basal grade with clivinines and rhysodids but noted they could be closely related to scaritines and hiletines. Molecular data analyzed by Maddison et al. (1999: 128) did not provide support for a close relationship between apotomines and broscines.

**Subfamily Siagoninae.** This subfamily includes three genera, each arrayed in its own tribe: *Enceladus* Bonelli, *Luperca* Laporte, and *Siagona* Latreille. Relationships of the subfamily are obscure. Jeannel (1941b: 244; 1946: 206) associated siagonines with promecognathines. Erwin (1985: 467; 1991a: 9–10) listed siagonines with amaro-typines, migadopines, elaphrines, promecognathines, hiletines, pseudomorphines, and scaritines (including cnemalobines, as Cnemacanthini) in his subfamily Scaritinae. The preferred cladogram of Liebherr and Will (1998: Fig. 57), based on the female reproductive tract, placed siagonines as the sister-group to the subfamily Carabinae. Some of the analyses on 18 rDNA performed by Maddison et al. (1999: 127) suggested that *Siagona* could be closely related to {*Gehringia* + *Cymbionotum*}. Based on a morphological study of larvae of *Siagona* and *Enceladus*, Grebennikov (1999: 9) did not find evidence to suggest a close relationship for siagonines.

TRIBE ENCELADINI. Only the genus *Enceladus* belongs to this tribe, with one species found in the Guyana-Venezuelan area, possibly also in Amazonia (Reichardt 1977: 384).

TRIBE SIAGONINI. This tribe contains only the genus *Siagona* with about 80 species in the Old World. Erwin (1978: 105) listed several apomorphic states shared by *Siagona* and *Cymbionotum* and stated that the two were undoubtedly closely related.



TRIBE LUPERCINI. Two species of the genus *Luperca* are included in this tribe, one is found in tropical Africa, the other on the Indian subcontinent. Erwin (1978: 105) combined the genus with *Siagona* and *Cymbionotum* in his tribe Siagonini which he included in his subfamily Siagoninae along with the tribe Enceladini.

**Subfamily Melaeninae.** This subfamily includes one tribe with two genera: *Melaenus* Dejean with two species confined to the Oriental Region, Egypt, and the Afrotropical Region, excluding the Congo Basin and southern parts (Ball and Shpeley 2005: 37), and *Cymbionotum* Baudi di Selve with 20 species arrayed in two subgenera, *Procoscinia* Ball and Shpeley with two species in northern South America and *Cymbionotum s.str.* with 18 species confined to the warmer parts of the Old World. According to Ball and Shpeley (2005: 22), monophyly of this subfamily is indicated by the very long diverticulum of the spermathecal gland. Prior to these authors, the two genera had been variously classified. Several authors placed them in separate tribes though suggesting implicitly or explicitly that they were closely related (e.g., Erwin 1985: 469; Liebherr and Will 1998: 137). Others have separated the two rather widely. For example van Emden (1936a: 46) listed *Melaenus* in his *Harpalinae piliferae* from which the cymbionotines were excluded. Jeannel (1941b: 291-292) placed the genus *Melaenus* in his Psydritae along with psydrines, melisoderines (= moriomorphines), and meonines (= moriomorphines) and included *Cymbionotum* in a family-group taxon of its own which he considered closely related to siagonines (Jeannel 1946: 206).

Relationships of the subfamily are unclear. Liebherr and Will (1998: 150) suggested that Melaeninae could be closely related to Clivinini. Roig-Juñent's (1998) parsimony analysis using 33 characters showed *Melaenus* to be the sister-group to apotomines; *Cymbionotum* exemplars were not included in his analysis.

This group has been reported in publications of the XIX and early XX Centuries under the name Granigerini, because *Graniger algerinus* Motschulsky, the sole species included by Motschulsky in his new genus *Graniger*, was listed in synonymy with *Coscinia semeleleri* Chaudoir (Chaudoir 1876d: 63). Because *Coscinia* Dejean was a junior homonym of *Coscinia* Hübner, *Graniger* Motschulsky became the valid name for this genus. However, Andrewes (1933: 3) showed that Motschulsky's species was in fact identical with the ditomine *Carterophonus femoralis* Coquerel. *Cymbionotum* Baudi di Selve was the next available name for the species of *Coscinia* Dejean.

**Subfamily Gehringiinae.** This subfamily includes three genera placed in two subtribes: Gehringiina Darlington with a single western North American species, *Gehringia olympica* Darlington, and Helenaena Deuve with four rarely collected species from Egypt, Turkey, Yemen, and Namibia placed in the genera *Helenaena* Schatzmayr and Koch and *Afrogehringia* Baehr, Schüle and Lorenz. The taxonomic position of the group is debated. Jeannel (1941b, 1946: 46) combined gehringiines with trachypachids and paussines (as *Caraboidea Isochaeta*) and both Lindroth (1969b) and Kryzhanovskij (1976a: 87) associated gehringiines with trachypachids. Bell (1967: 106) indicated that the form of the palpi and the anterior tibia suggest that gehringiines could be derived from

the genus *Tachys* but he also raised the possibility that gehringiines could belong to his *Hemipleuri*, a group comprising the nebriines and carabines. In Nagel's (1987: Fig. 2) cladistic analysis, gehringiines were positioned as the sister-group to {cicindines + paussines}. Beutel (1992c) indicated that the isochaetous protibia of gehringiines suggests that the group could be "an early offshoot of the metriine-paussine lineage." In listing the tribe in his supertribe Psydrinae, Erwin (1985: 468) suggested implicitly that gehringiines could be closely related to psydrines and patrobines and Lorenz (2005: 243) placed the tribe Gehringiini within the Psydrinae. Deuve (2005) made a detailed analysis of the morphology of gehringiine adults and concluded that several character states suggest "a very basal position in the phylogeny of adaphagan Coleoptera" for gehringiines. However he also noted that the peculiar "abdominal type" found in the group is similar to that of the genus *Cymbionotum*. A close affiliation between *Gehringia* and *Cymbionotum* received support from the molecular analysis of Maddison et al. (1999). Arndt et al. (2005: 140) pointed out that the condition of the protibial spurs in gehringiines could not be unambiguously assigned to either of the two types found in other carabids. They noted that if the protibial spurs of gehringiines are considered to be of the isochaete type, then gehringiines could be the sister-group to Paussinae and if considered to be of the anisochaete type, they could be the sister-group to Nebriinae.

**Subfamily Trechinae.** Several authors agree that the tribes Trechini, Zolini, Bembidiini, and Pogonini are closely related and probably constitute a clade. Monophyly is supported by characteristic features of the adult morphology (Roig-Juñent and Cicchino 2001), larval morphology (Grebennikov and Maddison 2000: 226; 2005: 44), and 18S ribosomal sequence data (Maddison et al. 1999). In addition, males of Trechinae studied lack chiasmata in meiosis (Serrano 1981) contrary to most other Carabidae, a notable synapomorphy (Maddison and Ober 2011: 243). Jeannel (1941b: 299) also included mecyclothoracines in the subfamily (as Trechidae) but most recent authors place them within the Moriomorphae. Deuve (1993: 156) included patrobines within the Trechinae.

As discussed under Patrobinae, this subfamily is probably the sister-group to patrobines.

**TRIBE TRECHINI.** A relatively well-defined and very diverse group with more than 2,500 species currently arranged in 170 genera or so. Although represented in all zoogeographical regions, the tribe is more diverse in the temperate zones than in the tropics. Many species are endogean or troglodytic and flightless. Casale and Laneyrie (1982: 7) classified the Trechini into six groups placed in two major complexes, one including cnidines, trechodines, and plocamotrechines characterized by the median lobe of the aedeagus being wide open dorsally, the basal orifice lying between two symmetric lobes, and one comprising the perileptines, aepines, and trechines with the median lobe partly closed dorsally, the basal orifice opening on the ventral surface of the basal bulb. However, this classification has been challenged in recent times. Uéno (1989: 12-13) presented arguments to combine cnidines with perileptines and Grebennikov and Maddison (2005: 46-47) found evidences in the larval characters that perileptines

were closely related to trechodines. In this work, the Trechini are grouped into two subtribes: Trechodina (including perileptines, cnidines, and plocamotrechines) and Trechina (including aepines).

Based on larval character states, Grebennikov and Maddison (2005) suggested that Trechini is the sister-group to {Zolini + Bembidiini + Pogonini}. Arndt's (1993: 33) analysis of larval characters suggested that trechines are closely related to tachyines.

The North American fauna comprises about 225 species grouped into nine genera, all belonging to the subtribe Trechina. Barr (1985a: 351) recognized four series among the North American genera, the *Trechus* series with *Trechus*, the *Trechoblemus* series with *Trechoblemus*, *Blemus*, *Pseudanophthalmus*, *Neaphaenops*, and *Nelsonites*, the *Darlingtonia* series with *Darlingtonia* and *Ameroduvalius*, and the *Aphaenops* series with *Xenotrechus*. The genus *Pseudanophthalmus*, whose members are cave inhabitants except for a few rare occurrences in forest floor humus and in abandoned coal mines, is closely related to *Duvaliopsis* Jeannel which includes six edaphic species in the Carpathian and Transylvanian Alps of eastern Europe. In fact, Barr (2004: 7) listed *Duvaliopsis* as a junior synonym of *Pseudanophthalmus* since both genera are not readily separable on purely morphological grounds. *Xenotrechus*, with two species in southeastern Missouri caves, is apparently the sister-group to the monospecific genus *Chaetoduvalius* Jeannel (Barr 2004: 10) of the Apuseni Mountains in the western Carpathians, Romania.

TRIBE ZOLINI. The 57 species of this tribe are currently arrayed in ten genera and three subtribes: Zolina with 50 species in South America (genus *Merizodus* Solier) and the Australian Region (genera *Oopterus* Guérin-Ménéville, *Zolus* Sharp, *Synteratus* Broun, *Percodermus* Sloane, *Idacarabus* Lea, *Sloaneana* Csiki, and *Pterocyrtus* Sloane), Sinozolina for the genus *Sinozolus* Deuve (six Chinese species), and Chalteniina for *Chaltenia patagonica* Roig-Juñent and Cicchino of Argentina. Jeannel (1962) recognized two lineages within Zolina based on structural features of the male genitalia.

TRIBE BEMBIDIINI. This relatively well-defined tribe is represented in all zoogeographical regions of the world. Adults possess characteristic subulate apical palpomeres (except in *Horologion*), a condition found otherwise only in gehringiines and a few trechines. Bembidiines are grouped into six subtribes: Bembidiina, with about 1,350 species, is distributed worldwide but is more diverse in the temperate regions than in the tropics; Xystosomina is represented in the New World and tropical Australia (Erwin 1994: 560) by about 125 species with only one (*Mioptachys flavicauda*) found in North America; Tachyina (including lymnastines) with nearly 800 species is also worldwide but, contrary to Bembidiina, is more diverse in the tropics; Anillina with about 375 minute, apterous, and blind species is distributed in all zoogeographical regions; Horologionina with a single cave-inhabiting species, known only from the holotype collected in West Virginia; and Lovriciina represented by four cavernicolous species, placed in three genera (see Giachino et al. 2011), found in the Balkans. Erwin (1982b: 459) postulated that anillines and horologionines represent a grade of several lineages derived from *Paratachys* Casey and allies, a hypothesis refuted by



Maddison and Ober (2011: 249). Arndt (1993: 33) found a number of putative synapomorphies in larvae of Tachyina and Trechini and suggested that the two taxa are sister-groups. Grebennikov (2002) and Grebennikov and Maddison (2005), working with larvae, found evidence suggesting that Anillina is the sister-group to {Tachyina + Xystosomina} and that xystosomines are probably nested within the tachyines. Van Emden (1936a) suggested that *Horologion* Valentine was closely related to psydrines and Jeannel (1949b: 93) believed it could be related to patrobinines.

**TRIBE POGONINI.** This tribe is found in all zoogeographical regions of the world but is more diverse, both in terms of species and lineages, in the Palaearctic Region. All 83 species currently recognized are more or less halobiont and live along sea coasts or near salt lakes. Jeannel (1941b: 552) stated that this group is related to mecyclothoracines (currently placed in the subfamily Moriomorphinae) of the Hawaiian islands and the Australian Region. Müller (1975) postulated that Pogonini is the sister-group to Bembidiini. Based on karyotypic data, Serrano and Galián (1998: 196) suggested that pogonines are closely related to Bembidiina. Arndt (1993: 33), working on larval characters, suggested a close relationship between pogonines and Bembidiini (excluding tachyines).

**Subfamily Patrobinae.** This subfamily, which includes the tribes Lissopogonini and Patrobini, is considered to be the sister-taxon to Trechinae by several authors based on male tarsal structure (Müller 1975), larval characteristics (Arndt 1993: 32), and similar abdominal morphology (Deuve 1993). This association is also supported by molecular sequence data (Maddison et al. 1999: 128; Maddison and Ober 2011: 243). Erwin (1985: 469) and Baehr (1998: 363) suggested that patrobinines may be closely related to Moriomorphinae. Jeannel (1941b: 80–81) placed patrobinines in his *Limbata Styliфера* along with apotomines, broscines, psydrines, moriomorphines, melaenines, trechines, bembidiines, pogonines, and zolines but indicated that some character states, particularly of the larvae, suggest that they may belong to the *Limbata Conchifera*.

This subfamily is found in the Northern Hemisphere and Oriental Region. Only the tribe Patrobini is represented in North America.

**TRIBE LISSOPOGONINI.** This tribe includes a single genus, *Lissopogonus* Andrewes, with eight species in Asia. The genus was originally described in the tribe Pogonini and subsequently transferred to the tribe Patrobini by Zamotajlov and Sciaky (1996: 40). Bousquet and Grebennikov (1999: 11) alluded to the possibility that *Lissopogonus* could be a highly derived taxon related to *Patrobis* and *Platypatrobis* based on the shared apomorphic condition of the median sulcus of the pronotum being wide and deep in the basal fifth and reaching the basal edge. Deuve and Tian (2002: 30) suggested that the genus could belong at the base of the Trechinae and Patrobinae lineages (their Trechidae).

**TRIBE PATROBINI.** The 215 species or so listed in this tribe are currently arrayed in four subtribes: Deltomerina with the genus *Deltomerus* Motschulsky only, Deltomerodina

with the genus *Deltomerodes* Deuve, Patrobina with 18 genera, and Platidiolina with *Platidiolus* Chaudoir. In a cladistic analysis conducted by Roig-Juñent and Cicchino (2001: Fig. 1), this tribe is positioned as the sister-group to Amblytelini (currently included in the Moriomorphinae).

**Subfamily Psydrinae.** Following Maddison and Ober (2011: 237), this subfamily is restricted to the tribe Psydrini and includes only six species. Two (*Laccocenus ambiguus* Sloane and *L. vicinus* Moore) lives in southeastern Australia, another one (*Psydrus piceus* LeConte) ranges widely across the northern parts of North America, extending southwards to the mountains of northern California, Arizona, and New Mexico, and the other three, all members of the genus *Nomius* Laporte, are restricted to central Africa and Madagascar (two species) or to the Northern Hemisphere although apparently extinct in Asia (*Nomius pygmaeus* Dejean). Baehr's (1998: Fig. 1) preliminary cladistic analysis using 19 characters of adults suggested that Psydrini could be the sister-group to {Patrobinae + the remaining Psydrinae [= Moriomorphinae]}. Relationships among the three genera of Psydrini have not been investigated.

**Subfamily Moriomorphinae.** Members of this subfamily were traditionally included in the Psydrinae but recent morphological (Baehr 1998) and molecular data (Maddison and Ober 2011: 237) studies suggest that the Moriomorphinae form a clade and that the group is not closely related to the true Psydrinae. Baehr (1998: 363) argued that Patrobinae could be the sister-group to Moriomorphinae. Many moriomorphines are similar to pterostichines in body form but the presence of a scrobal seta and setose parameres in almost all moriomorphines, unlike pterostichines, suggest that they are probably not closely related. Ober's (2002) phylogenetic analysis based on molecular sequence data suggested that the subfamily Moriomorphinae, termed "austral psydrines," could be the sister-group to {Brachininae + Harpalinae}.

This subfamily, which includes about 470 species, is represented only in the Southern Hemisphere and is particularly diverse in the Australian Region. Five tribes were traditionally recognized (see Baehr 2004): Mecyclothoracini with about 285 species placed in the genera *Neonomius* Moore and *Mecyclothorax* Sharp; Meonini with about 20 species in the genera *Raphetis* Moore, *Meonis* Laporte, *Selenochilus* Chaudoir, and *Meonochilus* Liebherr and Marris; Moriomorphini with six species in five genera, all endemic to southeastern Australia; Tropopterini with about 50 species in seven genera; and Amblytelini with six genera and about 95 species endemic to Australia, including Tasmania. Recently, Liebherr (2011) proposed an entirely new classification, dividing the moriomorphines into two groups based on characters of the parameres. His classification is adopted here.

The genus *Bembidiomorphum* Champion (two species in Chile), included in this group since van Emden (1936a: 51), belongs to the Broscini (Roig-Juñent et al. 2008: 212).

**TRIBE MORIOMORPHINI.** This group includes about 55 species, all endemic to the Australian Region, placed in 13 genera: *Celanida* Laporte (one species), *Melisodera*

Westwood (three species), *Molopsida* White (28 species), *Morioidema* Laporte (two species), *Moriomorpha* Laporte (one species), *Neonomius* Moore (three species), *Pterogmus* Sloane (one species), *Rhaebolestes* Sloane (two species), *Rossjoycea* Liebherr (one species), *Sitaphe* Moore (eight species), *Teraphis* Laporte (six species), *Theprisa* Moore (three species), and *Trephisa* Moore (one species). These species are characterized by having elongate, parallel-sided parameres that are glabrous or sparsely clothed with very short setae.

**TRIBE AMBLYTELINI.** This tribe contains about 415 species in 12 genera: *Amblytelus* Erichson (43 species), *Dystrichothorax* Blackburn (48 species), *Epelyx* Blackburn (five species), *Mecyclothorax* Sharp (about 280 species), *Meonis* Laporte (16 species), *Meonochilus* Liebherr and Marris (six species), *Paratrichothorax* Baehr (one species), *Pseudamblytelus* Baehr (one species), *Raphetis* Moore (three species), *Selenochilus* Chaudoir (six species), *Trichamblytelus* Baehr (one species), and *Tropopterus* Solier (four species). These species are restricted to Australia and New Zealand except those of *Mecyclothorax* which occur also in New Guinea, Borneo, Java, and the Polynesian islands in the Pacific Ocean and *Tropopterus* which are found in Chile and Peru. Amblytelines differ from members of Moriomorphini by having more setose parameres that are either shorter, basally broader and narrowly rounded apically or elongate with whiplike apex.

**Subfamily Nototylinae.** This subfamily includes a single species, *Nototylus fryi* (Schaum), known only from the female holotype collected in the state of Espírito Santo, Brazil, in the XIX Century. The species is aberrant structurally: it lacks the grooming structures of the protibiae present in all other Geadephaga except Paussini and lacks the pubescence on antennomeres 5–10 which is present in other Geadephaga except Trachypachidae, Rhysodidae, and Gehringiinae (Deuve 1994b: 141). Bänninger (1927) suggested that *Nototylus* Gemminger and Harold was related to Ozaenini, Kryzhanovskij (1976a: 87) associated it with paussines (excluding metriines) and cicindines, and Erwin (1979: 591) postulated that the species was an independently adapted myrmecophile from an ozaenine stock. However, Ball (1979: 100) doubted the possibility of a close affinity between nototylinae and paussines as suggested by the above-mentioned authors. Deuve (1994b) published a detailed description of the structural character states of the species and suggested, but with some doubt, a sister-group relationship between nototylinae and paussines. He noted several synapomorphies between the two groups including the compressed protibia, the tergite IX which is differentiated into a thin transverse arch, the reduced and lateral position of the laterotergite IX, and the diffuse dorsal pubescence.

**Subfamily Paussinae.** There is little doubt that this subfamily constitutes a monophyletic lineage. The known larvae share a unique transformation of the abdomen in which the epipleurites of the 9th segment are greatly enlarged and fused with the tergum of the 8th segment to form a plate, displacing the urogomphi and the 10th segment in a vertical plane (Bousquet 1986). The relationship of the subfamily is highly



debated but it could be closely related to brachinines. Adults of both groups possess a two-chambered pygidial gland which produces a quinonoid secretion by mixing hydroquinones and hydrogen peroxide from the inner chamber with enzymes produced in the outer chamber (Schildknecht and Holoubek 1961); the secretion is discharged at temperatures of 55-100°C (Aneshansley et al. 1969; Aneshansley et al. 1983). The structure of the pygidial glands and the chemistry of the secretions are unique among beetles. However, based on structural dissimilarities, several authors, including Ball and McCleve (1990), Beutel (1992b), and Geiselhardt et al. (2007), believed that the similarities in the pygidial gland structures and secretions between the two groups are convergent.

Erwin and Stork (1985: 445) concluded that paussines and brachinines are closely related and form the sister-group to a large clade comprising {Elaphrini + Migadopini + Siagonini + Promecognathini + Hiletni + Pseudomorphini + Cnemaanthini (= Cnemalobini) + Scaritini} based on a suite of character states associated with tarsal claws. Deuve (1988), working on the structures of the last abdominal segments of adults, supported the view of a close relationship between paussines and brachinines. However, alternate placements of the paussines have been proposed. Jeannel (1941b: 89) placed trachypachids, gehringiines, and paussines in his *Isochaeta* based on the apical position of both protibial spurs. Kryzhanovskij (1976a: 87), followed by Lawrence and Newton (1995), included the Cicindini and Nototylini within the Paussinae, implying a close relationship between these three elements. Beutel (1995) suggested a close affinity between paussines and gehringiines. Liebherr and Will's (1998) preferred cladogram based on 20 characters of the female ovipositors and reproductive tract placed paussines as the sister-group to the remaining Geadephaga (excluding trachypachids). An interesting observation is that of Vigna Taglianti and Rossi (1998: 516) who noted the similarity between the laboulbeniale parasitic species found on the brachinine *Pheropsophus* Solier and paussine *Pachyteles* Perty. They added that paussines and brachinines "might be more closely related than suggested by morphological data, thus supporting the result of recent biochemical studies on explosive secretions of members of these groups."

Members of this subfamily are currently arrayed in five family-group taxa which have been ranked differently during the past few decades. In this catalogue, they are ranked as tribes. All five are probably monophyletic except for the Ozaenini which is likely paraphyletic. The phylogenetic relationships among extinct and extant genera have been expressed in a cladogram based on adult and larval characters by Geiselhardt et al. (2007: Fig. 1).

TRIBE METRIINI. This group includes two genera: *Metrius* Eschscholtz, with two species in western North America, and *Sinometrius* Wrase and Schmidt with a single species recently found in Hubei province in China. This tribe is usually listed as the sister-group to the remaining paussines because of the lack of the apico-lateral fold on each elytron (flange of Coanda of Stork 1985) characteristic of the remaining paussines. This fold, located at the opening of the defence gland, is apparently used to deflect

discharges of secretions from the defence glands as showed by Eisner and Aneshansley (1982) for the Neotropical genus *Goniotropis* Gray. However, Vigna Taglianti et al. (1998: 292), based on a set of 20 larval characters, considered {Metriini + Ozaenini} as the sister-group to Paussini, suggesting that the elytral fold was secondarily lost in metriines or that the fold evolved twice in the subfamily.

TRIBE MYSTROPOMINI. This tribe includes only the genus *Mystropomus* Chaudoir, with two Australian species. It is probably the most primitive extant genus of the subfamily excluding metriines. Adult ozaenines, protopaussines, and paussines (*sensu stricto*) are synapomorphic in having the elytral fold short, the pterothorax and abdomen parallel-sided and the epimera and anepisterna largely covered by the elytral epipleura (Beutel 1992c: 56). In adults of *Mystropomus* the elytral fold is markedly long and extends over the apical half of the elytron (Jeannel 1946: 47).

TRIBE OZAENINI. This group of about 160 species is mainly represented in the tropics; only a few species enter the southern parts of the Northern Hemisphere in Japan, China, Taiwan, and southern United States. Ozaenines differ from protopaussines and paussines by having the mouthparts not modified, and from paussines also in having all 11 antennomeres normally developed. Several authors (e.g., Ball and McCleve 1990; Nagel 1997: 356; Di Giulio and Moore 2004) believed that ozaenines are paraphyletic in regard to the remaining Paussinae (excluding mystropomines and metriines). Beutel (1992b; 1995) and Di Giulio et al. (2003) proposed that the ozaenine genus *Physeia* Brullé is the sister-group to {protopaussines + paussines} while Ball (in Nagel 1997: 356) regarded *Ozaena* Olivier as the best candidate based on the enlarged first antennomere and the reduced antennal cleaner of the protibia.

TRIBE PROTOPAUSSINI. This tribe includes eight extant Asian species placed in the genus *Protopaussus* Gestro. Some authors (e.g., Basilewsky 1953a: 23, 1962a: 6-9; Nagel 1987: 27) associated protopaussines with ozaenines based on the presence of 11 antennomeres in both groups but most have associated them with paussines. Nagel (1997: 348, 356) did not find any derived character states shared between protopaussines and ozaenines but noted that the small lacinia lacking the dense brushlike pilosity, typical of other carabids, is a putative synapomorphy for protopaussines and paussines (*sensu stricto*). From a zoogeographic point of view, it is interesting to note that a Tertiary fossil species of *Protopaussus* has been described from Dominican amber (Nagel 1997).

TRIBE PAUSSINI. This group, also known under the vernacular name “ant nest beetles,” currently includes about 565 myrmecophilous species arrayed in this work in seven subtribes: Carabidomemnina for the genera *Eohomopterus* Wasmann (two Neotropical species) and *Carabidomemnus* Kolbe (27 African species); Arthropterina for the Australian genera *Megalopaussus* Lea (one species) and *Arthropterus* Macleay (about 65 species); Cerapterina for the genera *Mesarthropterus* Wasmann (one species in Ethiopia) and *Cerapterus* Swederus (32 species in the Afrotropical and Oriental Regions with

two species extending into the Himalayas); Pentaplatarthrina for the genera *Hexaplatarthrus* Jeannel (one Madagascan species) and *Pentaplatarthrus* Westwood (eight Afrotropical species); Homopterina for the genus *Homopterus* Westwood (12 Neotropical species); Heteropaussina for the genus *Heteropaussus* Thomson (about 25 species in the Afrotropical and Oriental Regions); and Paussina for the remaining 12 genera (about 385 species). Luna de Carvalho (1989: 361) used a different approach and recognized three tribes among his extant Paussinae (Paussini in this work): Cerapterini (including carabidomemnines, homopterines, heteropaussines, and arthropterines), Pentaplatarthrini, and Paussini. Within his Paussini, he included the following subtribes: Platyrhopalina for the Asian genera *Platyrhopalopsis* Desneux (three species), *Platyrhopalus* Westwood (14 species), *Stenorhopalus* Wasmann (two species), *Lebioderus* Westwood (seven species), and *Euplatyrhopalus* Desneux (six species); Ceratoderina for the genera *Paussomorphus* Raffray (three Afrotropical species), *Melanospilus* Westwood (three Oriental species with one species extending into the Himalayas), and *Ceratoderus* Westwood (seven Asian species); Leleupaussina for the genus *Leleupaussus* Luna de Carvalho (one Afrotropical species); Hylotorina for the Afrotropical genera *Granulopaussus* Kolbe (four species), *Hylopaussus* Luna de Carvalho (two species), and *Hylotorus* Dalman (six species); and Paussina for numerous genera that some authors sink into one large genus, *Paussus* Linnaeus (about 330 species in the Old World of which only two, *P. favieri* Fairmaire and *P. turcicus* Frivaldszk von Frivald, reach Europe). Nagel (1987, 1997, as Carabidomemninae) viewed the Carabidomemnina as the sister-group of the remaining Paussini.

**Subfamily Brachininae.** There is little doubt that this group, known under the vernacular name “bombardier beetles,” constitutes a monophyletic lineage. The adults have seven (females) or eight (males) exposed abdominal sterna instead of six as in other carabids. Such modification provides a greater abdominal mobility, allowing a more efficient alignment of the defence spray. However, brachinines do not appear monophyletic in terms of their 18S rDNA (Maddison et al. 1999: 129). The group has a worldwide distribution but is clearly more diverse in the Southern Hemisphere. Most authors recognize two main lineages, ranked here as tribes, among brachinines: Brachinini, represented in most regions of the world including North America, and Crepidogastrini, restricted to southern India and Africa.

For a long time brachinines have been associated with the “Truncatipennes,” an informal name used to group several tribes whose adults have more or less truncate elytra at the apex. Jeannel (1942, 1949a) included brachinines and pseudomorphines in his *Balteifera*, implicitly suggesting a close affinity between the two groups. Liebherr and Will (1998: 152-153) placed brachinines with the {Harpalinae + Trechinae + Moriomorphinae} in their study of the female reproductive tract. These authors also alluded to the possibility of a close relationship between brachinines and clivinines. Analysis of molecular data presented by Ribera et al. (2005: 289) indicated a close relationship between brachinines and the subfamily Harpalinae, not with the Paussinae. Maddison et al. (1999: 129) suggested, from 18S r-DNA sequence analyses, an intriguing pos-



sibility, that the paussines and brachinines are closely related and that both in turn are related to Harpalinae. In my opinion their hypothesis is credible.

**TRIBE CREPIDOGASTRINI.** This tribe is mostly represented in the Afrotropical Region but a few species are found in the Indian subcontinent. It contains the genera *Brachynillus* Reitter (three species), *Crepidogaster* Boheman (about 100 species), *Crepidogastrillus* Basilewsky (one species), *Crepidogastrinus* Basilewsky (one species), *Crepidolomus* Basilewsky (two species), and *Crepidonellus* Basilewsky (five species).

According to Erwin (1970a: 27), adults of crepidogastrines differ from those of brachinines in having the mesepimeron absent or almost so (instead of broad), the adhesive setae on the male protarsi of the “spongy” type (instead of the “seriate” type), the terminal palpomeres swollen and usually securiform (instead of subcylindrical or wedge-shaped), and the gular suture convergent behind (instead of divergent).

**TRIBE BRACHININI.** This tribe includes about 540 species of which 50, all belonging to the genus *Brachinus* Weber, occur in North America. Erwin’s (1970a: 175) study suggested that all New World species of *Brachinus*, along with a relict species found in the Himalayas, form a clade for which he proposed the subgeneric name *Neobrachinus*. He also postulated that the subgenus *Cnecostolus* Reitter, endemic to the Palaearctic Region, was the sister-group to *Neobrachinus*. Erwin (1970a: 28) arrayed the brachinine genera into four subtribes: Aptinina, Brachinina, Mastacina, and Pheropsophina. In his cladistic analysis (Erwin 1970a: Fig. 451), masticines were positioned as the sister-group to pheropsophines and the two form the sister-group to {aptinines + brachinines}.

Unlike most carabid larvae, those of brachinines are ectoparasites and feed on carabid and water beetle pupae.

**Subfamily Harpalinae.** Harpalinae is the largest subfamily of Carabidae and the one usually placed at the end of the carabid classification. Molecular data analyses (Madison et al. 1999; Ober 2002; Ribera et al. 2005) suggest that the subfamily is monophyletic.

In this catalogue, members of Harpalinae are arrayed conveniently in two supertribes: Pterostichitae and Harpalitae. Adults of the vast majority of Pterostichitae, which includes the tribes Morionini, Abacetini, Pterostichini, Zabrinini, Oodini, Panagaeini, and Chlaeniini in North America, have crossed epipleura and most secrete something else than formic acid as major constituent of the pygidial glands. Adults of Harpalitae have non-crossed epipleura and, except in the sole species of *Pentagoniini* studied, secrete formic acid as major constituent of their pygidial glands as far as known. The absence of a crossed epipleuron could be an evolutionary feature providing greater flexibility to aim the powerful formic acid secretion of the pygidial glands. The presence of a transverse membranous band on the stipes of larvae prompted Arndt (1998: 184) to suggest that the tribes Licinini and Harpalini, herein included in the Harpalitae, were closely related to members of Pterostichitae.

TRIBE MORIONINI. This relatively well-defined, likely monophyletic tribe is represented in all zoogeographical regions of the world but is more diverse in the tropics than in temperate areas. Its relationships have been debated. Indeed, some larval character states suggest that morionines could be related to scaritines while some adult character states suggest they may be related to pterostichines. Bousquet (2001) discussed the larval character states of morionines in detail and concluded that they do not yield evidence to favor one hypothesis over the other. However, when features of the adults are also taken into account, there is little doubt that morionines are more closely related to pterostichines than to scaritines. Recently Will (2004: 218), following Liebherr and Will (1998: 156), found three “unambiguously optimized and unreversed synapomorphies” suggesting that cnemalobines and morionines are sister-groups. A review and cladistic analysis of the morionine genus-group taxa have been published recently (Will 2004).

Moore (1965: 5) included the Australian genus *Catadromus* Macleay (seven species) in the tribe Morionini but his view has not been retained by subsequent authors.

TRIBE CNEMALOBINI. This tribe includes only the Neotropical genus *Cnemalobus* Guérin-Ménéville (32 species in Chile, Argentina, and Uruguay). Jeannel (1941b: 286) stated that the genus should be placed near the perigonines and Reichardt (1977: 416) followed his suggestion. Erwin (1985: 467) associated cnemalobines (as *Cnemacanthini*) with scaritines and clivinines. Arndt (1993: 40) suggested that the tribes Cnemalobini and Harpalini form a clade based on larval characteristics. Roig-Juñent (1993: 12) suggested, from a preliminary analysis, that cnemalobines and zabrines are sister-groups and the two groups are closely related to morionines. Other cladistic analyses (Liebherr and Will 1998: 156; Will 2004: 217) placed morionines as the sister-group to cnemalobines. Molecular data (18S rDNA) analyses (Maddison et al. 1999: 129) did not endorse placement of cnemalobines with Scaritinae but supported an association with the subfamily Harpalinae.

TRIBE MICROCHEILINI. This tribe includes a single genus, *Microcheila* Brullé, with two Madagascan species. Besides their relatively aberrant facies, adults of this group possess a number of character states unusual for pterostichines. The penultimate labial palpomere has more than two setae, each sternum possesses a transverse row of setae, the protibia has a latero-apical dentiform protuberance, all tarsomeres are densely pubescent beneath, and the first four protarsomeres of the male have adhesive setae (Jeannel 1948a: 616). The elytral plica is well developed as in members of Pterostichini. The group was included, along with morionines, chaetodactylines, and pterostichines (including sphodrines and platynines), in Jeannel's (1948a: 380) family Pterostichidae.

TRIBE CHAETODACTYLINI. This group includes a single genus, *Chaetodactyla* Tschitschérine with 20 species endemic to Madagascar. The species superficially resemble several pterostichine taxa but the male protarsomeres are not expanded and have no adhesive setae (Jeannel 1948a: 619). The group was associated with morionines, metiines,

zabrines, microcheilines, and pterostichines (including sphodrines and platynines) in Jeannel's (1942: 734–735) family Pterostichidae.

Alluaud (1935: 28) reported that one of his colleagues rearing pupae of various insect groups for parasitic Hymenoptera discovered 14 adults of *Chaetodactyla* emerging from pupal chambers of two cetoniid species. Jeannel (1948a: 620) postulated that *Chaetodactyla* females probably lay their eggs on the cetoniid larvae and that the carabid larvae remain inside the cetoniid pupae, eventually feeding upon them.

TRIBE CRATOCERINI. This tribe includes the genera *Cratocerus* Dejean with two Neotropical species and *Brachidius* Chaudoir with one australo-oriental species. Chaudoir (1873a) also listed *Basoleia* Westwood (= *Catapiesis* Solier) in this tribe and Lorenz (2005: 248) also included the genus *Oxyglychus* Straneo, with one Japanese species, previously included within the caelostomines (= drimostomatines). Cratocerines have been little studied and their taxonomic position is not well established. They are usually placed within the Pterostichini (e.g., Reichardt 1977: 407). Lorenz (2005: 248–252) combined cratocerines with catapieseines and drimostomatines in his subfamily Pterostichinae.

TRIBE ABACETINI. This tribe is proposed here to include the abacetines proper, the loxandrines, and the celioscheseines based on a preliminary cladistic analysis conducted by Will (2000) suggesting that these three groups are closely related. Van Emden (1949) and Arndt (1988) had already drawn attention to the fact that some putative apomorphic character states were shared by abacetines (with more than 95% of the species endemic to the Old World) and loxandrines (with more than 95% of the species restricted to the New World). As defined here, this tribe, as well as all three groups included in it, is inadequately characterized except for some abacetine genera which have an asymmetrical insertion of the second antennomere in the adults, and some loxandrine genera which have the first three protarsomeres of the males obliquely expanded. Monophyly of this tribe has not yet been demonstrated.

TRIBE PTEROSTICHINI. This highly diverse tribe is represented in all continents, except Antarctica, and the species are found from the arctic regions to the tropics. There are no structural features yet discovered to suggest that the tribe, as currently conceived, forms a clade and there is little doubt, as suggested by Ball (1979: 102), that it represents a grade.

A number of putative clades have been recognized within the pterostichines and some of them have received formal scientific names. These include, among others, the **euchroines** with the genera *Bothynoproctus* Tschitschérine (one Neotropical species), *Euchroa* Brullé (38 Neotropical species), *Lobobrachus* Sharp (two Neotropical species), *Setalis* Laporte (three Australian species) and, according to Will (2000: 64), *Microcephalus* Dejean (15 Neotropical species); the Northern Hemisphere **myadines** with the genus-group taxa *Aristochroa* Tschitschérine (18 Asian species), *Myas* Sturm (with about 30 species in North America and Asia placed in the subgenus *Trigonognatha* Motschul-



sky and one European species), *Steropanus* Fairmaire (11 Asian species, some of them endemic to the Oriental Region), and *Xenion* Tschitschérine (one European species) to which *Stereocerus* Kirby (two Holarctic species) is probably closely related (Bousquet 1999: 85); the **trigonotomines** (including deliniines) with the genera *Delinius* Westwood (three Australian species), *Leiradira* Laporte (12 Australian species), *Lesticus* Dejean (about 100 Asio-Australian species), *Trigonotoma* Dejean (about 55 Asian species), and *Euryaptus* Bates (six Asian species), *Pareuryaptus* Dubault, Lassalle and Roux (17 Asian species); the Australian **darodiliines** (including cratogastrines) with the genera *Loxogenius* Sloane (one species), *Liopasa* Tschitschérine (one species), *Cratogaster* Blanchard (five species), and *Darodilia* Laporte (ten species); the New Caledonian **abacomorphines** with the genera *Abacoleptus* Fauvel (three species), *Abacomorphus* Chaudoir (two species), *Platysmodes* Fauvel (one species), and *Setalidius* Chaudoir (two species); the **molopines** with the North American genus *Cyclotrachelus* Chaudoir (45 species) and the western Palaearctic genera *Abax* Bonelli (18 species), *Henrotiochoromus* Busulini (one species), *Molopidius* Jeannel (one species), *Molops* Bonelli (40 species), *Oscadytes* Lagar Mascaró (one species), *Percus* Bonelli (19 species), *Speomolops* Patrizi (one species), *Stenochoromus* Miller (one species), *Styracoderus* Chaudoir (three species), *Tanythrix* Schaum (three species), *Typhlochoromus* Moczarski (two species), and *Zariquieya* Jeannel (one species) to which Jeannel (1948a: 450-451) added several Madagascan genera (*Abacodes* Jeannel, *Eucamptognathus* Chaudoir, *Eudromus* Klug, *Eurypercus* Jeannel, and *Molopinus* Jeannel); and the **poecilines** as defined by Jeannel (1942: 738) with the genera *Stomis* Clairville, *Pedius* Motschulsky, *Argutor* Dejean, *Orthomus* Chaudoir, *Poecilus* Bonelli, *Phonias* des Gozis, *Bothriopterus* Chaudoir, and *Melanius* Bonelli. Some of these groups, such as the poecilines, are probably polyphyletic.

TRIBE ZABRINI. Zabrinines are most diversified in the Palaearctic and Nearctic Regions but are also represented in the mountains of the northern Neotropical, northern Oriental, and eastern Afrotropical Regions. Some authors have recognized several, more or less clearly defined genera in this tribe, others only two, *Amara* Bonelli and *Zabrus* Clairville, each with many subgenera. Adults of zabrinines are structurally most similar to members of Pterostichini and probably represent a clade within the Pterostichini as presently conceived.

TRIBE METIINI. This tribe includes about 75 species restricted to the southern part of South America, predominantly in Chile and extending north to Peru and east to southern Brazil, Uruguay, and Argentina. These species are arrayed in the following genera: *Kuschelinus* Straneo (one species), *Metius* Curtis (about 60 species), *Abropus* Waterhouse (one species), *Antarctiola* Straneo (four species) and, according to Will (2000: 60), *Feroniola* Tschitschérine (nine species). Metiines are often included within the Pterostichini.

This tribe has been known in the past under the name Antarctiini. However, because its type genus *Antarctia* Dejean is a junior homonym, the family-group name Antarctiini is permanently invalid (ICZN 1999: Article 39).

TRIBE DRIMOSTOMATINI (including cyrtolaines). The association of the Eastern Hemisphere drimostomatines (also known under the name caelostomines) with the Western Hemisphere cyrtolaines (*Cyrtolaus* Bates with 11 Middle American species and *Barylaus* Liebherr with two species in the West Indies) was proposed by Liebherr (1986) and supported by Will's (2000) preliminary cladistic analysis. The main characteristic of this group is the inverted aedeagus. However, this modification is absent in some groups (e.g., *Diceromerus* Chaudoir) traditionally placed within the drimostomatines and consequently monophyly of this tribe is uncertain. The drimostomatines include about 290 species arrayed in 29 genera (Lorenz 2005: 248–252, as Drimostomatina). The most speciose genera are *Caelostomus* Macleay (about 160 species, of which one is adventive in the West Indies), *Trichillinus* Straneo (21 species), *Platyxythrius* Lorenz (20 species), and *Strigomerus* Chaudoir (18 species).

The name Caelostomini, proposed by Burgeon (1935: 194), is often used for this tribe but Drimostomatini, established by Chaudoir (1872c: 283), is older and has priority. *Drimostoma* Dejean is usually treated as a junior synonym of *Caelostomus* Macleay but the family-group name Caelostomini was not proposed because of the synonymy of the type genus. Therefore, Article 40.2 of the ICZN (1999) does not apply in this case.

TRIBE CHAETOGENYINI. This South American tribe includes five species of the genus *Chaetogenys* van Emden arrayed in two subgenera: *Chaetogenys s.str.* and *Camptotoma* Reiche. The group has been ranked as a subtribe of Pterostichini by some authors, including van Emden (1958), Straneo (1977), and Reichardt (1977: 408). However, the adhesive setae on the male protarsi are of the “spongy” type (Reichardt 1977: 408), not of the “seriate” type as in other pterostichines. Erwin (1985: 468) associated chaetogenyines with cuneiptectines, chlaeniines, oodines, and licinines.

TRIBE DERCYLINI. The 35 species of this exclusively Neotropical tribe are currently arrayed in one genus (*Dercylus* Laporte) with four subgenera (Moret and Bousquet 1995: 759): *Asporina* Laporte (two species), *Dercylus s.str.*, with *Dercylodes* Chaudoir and *Pterodercylus* Kuntzen as synonyms (12 species), *Eurydercylus* Moret and Bousquet (seven species), and *Licinodercylus* Kuntzen, with *Physomerus* Chaudoir (a junior homonym) as synonym (14 species). Chaudoir (1883), Reichardt (1977), and Ball (1979: 102) suggested that dercyline were closely related to oodines. Moret and Bousquet (1995: 759) stated that the character states of the adult and of the putative larva studied indicate that dercyline are more closely related to oodines and chlaeniines than to pterostichines. Bousquet (1996a: 449) commented that dercyline were closely related to {oodines + panagaeines + chlaeniines} but that the nature of the relationship remained to be ascertained. Jeannel (1948a: 626) related dercyline to melanchitonines and Kryzhanovskij (1976a: 89) to pterostichines, microcheilines, chaetodactylines, platynines, zabrines, and cuneiptectines without mentioning any character state that would justify such grouping. The adhesive setae on the male protarsi are of the “spongy” type as in chaetogenyines, oodines, and chlaeniines.

Jeannel (1948a: 627) indicated that the genus *Dercylinus* (one North American species), of which he had seen no specimen, probably belongs to dercyline and Lorenz (2005: 327) listed the genus, along with *Evolenes* (one North American species), in the subtribe Dercylina. However, these two genera are typical oodines (see Bousquet 1996a).

TRIBE MELANCHITONINI. This tribe currently includes three genera, *Melanchiton* Andrewes (a replacement name for *Melanodes* Chaudoir), *Melanchrous* Andrewes (a replacement name for *Patellus* Chaudoir), and *Dicaelindus* Macleay. The lineage contains about 70 Old World species. As for many other groups, relationships of melanchitonines are unclear. Chaudoir (1883) included *Melanchiton* and *Melanchrous* within the tribe Oodini, likely because of the similar adhesive setae on the male protarsi. Subsequently, the two genera have been placed by some authors within the Pterostichini. Jeannel (1948a: 626) included them with dercyline in his family Dercylidae but offered no pertinent evidence to suggest that the group is monophyletic.

Straneo (1950: 65) first included the genus *Dicaelindus*, previously placed in the Pterostichini, in this tribe. Adults of *Dicaelindus* are rather similar phenetically to those of *Melanchiton*, but the male protarsi are not dilated and lack adhesive setae. Monophyly of this tribe has not yet been demonstrated.

TRIBE OODINI. Members of Oodini *sensu stricto* share several apomorphic character states in the adult stage (Bousquet 1996a: 448) suggesting the tribe is monophyletic. Several authors have included or associated oodines with chlaeniines but the pygidial gland components suggest rather that panagaeines and chlaeniines are more closely related to each other than to oodines (Bousquet 1987b). Oodines, panagaeines, and chlaeniines possibly constitute a clade since the adults (except in some chlaeniines) have the metepisterna coadunate with the elytral epipleura, a synapomorphic condition that has probably been secondarily lost in some chlaeniine lineages.

Some groups, such as dercyline, melanchitonines, and geobaenines, are sometimes included within the Oodini as distinct subtribes. However, there is little evidence that they are indeed closely related to oodines and in my opinion they should be treated as distinct tribes.

This tribe is represented in all zoogeographical regions of the world and includes about 295 species in 32 genera. Jeannel (1949a: 829) recognized three family-group taxa within the oodines: sphoerodines represented in the Afrotropical Region, oodines (*sensu stricto*) represented in all zoogeographical regions, and thryptocerines represented in the Afrotropical Region.

TRIBE PELECIINI. Relationships of pelecini are unclear. The group has been associated with panagaeines by Kryzhanovskij (1976a: 89), Ball (1979), and Erwin (1985: 468) and included in the superfamily Odacanthomorpha, along with odacanthines, perigonines, lachnophorines, and ctenodactylines, by Jeannel (1948a: 376). Many apomorphic features, including some details of the chaetotaxy, structure of the mouthparts and thorax, and marked similarity in their specialized way of attacking millipedes, suggest



that peleciines could be closely related to promecognathines. However, Straneo and Ball (1989) regarded these similarities as evolutionary convergence, not phylogenetic affinity. Larvae of *Eriopus oaxacanus* Straneo and Ball, the only peleciine species known in its larval stage, are similar in some structural features to larvae of Brachinini and Pseudomorphini but Liebherr and Ball (1990) concluded that these similarities were an example of convergence due to a similar parasitic lifestyle. Arndt (1993: 36), based on larval features, suggested that peleciines, panagaeines, licinines, oodines, and chlaeniines form a clade. Liebherr and Will (1998: 156-157) noted from their analysis of the female reproductive tract that placement of peleciines as a basal group of pterostichine stock was firmly supported.

Peleciines are restricted to the Southern Hemisphere. Straneo and Ball (1989) recognized two subtribes: Agonicina for the genera *Pseudagonica* Moore and *Agonica* Sloane of Tasmania and adjacent southeastern Australia, and Peleciina (including disphericines) for the remaining genera which are represented in the Afrotropical, Oriental, and Neotropical Regions. Vigna Taglianti and Rossi (1998: 515) noted that the laboulbeniale parasitic species found in *Agonica* and in the moriomorphine genera *Pterogmus* Sloane, *Theprisa* Moore, and *Sitaphe* Moore were very similar and alluded to the possibility of a close relationship between agonicines and moriomorphines.

TRIBE BRACHYGNATHINI. This tribe contains only the Neotropical genus *Brachygnathus* Perty (seven species). Relationships of the genus are uncertain. Jeannel (1949a: 849) associated it with the genus *Microcephalus* Dejean (as *Tichonia* Semenov), under the subfamily name Tichoniitae, and placed it in his family Panagaeidae. Reichardt (1977: 404) noted that inclusion of *Brachygnathus* in the tribe Panagaeini was doubtful and that the adults show some similarities to those of peleciines.

TRIBE BASCANINI. This tribe contains a single genus, *Bascanus* Péringuey (including *Bascanidius* Péringuey), with a few species in eastern and southern Africa. Van Emden (1936a), Basilewsky (1953a: 164-165), and Erwin (1979) suggested that bascanines are closely related to panagaeines. Csiki (1933a: 1651) associated the genus with *Melaenus* Dejean.

TRIBE PANAGAEINI. This moderately diverse group occurs in all continents except Antarctica but is much more diverse in the tropics than in temperate regions. Panagaeines, at least those that have been analysed, secrete phenol through their pygidial glands (see Schildknecht et al. 1968; Kanehisa and Murase 1977; Moore 1979). This compound is also found, as far as known, only in some chlaeniines, which suggests that panagaeines are probably most closely related to chlaeniines. On the other hand, several authors, including Kryzhanovskij (1976a: 89), consider peleciines as the group most closely related to panagaeines.

Jeannel (1949a: 849) associated the genus *Microcephala* Dejean (as *Tichonia* Semenov) with Panagaeini but most authors, including Reichardt (1977: 407), regard it as a member of Pterostichini.

TRIBE CHLAENIINI. Chlaeniines are found in all zoogeographical regions of the world but are more diverse, both in terms of lineages and species, in the Afrotropical and Oriental Regions than anywhere else. Jeannel (1949a: 776) recognized six tribes among chlaeniines and Basilewsky and Grundmann (1955) ten tribes and two subfamilies. However, following Ball (1960b) and Lindroth (1969a), all the species are grouped in a single tribe in this catalogue. Several authors have suggested a close relationship between chlaeniines, panagaeines, and oodines.

Two major groups among *Chlaenius* species could be distinguished based on defensive secretions of the pygidial glands (see Schildknecht et al. 1968; Kanehisa and Murase 1977; Moore 1979; Balestrazzi et al. 1985): one secretes phenol, like panagaeines; the other one quinone. In the first group, the secretory lobes of the pygidial glands are elongate, in the second one they are shorter and thicker (Kanehisa and Shiraga 1978). I believe these two groups should be recognized either as genera or subtribes. However, owing to the lack of information on the pygidial glands and their secretions for many chlaeniine lineages, such action is futile at this time.

This tribe includes almost a thousand species worldwide arranged in 18 genera and two subtribes. The 51 North American species are assigned to the genus *Chlaenius* Bonelli and arrayed in ten subgenera of which five, *Pseudanomoglossus* Bell (one species), *Anomoglossus* Chaudoir (three species), *Callistometus* Grundmann (one species), *Brachylobus* Chaudoir (one species), and *Randallius* n.subg. (one species), are North American endemics.

TRIBE CUNEIPECTINI. This tribe includes one genus, *Cuneipectus* Sloane, with two flightless species in western Australia. Members of this group have rarely been collected and very little is known about their way of life. Kryzhanovskij (1976a: 89) listed cuneipectines in his supertribe Pterostichitae along with dercylines, zabrines, platynines, chaetodactylines, microcheilines, and pterostichines. Erwin (1985: 468) associated them with chaetogenyines, chlaeniines, oodines, and licinines in his supertribe Callistitae (= Chlaeniitae). Moore et al. (1987: 215) included them with morionines, pterostichines, abacetines, geobaenines, drimostomatines, and platynines in their Pterostichitae.

TRIBE ORTHOGONIINI. This group includes six genera represented in Asia and Africa only: *Orthogonius* Macleay (about 240 species), *Neoorthogonius* Tian and Deuve (one species), *Hexachaetus* Chaudoir (nine species), *Actenoncus* Chaudoir (four species), *Anoncopencus* Chaudoir (two species), and *Nepalorthogonius* Habu (one species). Relationships of the tribe remain unresolved and problematic. Jeannel (1948a: 377) indicated that orthogoniines and licinines are closely related based on the shape of the frontale on the cephalic capsule of the larvae. Basilewsky (1953a: 180) associated them with glyptines, Kryzhanovskij (1976a: 90) with lebiines, anthiines, helluonines, physocrotaphines, zuphiines, galeritines, and dryptines, and Erwin (1985: 468) with idiomorphines, catapieseines, and amorphomerines. Ober and Maddison (2008: 18) found strong support in their phylogenetic analyses based on molecular data sequences

for a clade comprising orthogoniines, graphipterines, and pseudomorphines. The genus *Glyptus* Brullé has been included by some authors within the tribe Orthogoniini, but both Jeannel (1948a) and Erwin (1985) believe that *Glyptus* and Orthogoniini are not closely related. Members of this tribe are termitophilous.

TRIBE IDIOMORPHINI. This tribe currently includes the genera *Idiomorphus* Chaudoir (three Indian species), *Perochnoristhus* Basilewsky (one species in Namibia), *Rathymus* Dejean (three Afrotropical species), and *Strigia* Brullé (three Oriental species) arrayed in two subtribes, Perochnoristhina for the genus *Perochnoristhus* and Idiomorphina for the remaining genera (Lorenz 2005: 391). Erwin (1984b: 378) also included the genus *Glyptus* in this tribe. Crowson (1980) stated that the genus *Perochnoristhus* could be closely related to broscines and apotomines.

TRIBE GLYPTINI. Glyptini consists of two Afrotropical genera: *Neoglyptus* Basilewsky with six species and *Glyptus* Brullé with two species. Few authors agree on the systematic position of the group. Jeannel (1948a: 377) associated them with chlaeniines, Basilewsky (1953a: 180) with orthogoniines, and Erwin (1984b: 378) with idiomorphines. Both Chaudoir (1850a) and Lacordaire (1854) stated that glyptines were closely related to the genus *Idiomorphus* Chaudoir.

TRIBE AMORPHOMERINI. This group includes a single genus, *Amorphomerus* Sloane, represented by a few species in eastern Africa and Madagascar. Jeannel (1948a: 376) associated amorphomerines with pterostichines (*sensu lato*, including platynines), dercylines, and harpalines in his superfamily Harpalomorphi, characterized by having the mesotibiae spinose and the median lobes of the aedeagi more or less bent, with the basal bulbs well developed. He also stated (Jeannel 1948a: 731) that the tribe was more closely related to harpalines than to any other *Conchifera* groups. Kryzhanovskij (1976a: 89) associated amorphomerines with harpalines, cnemalobines (as Cnemacanthini), and agonicines (currently included in the Peleciini) and Erwin (1985: 468) associated them with idiomorphines, orthogoniines, and catapieseines. The tribe was listed as part of the tribe Lebiini by Erwin (1979).

TRIBE LICININI. A clearly defined, likely monophyletic group with representatives in all zoogeographical regions of the world. Jeannel (1948a: 377) associated licinines with pentagoniines, orthogoniines, panagaeines, chlaeniines (including oodines), and glyptines, Kryzhanovskij (1976a: 89) with oodines and chlaeniines, and Erwin (1991a: 10) with oodines, chaetogenyines, chlaeniines, and cuneiptectines. Ball (1992a) considered the tribe to be the sister-group to {Oodini + Chlaeniini + Panagaeini} and Ball and Bousquet (2000: 100) noted that members of the four tribes show similarities in structure of the male protarsi, genitalia, and larvae. Beutel (1992d) reported several putative synapomorphies in larval head structures between Licinini and Panagaeini, and Arndt (1993: 37) noted several synapomorphies in larvae of licinines, panagaeines, and peleciines. However, contrary to the oodine-chlaeniine-panagaeine complex, licinines have simple



(i.e., non-crossed) epipleura and secrete formic acid as the major constituent of their defensive glands like harpalines and *Truncatipennes* members. Also Ober and Maddison (2008: 19) found no close relationship between licinines and the chlaeniine-oodine-panagaeine complex based on their analyses derived from molecular data sequences. Recently Liebherr and Will (1998: 144) suggested that licinines, orthogonines, panagaeines, melanchitonines, graphipterines, and loxandrines form a clade based on the presence of a villous canal extended forward on the common oviduct.

The 235 or so species are arrayed in 23 genera distributed among four subtribes following Ball (1992a).

**TRIBE HARPALINI.** This is one of the largest and most diversified carabid tribes. Although its limits are fairly stable, there is as yet no strong evidence to substantiate that the tribe is monophyletic. Based on a study of the world fauna, Noonan (1976) recognized four subtribes among harpalines: Anisodactylina, Pelmatellina, Stenolophina (including polpochilines and pachytrachelines), and Harpalina which he divided into eight genus-groups, namely Harpali, Selenophori, Bradybaeni, Acinopi, Bleusei, Dapti, Amblystomi, and Ditomi. Based on a parsimony analysis of molecular sequence data, Martínez-Navarro et al. (2005) concluded that the subtribe Harpalina was polyphyletic, that daptines were related to stenolophines, not to Harpalina, that the Selenophori group was polyphyletic and not related to Harpalina but perhaps to anisodactylines, that the Amblystomi group may be related to stenolophines instead of Harpalina, and that the subtribe Pelmatellina was related to stenolophines (see also Martínez-Navarro et al. 2003) and that the latter could be paraphyletic in regard to the former. They also advocated raising selenophorines, ditomines, and amblystomines to subtribe level.

Relationships of harpalines to other carabid groups are not well established. In the course of his work on the French fauna, Jeannel (1942: 575) associated harpalines with perigonines, anchonoderines, lachnophorines, omphreines, pterostichines (including platynines), zabrines, chaetodactylines, morionines, and metiines in his superfamily Harpalomorphi. Later, working on the Madagascan fauna, Jeannel (1948a: 376) united the harpalines with amorphomerines, dercyline, melanchitonines, pterostichines (including platynines), morionines, microcheilines, and chaetodactylines. Kryzhanovskij (1976a: 89) listed harpalines with amorphomerines, cnemalobines, and agonicines (currently included in Peleciini) in his supertribe Harpalitae. Based on the presence of a membranous transverse band on the stipes lateroventrally in larvae, Arndt (1998: 184) associated harpalines with morionines, pterostichines, zabrines, panagaeines, pelciines, chlaeniines, oodines, licinines, and cnemalobines. In a cladistic analysis conducted by Roig-Juñent and Cicchino (2001: Fig. 1), this tribe was positioned as the sister-group to {Platynini + Sphodrini}. Ruiz et al. (2008) indicated that, based on their molecular data sequence analyses, the tribe Harpalini was the sister-group to {Sphodrini + Platynini + Pterostichini + Zabринi}.

**TRIBE GEOBAENINI.** The Geobaenini includes a single genus, *Geobaenus* Dejean, with four flightless species: three occur in South Africa, one in Australia. The group

was first included within the tribe Harpalini and associated subsequently with pterostichines. Basilewsky (1949), because of similarity in the adhesive setae on the male protarsi, suggested that geobaenines could be closely related to melanchitonines, although later (1950, 1953, 1985) he associated the genus with platynines (as Anchomeninae or Platyninae). Liebherr and Will (1998: 144) in their study of the female reproductive tract found an “uncontested synapomorphy” uniting geobaenines with lachnophorines, odacanthines (including pentagonicines), and pseudomorphines. In these taxa, the spermathecal duct is joined to the common oviduct by an elongate sclerite.

TRIBE OMPHREINI. This tribe includes a single genus, *Omphreus* Dejean (18 species), which is endemic to the Balkan Peninsula and Asia Minor. Omphreines have been included within the tribe Platynini by most authors but Jeannel (1942: 577), followed by Kryzhanovskij (1976a: 89), associated them with perigonines, anchonoderines (including atranines), and lachnophorines.

TRIBE SPHODRINI. Members of this group have been traditionally included within the Platynini. However, in recent decades numerous taxonomists dealing with the Palearctic fauna, where this group is by far more diversified than anywhere else, rank this complex as a distinct tribe. Based on morphological characters, there seems to be little doubt that the two groups are closely related. However, from molecular data sequence analyses conducted by Ruiz et al. (2008), this relationship did not receive “the expected strong support, though it can not be completely dismissed.” The Sphodrini include about 825 species, arranged in about 40 genera, and are grouped into the following six subtribes: Atranopsina (about 100 species), Calathina (about 185 species), Dolichina (17 species), Pristosiina (about 65 species), Synuchina (almost 100 species), and Sphodrina (about 360 species). Based on Casale’s (1988: 130) cladogram, Dolichina and Synuchina are sister-groups, and Sphodrina, Calathina, and Pristosiina form a clade with Pristosiina the sister-group to the other two; the position of Atranopsina is ambiguous. From the molecular data sequence analyses conducted by Ruiz et al. (2008), only the position of the subtribe Atranopsina as the sister-group to all other subtribes was well supported.

TRIBE PLATYNINI. This is a large, complex, and worldwide group which is more diverse in the tropics than in temperate regions. There are no synapomorphies, in either adult or larval structures, yet discovered to suggest that the tribe represents a monophyletic lineage. Platynines are combined by various authors with pterostichines based on phenetic similarity between the two groups. I believe the two groups are not closely related because of the differences in elytral epipleuron configurations and pygidial gland structures and secretions. Basilewsky (1985, as Platyninae) gave an excellent introduction to the systematics of the group.

Relationships among the North American genus-group taxa have been addressed but are still inadequately understood. According to Liebherr (1991b: 5), *Tetraleucus*,

*Anchomenus*, *Sericoda*, and *Elliptoleus* form a clade characterized by the synapomorphic condition of the female spermatheca having a basal reservoir and a long apical filament. Within this clade *Tetraleucus* is the sister-group to the remaining taxa. Liebherr and Schmidt's (2004: 168) parsimony-based cladistic analysis led to the recognition of four subgenera within the genus *Agonum* forming two clades, {*Platynomicrus* Casey + *Europhilus* Chaudoir} and {*Agonum s.str.* + *Agonothorax* Motschulsky (= *Olisares* Motschulsky)}. Liebherr and Schmidt (2004: 153) suggested a sister-group relationship between the genus *Agonum* and the African taxa described in combination with *Agonidium* Jeannel and *Neobatenus* Jeannel as well as several others described under *Megalonychus* Chaudoir.

TRIBE PERIGONINI. This small tribe is represented by about 115 species arranged in five genera. The place of the tribe within the carabids is unsettled. LeConte and Horn (1883: 35) and Sloane (1923: 248) included it as a separate group within the Platynini; Jeannel (1942: 577) as a distinct subfamily within his family Perigonidae along with anchonoderines, omphreines, and lachnophorines and later (Jeannel 1948a: 376) as a distinct family within his superfamily Odacanthomorphi along with lachnophorines, odacanthines, ctenodactylines, and peleciines. Kryzhanovskij (1976a: 89) followed Jeannel (1942) and combined the tribes Perigonini, Lachnophorini (including anchonoderines), and Omphreini in his supertribe Perigonitae. Erwin (1984b: 375) placed this tribe in his supertribe Lebiitae along with amorphomerines, catapieseines, graphipterines, tetragonoderines, masoreines, pentagonicines, odacanthines, and lebiines. Later (Erwin 1991a: 10) the amorphomerines and catapieseines were excluded from the Lebiitae.

The North American fauna includes two species of the genus *Perigona* Laporte which contains about 100 species worldwide. One of our species is adventive and the second one is endemic to the eastern part of the continent.

TRIBE GINEMINI. This tribe includes a single species, *Ginema thomasi* Ball and Shpeley, known from a single female specimen collected in the departament of Santa Cruz in Bolivia. Ball and Shpeley (2002a: 96) noted some marked similarities between this genus and members of Cyclosomini but still postulated a rather isolated position in the rank of the more derived Harpalinae lineages.

TRIBE ENOICINI. This tribe includes two South African genera: *Enoicus* Péringuey with one species and *Abacetodes* Straneo (= *Phimus* Péringuey, a preoccupied name) with four species. Basilewsky (1985: 15-16) associated enoicines with platynines, geobaeines, and sphodrines while earlier (Basilewsky 1953a: 61) he included them within the platynines (as Anchomenini).

TRIBE ATRANINI. This tribe contains only two species, both included in the genus *Atranus* LeConte: one lives in Europe and the Caucasus, the other one in eastern North America. The systematic position of the genus has been debated. Dejean (1828: 122)



described the North American species in the genus *Anchomenus* Bonelli, currently placed within the Platynini. LeConte (1847: 438; 1861a: 28), Seidlitz (1887: 10), and Sloane (1923: 250) associated the genus with chlaeniines, LeConte and Horn (1883: 37), Fauvel (1888: 15), and Jeannel (1942: 582) with anchonoderines, and Ball (1960b: 136), Lindroth (1966: 648), Liebherr (1986: 20), Kryzhanovskij et al. (1995: 118), and several others with platynines. Adults and larvae of *Atranus* possess several structural features not exhibited in other Platynini. In my opinion the morphological evidence relating *Atranus* to platynines is weak and for that reason the genus is retained here in its own tribe. Analysis of the pygidial secretions could be useful to indicate if the genus is more closely related to chlaeniines or to the platynine-anchonoderine lineage. Basilewsky (1962b: 155) believed the genus was more closely related to platynines than to any other group suggested to date, but because the adhesive setae on the male protarsi are of the “spongy” type rather than the “seriate” type, he advocated placing it in a distinct subfamily. Phylogenetic relationships as inferred from 28S ribosomal DNA and the wingless gene conducted by Ober and Maddison (2008) placed *Atranus* as the sister-group to the Platynini.

**TRIBE CATAPIESEINI.** This small Neotropical tribe includes two genera, *Catapiesis* Brullé with eight species and *Homalomorpha* Brullé with one species, ranging collectively from southern Mexico to northeastern Argentina. Catapieseines have been placed by some authors (e.g., Reichardt 1977) in the vicinity of the Morionini and Pterostichini. Lorenz (2005: 248) included them within the tribe Cratocerini, in his subfamily Pterostichinae, along with drimostomatines. Ober and Maddison (2008: 16), following Erwin (1984b: 375), placed them in their lebiomorph assemblage pointing out that catapieseines have truncate elytra and specialized eighth abdominal tergite turrets like the remaining lebiomorph taxa. Horn (1881: 163) believed that *Catapiesis* (as *Basoleia*) has a close relationship with the Helluonini. Erwin (1985: 468) listed the group within his supertribe Orthogoniitae along with idiomorphines, amorphomerines, and orthogoniines.

**TRIBE LACHNOPHORINI** (including anchonoderines). This small tribe includes about 120 species in ten genera. There is no solid structural or molecular evidence that would suggest this group is monophyletic. Its relationships have been discussed by several authors. Jeannel (1942: 578), followed by Kryzhanovskij (1976a: 89), associated lachnophorines with perigonines, anchonoderines (including *Atranus*), and omphreines. Liebherr (1988) suggested that lachnophorines derived from a platynine-like ancestor. He also included calophaenines within lachnophorines but Ball and Bousquet (2000: 107), following Erwin (1991b: 44), placed them with ctenodactylines.

The Lachnophorini are represented in the New World, and by one Indo-African species, *Selina westermanni* Motschulsky. Jeannel (1948a: 744) also considered the genus *Amoebea* Péringuey (one Afrotropical species) as lachnophorine. However, the name is a junior synonym of *Smeringocera* Chaudoir (six species) which belongs to the tribe Odacanthini (see Lorenz 2005: 444).

In Liebherr's (1988) parsimony-based cladistic analysis of the West Indies lachnophorines, the taxa with setose body and setose maxillary palpomeres, represented by the genera *Euphorticus*, *Calybe*, and *Lachnophorus*, constituted a clade.

TRIBE PENTAGONICINI. Few characteristics hold the pentagonicines together and this tribe is possibly polyphyletic. Jeannel (1949a: 767) included pentagonicines in his superfamily Callistomorphi, along with licinines, orthogoniines, panagaeines, chlaeniines, and glyptines, and indicated that pentagonicines are best placed near licinines. Moore (1966a: 162) wrote that larval characters of the pentagonicine *Scopodes* "suggest a rather close affinity with the Odacanthinae." Liebherr (1988) included pentagonicines within the Odacanthini based mainly on the structure of the spermatheca, and Ober and Maddison (2008: 17) found support from their molecular data for such a relationship. Erwin (1984b: 375) placed this tribe in his supertribe Lebiitae along with amorphomerines, perigonines, catapieseines, graphipterines, tetragonoderines, masoreines, odacanthines, and lebiines. The author later adopted a similar arrangement (Erwin 1985: 468), with the exclusion of amorphomerines and catapieseines and the inclusion of lachnophorines. It is of interest to note that the sole species of pentagonicines studied (*Scopodes boops* Erichson) produces a saturated acid as major component (Moore 1979) of the pygidial glands, while members of the so-called *Truncatipennes*, with which this tribe is usually associated, produce formic acid (see Schildknecht et al. 1968; Moore and Wallbank 1968; Kanehisa and Murase 1977; Moore 1979).

This tribe includes close to 170 species in the world. Only six, all in the genus *Pentagonica* Schmidt-Göbel (86 species worldwide), are found in North America.

TRIBE ODACANTHINI. The Odacanthini, with about 300 species in 30 genera, constitutes a moderately diverse group represented in all zoogeographical regions. They are more diverse in the tropics than in temperate regions. Several authors believed the group to be closely related to ctenodactylines, and both groups have been combined in a single tribe by some (Csiki 1932b, Liebke 1938, van Emden 1942). Jeannel (1948a: 376) associated odacanthines with perigonines, lachnophorines, ctenodactylines, hexagoniines, and peleciines, and Basilewsky (1962b: 154) with lachnophorines. Liebherr (1988) concluded that odacanthines (including pentagonicines) have a sister-group relationship with lachnophorines (including calophaenines) based on the presence of a bipartite spermatheca. However, phylogenetic analyses based on molecular data sequences presented by Ober and Maddison (2008: 5) did not support odacanthines and lachnophorines as a clade but did support a close relationship between pentagonicines and odacanthines and between calophaenines and lachnophorines. Erwin (1985: 468) placed the tribe Odacanthini within his Lebiitae along with perigonines, lachnophorines, graphipterines, tetragonoderines, cyclosomines (as Masoreini), pentagonicines, and lebiines.

The tribe is represented in North America by six species belonging to the New World genus *Colliuris* DeGeer, which currently includes about 80 species.

TRIBE CALOPHAENINI. This tribe includes two Neotropical genera: *Calophaena* Klug (48 species) and *Calophaenoidea* Liebke (one species). Calophaenines have been placed in the tribe Odacanthini (Horn 1881: 147; Bates 1883a: 163; Reichardt 1977: 435; Lorenz 2005: 439), Lachnophorini (Liebherr 1988: 18), or Ctenodactylini (Erwin 1991b: 44; Ball and Bousquet 2000: 107). Liebherr's (1988) assumption of a relationship with lachnophorines received support from most molecular analyses conducted by Ober and Maddison (2008: 17). The association of calophaenines with ctenodactylines is based on similarity of the adhesive setae under the tarsomeres (Stork in Ball and Bousquet 2000: 107). Until the relationship of calophaenines is better established I prefer to place them in a distinct tribe.

TRIBE CTENODACTYLINI. This tribe is represented only in the New World and includes about 115 species in 18 genera. Most recent authors agree that this group is closely related to the tribe Hexagoniini of the Eastern Hemisphere. Only three species are found north of Mexico and they belong to the genus *Leptotrachelus* Latreille along with about 30 more species in the tropics.

The main characteristic of the Ctenodactylini and Hexagoniini is the inverted median lobe of the aedeagus as in the drimostomatines.

TRIBE HEXAGONIINI. This tribe contains 65 species in three genera: *Hexagonia* Kirby (47 species in Asia, Africa, New Guinea [one species], and Australia [one undescribed species, cf. Darlington 1968: 202]), *Dinopelma* Bates (13 species in the Oriental Region), and *Omphreoides* Fairmaire (five Madagascan species). Vigna Taglianti and Rossi (1998: 515) indicated that hexagoniines could be related to odacanthines based on similar parasitic laboulbeniales.

TRIBE CYCLOSOMINI. This tribe is used here in a restricted sense (see Ball and Bousquet 2000: 109). It includes about 120 species, predominantly tropical, placed in four genera: *Mnuphorus* Chaudoir with 11 species in the Palaearctic Region; *Cyclosomus* Latreille with 13 species in the Afrotropical and Oriental Regions; *Cyclicus* Jeannel with 22 species in the Afrotropical and Oriental Regions; and *Tetragonoderus* Dejean represented by about 80 species in the Afrotropical, Oriental, Neotropical, and Nearctic Regions, and on the southern fringe of the Palaearctic Region. Several authors, including Jeannel (1949a: 860) and Basilewsky (1984: 527), have considered the New World genus *Nemotarsus* LeConte as related to cyclosomines, but following Ball (1960b: 157) and Lindroth (1969a: 1014) the genus is listed here in the tribe Lebiini.

Cyclosomines are associated with somoplatines, graphipterines, corsyrines, masoreines, and sarothrocrepidines by most authors based on the presence of long tibial spurs in adults. However, Ball and Bousquet (2000: 109) remarked that the complex as a whole is probably not monophyletic. Molecular analyses published by Ober and Maddison (2008: 17) did not support a close relationships between cyclosomines (*sensu lato*, i.e., including somoplatines, corsyrines, masoreines, and sarothrocrepidines)



and graphipterines but suggested they may be associated with members of dromiine and / or cymindidine lebiines.

TRIBE SOMOPLATINI. Ball and Bousquet (2000: 109) restricted this tribe to the genera *Somoplatus* Dejean (14 Indo-African species), *Somoplatodes* Basilewsky (two Afrotropical species), and *Lophidius* Dejean (one Afrotropical species), with *Paralophidius* Basilewsky recently placed in synonymy with *Somoplatus* (Schüle 2009: 461). Basilewsky (1986) listed these genera as part of his tribe Masoreini.

TRIBE MASOREINI. This tribe, as restricted by Ball and Bousquet (2000: 109), comprises the genera *Masoreus* Dejean (seven Palearctic species), *Atlantomasoreus* Mateu (two Moroccan species), *Anaulacus* Macleay (38 species), and *Leuopus* Andrewes (one Oriental species). *Odontomasoreus* Darlington (one species from New Guinea), listed as a distinct genus by Lorenz (2005: 451), has been considered a subgenus of *Anaulacus* by Ball and Shpeley (2002b: 279). Jeannel (1949a: 860) associated masoreines with cyclosomines and nemotarsines.

TRIBE CORSYRINI. This tribe comprises the Palearctic Asian genera *Corsyra* Dejean (one species) and *Discoptera* Semenov (five species). Jeannel (1949a: 860) included them with masoreines and Ball and Bousquet (2000: 109) with graphipterines. These authors did not offer evidence to support their groupings.

TRIBE SAROTHROCREPIDINI. This tribe is represented by a single genus, *Sarothrocrepis* Chaudoir, with 26 Indo-Australian species. Jeannel (1949a: 860) associated the genus with graphipterines, masoreines, cyclosomines, and nemotarsines.

TRIBE GRAPHIPTERINI. This tribe, represented in Africa and the Middle East, includes the genera *Graphipterus* Latreille (about 145 species), *Piezia* Brullé (18 species), and *Trichopiezia* Nègre (one species). Jeannel (1949a: 860) associated graphipterines with sarothrocrepidines, masoreines, cyclosomines, and nemotarsines and Kryzhanovskij (1976a: 90) with the same groups with the exception of the nemotarsines. Ober and Maddison (2008: 17) found no support from their molecular analyses for a close relationship between graphipterines and cyclosomines (*sensu lato*). Instead they found graphipterines to be closely related to pseudomorphines and orthogoniines.

TRIBE LEBIINI. A markedly complex, worldwide tribe undoubtedly more diverse both in terms of species and lineages in the tropics than in temperate regions. No synapomorphy is known to suggest that this tribe constitutes a monophyletic lineage and Ober and Maddison (2008: 18) did not recover a monophyletic Lebiini in their analyses based on molecular data sequences. The supraspecific classification is not established clearly since most modern studies on lebiines have focussed on regional faunas. The systematic position of some groups within the Lebiini is still debated. For example, the genus *Celaenephes* Schmidt-Göbel has been considered the most ancestral group

of extant lebiines by Shpeley et al. (1985) but as a platynine by Basilewsky (1984). In phylogenetic analyses derived from molecular sequence data by Ober and Maddison (2008: 18), *Celaenephes* was not clearly associated with members of Lebiini.

Relationships of the tribe are not clearly understood. Jeannel (1948a: 378) included lebiines with anthiines, helluonines, dryptines, galeritines, physocrotaphines, zuphiines, and calophaenines in his superfamily Lebiomorphi. Kryzhanovskij (1976a: 90) used a similar grouping with the exception that he also included orthogoniines, a group that Jeannel (1948a: 377) and Basilewsky (1984: 528) included within the Callistomorphi (i.e., pentagonicines, licinines, panagaeines, chlaeniines, and glyptines). Erwin and Sims (1984: 357) and Erwin (1985: 468) associated lebiines with perigonines, lachnophorines, graphipterines, cyclosomines, masoreines, pentagonicines, and odacanthines.

The 220 genera currently recognized within this tribe are arrayed in the following 16 subtribes (see Ball and Bousquet 2000: 110): Celaenephina, Pericalina (including coptoderines and eucheilines), Sugimotoina, Actenonycina, Apenina, Cymindidina, Dromiusina, Lebiina, Physoderina, Metallicina, Agrina, Calleidina, Gallerucidiina, Peliocypadina, Demetriadina, and Nemotarsina. In the phylogenetic analyses from molecular data published by Ober and Maddison (2008), a small number of clades within the Lebiini were supported but none of these corresponded to the current subtribes, and the subtribes were not recovered as monophyletic.

**TRIBE DRYPTINI.** Dryptines have been included within the galeritines by several authors (including Darlington 1971: 198). The two lineages are now placed in different tribes but most authors agree that they are closely related. Dryptines and galeritines share some character states with zuphiines and these three groups, referred to as supertribe Zuphiitae by Erwin and Sims (1984: 356) and Erwin (1985: 468), probably constitute a clade. Basilewsky (1960) recognized six dryptine genera in the world, only one of them, the monobasic Amazonian *Neodrypta* Basilewsky, is found in the New World. Most species are tropically-adapted in the Afrotropical, Australian, and Oriental Regions, with a few species in the southern parts of the Palaearctic Region.

**TRIBE GALERITINI.** This tribe is represented in all zoogeographical regions but is more diverse in the tropics than in the temperate zones. Basilewsky (1963b: 7) and Ball (1985) have recognized two lineages within galeritines, treated as subtribes by Ball (1985): Planetina for the genus *Planetes* Macleay (27 species in the Eastern Hemisphere) and Galeritina for the remaining genera. Lorenz (2005: 507), however, included planetines in zuphiines and Ober and Maddison (2008: Fig.5) found support for such a grouping in some of their analyses and reported that the tribe Galeritini was not monophyletic, based on their molecular data analyses. As indicated previously, this tribe is probably closely related to the Dryptini and Zuphiini.

**TRIBE ZUPHIINI.** This group is represented in all zoogeographical regions of the world but is more diverse in the tropics than in temperate regions. Zuphiines are grouped by some authors (e.g., Basilewsky 1962a: 100-101) into three subtribes: Leleupidiina,

Patriziina, and Zuphiina. Baehr (1985) briefly discussed the status of each of these subtribes. On the other hand, Lorenz (2005: 505-507) included patriziines within the subtribe Zuphiina. Most authors agree that Zuphiini are closely related to Galeritini. For example, LeConte and Horn (1883: 41) and Erwin (1991a: 10) combined zuphiines with galeritines and dryptines. Habu (1967) included zuphiines and galeritines in a single tribe and recognized three subtribes: Zuphiina, Galeritina, and Planetina. Moore (1998: 369) suggested a close relationship between zuphiines and physocrotaphines based on characters of adults and Jeannel (1949a: 1047) enlisted zuphiines, galeritines, dryptines, and physocrotaphines in his family Dryptidae. Ober and Maddison (2008: 18) found a well-supported “Zuphiitae” clade including zuphiines, anthiines, dryptines, galeritines, helluonines, and physocrotaphines in their phylogenetic analyses. However, the tribe Zuphiini was not found to be monophyletic.

The hypogean and monospecific genus *Ildobates* Español from the Iberian Mountain range was originally described in the Dryptini and was subsequently transferred to the Galeritini by Jeanne (1972) and finally to the Zuphiini by Ortuño et al. (2005).

TRIBE PHYSOCROTAPHINI. The Physocrotaphini includes the following genera: *Helluodes* Westwood (three species in southwestern India and Sri Lanka), *Physocrotaphus* Parry (one species from Sri Lanka), *Pogonoglossus* Chaudoir (35 species), and *Schuelea* Baehr (three species in New Guinea). The monobasic genus *Holoponerus* Fairmaire from New Britain was originally described as a lebiine but Darlington (1968) and Moore (1998: 370) agreed that the genus probably belongs to the physocrotaphines. Unfortunately the sole known specimen of *Holoponerus godeffroyi* Fairmaire was destroyed in 1943 during the bombing of Hamburg in World War II (Moore 1998: 370). All but two species of physocrotaphines are very rarely collected and little is known about their way of life (Sabu et al. 2008: 30). Members of *Helluodes* are probably termitophilous and those of *Pogonoglossus* are predominantly subcorticolous though some species could be litter-dwelling forms (Sabu et al. 2008: 41-42).

Jeannel (1949a: 1047) associated physocrotaphines with zuphiines, galeritines, and dryptines and most authors currently agree that these lineages are probably closely related. Jeannel (1949a: 1047) claimed that the genus *Pogonoglossus* belongs to the Zuphiini near the genus *Eunostus* Laporte but both Darlington (1968) and Moore (1998: 375) retained the genus within the Physocrotaphini. In his work on the French fauna, Jeannel (1942: 1017) associated physocrotaphines with anthiines and helluonines.

TRIBE ANTHIINI. Anthiines are large, apterous beetles which live in the steppes and subdesert areas of Africa and southwestern Asia. The species are classified into eight or nine genera. The group is clearly defined and probably closely related to the tribe Helluonini (van Emden 1937; Jeannel 1949a: 1040; Bousquet 1987c: 928; Arndt 1993: 44). Basilewsky (1962a: 93) even suggested that anthiines could be derived from a helluonine genus close to *Triaenogenius* Chaudoir of the Afrotropical Region. Based on larval character states, Bousquet (1987c: 928) suggested that pseudomorphines and/or galeritines could be closely related to the anthiine-helluonine lineage. Erwin and Sims



(1984: 356) and Erwin (1985: 468) combined the anthiines with the helluonines and physocrotaphines in their supertribe Anthiitae.

**TRIBE HELLUONINI.** This is a moderately diverse group with representatives in all continents except Europe and Antarctica. Despite the fact that the group appears homogeneous from the morphology of the adults, Ober and Maddison (2008: 18) did not recover it as monophyletic in their analyses derived from molecular data sequences. Several larval features suggest that helluonines are closely related to anthiines (Bousquet 1987c; Arndt 1998: 186). However, Reichardt (1974, 1977) suggested, based on the structures of the adult mouthparts, that helluonines could be closely related to eucheilines (currently placed within the Lebiini). Liebherr and Will (1998: 145) concluded that Helluonini and Galeritini might be sister-groups based on their possession of a secondary spermathecal gland.

Sloane (1914) and Reichardt (1974) recognized two subtribes among helluonines: Helluonina with representatives in Australia and New Guinea and Helluomorphina (= Omphrina) with representatives in Asia, Africa (including Madagascar), Australia, and the Western Hemisphere. About 165 species, placed in 25 genera, are known worldwide but only eight, all belonging to the New World genus *Helluomorphoides* Ball, are found in North America.

**TRIBE XENAROSWELLIANINI.** Erwin (2007b: 567) suggested that this recently described tribe, which includes a single species known only from the holotype collected in the Brazilian state of Goiás, could have “a possible relationship with the enigmatic Pseudomorphini.”

**TRIBE PSEUDOMORPHINI.** Members of Pseudomorphini are structurally aberrant possibly in response to the group’s evolution into myrmecophily. Nevertheless placement of the group within the subfamily Harpalinae has been confirmed in almost all recent analyses (Arndt et al. 2005: 141). Relationships of pseudomorphines to other harpaline tribes are unsettled as stated by Deuve (1993: 98). Erwin (1981a: 66) remarked that the male genitalia, tarsi, and adult chemical defences suggest that pseudomorphines could be “related somehow to a basal Pterostichitae stock” and that the “paramere vestiture also suggests a connection with Psydritae.” Liebherr and Will (1998: 144) indicated that pseudomorphines, geobaenines, lachnophorines, and odacanthines (including pentagonicines) may be closely related based on the presence of an elongate sclerite joining the spermathecal duct to the common oviduct. Erwin and Stork (1985: 445) concluded that {pseudomorphines + cnemacanthines (= cnemalobines) + scari-tines} form a clade that could be the sister-group to Hiletini. Jeannel (1942: 1102; 1949a: 1079) associated pseudomorphines with brachinines under the name *Balteifera* but almost all authors now agree that the two lineages are not closely related. Ober and Maddison (2008: 18–19) reported strong molecular support for a clade including pseudomorphines, orthogoniines, and graphipterines. They indicated that while morphology does not support such a close relationship, all or some of the members of each tribe have obligate relationships with social insects.

Brief faunistic assessment

The North American fauna currently consists of 2,676 valid species-group taxa (2,439 species) of Geadephaga. Of this number, 64 are adventive on this continent, leaving 2,612 (97.6%) native species-group taxa (2,375 species).

**Adventive species.** Table 4 lists the adventive species found on this continent. All but two are accidental introductions (i.e., immigrants). Several carabids were intentionally introduced in New England during the first half of the xx Century for gypsy moth (*Lymantria dispar* Linnaeus) control, including *Calosoma chinense* Kirby, *Calosoma inquisitor* Linnaeus, *Calosoma reticulatum* Fabricius, *Carabus arvensis* Herbst, *Carabus violaceus* Linnaeus, *Carabus glabratus* Paykull, and *Carabus coriaceus* Linnaeus (see Smith 1959), but only *Calosoma sycophanta* and *Carabus auratus auratus* have become established.

Table 4. List of species-group taxa adventive and established in North America.

Species	Introduced in			YFC
	East	West	South	
<b>Nebriini</b>				
<i>Leistus ferrugineus</i> (Linnaeus)	•			1977
<i>Nebria brevicollis</i> (Fabricius)		•		2007
<b>Notiophilini</b>				
<i>Notiophilus biguttatus</i> (Fabricius)	•	•		1923
<i>Notiophilus palustris</i> (Duftschmid)	•			1968
<b>Carabini</b>				
<i>Calosoma sycophanta</i> (Linnaeus)*	•			N/A
<i>Carabus granulatus granulatus</i> Linnaeus	•	•		1890
<i>Carabus nemoralis nemoralis</i> O.F. Müller	•	•		1890
<i>Carabus auratus auratus</i> Linnaeus*	•			N/A
<b>Clivinini</b>				
<i>Clivina vespertina</i> Putzeys			•	1948
<i>Clivina collaris</i> (Herbst)	•	•		<1838
<i>Clivina fossor fossor</i> (Linnaeus)	•	•		1915
<b>Dyschiriini</b>				
<i>Dyschirius globosus</i> Herbst		•		1978
<b>Broscini</b>				
<i>Broscus cephalotes</i> (Linnaeus)	•			1987
<b>Trechini</b>				
<i>Blemus discus discus</i> (Fabricius)	•			1933
<i>Trechus obtusus</i> Erichson		•		1927
<i>Trechus quadristriatus</i> (Schrank)	•			1965
<i>Trechus rubens</i> (Fabricius)	•			<1863
<b>Bembidiini</b>				
<i>Asaphidion curtum curtum</i> (Heyden)	•			1930
<i>Bembidion lampros</i> (Herbst)	•	•		1947

Species	Introduced in			YFC
	East	West	South	
<i>Bembidion properans</i> (Stephens)	•			1942
<i>Bembidion obtusum</i> Audinet-Serville	•			1956
<i>Bembidion nigropiceum</i> (Marshall)	•			<1897
<i>Bembidion stephensii</i> Crotch	•			1891
<i>Bembidion bruxellense</i> Wesmael	•			1907
<i>Bembidion femoratum femoratum</i> Sturm	•			1967
<i>Bembidion tetracolum tetracolum</i> Say	•	•		<1823
<i>Elaphropus parvulus</i> (Dejean)		•		1940
<i>Porotachys bisulcatus</i> (Nicolai)	•	•		<1900
<b>Pterostichini</b>				
<i>Stomis pumicatus</i> (Panzer)	•			1984
<i>Pterostichus vernalis</i> (Panzer)	•			1997
<i>Pterostichus strenuus</i> (Panzer)	•	•		1937
<i>Pterostichus melanarius melanarius</i> (Illiger)	•	•		1926
<i>Abax parallelepipedus</i> (Piller & Mitterpacher)	•			1965
<b>Zabrini</b>				
<i>Amara aulica</i> (Panzer)	•			1929
<i>Amara apricaria</i> (Paykull)	•	?		<1865
<i>Amara fulva</i> (O.F. Müller)	•			1905
<i>Amara bifrons</i> (Gyllenhal)	•			1929
<i>Amara ovata</i> (Fabricius)	•	•		1925
<i>Amara aenea</i> (DeGeer)	•	•		1904
<i>Amara anthobia</i> Villa & Villa	•	•		1929
<i>Amara communis</i> (Panzer)	•			1988
<i>Amara eurynota</i> (Panzer)	•			1971
<i>Amara familiaris</i> (Duftschmid)	•	•		1901
<b>Harpalini</b>				
<i>Anisodactylus binotatus</i> (Fabricius)		•		1911
<i>Bradycellus harpalinus</i> (Audinet-Serville)		•		1951
<i>Acupalpus meridianus</i> (Linnaeus)	•	•		1931
<i>Ophonus puncticeps</i> Stephens	•			1954
<i>Ophonus rufibarbis</i> (Fabricius)	•			1953
<i>Harpalus rufipes</i> (DeGeer)	•			1937
<i>Harpalus affinis</i> (Schrank)	•	•		<1798
<i>Harpalus rubripes</i> (Duftschmid)	•			1981
<b>Platynini</b>				
<i>Calathus fuscipes</i> (Goeze)		•		1928
<i>Laemostenus complanatus</i> (Dejean)		•		<1874
<i>Laemostenus terricola terricola</i> (Herbst)	•	?		<1894
<i>Paranchus albipes</i> (Fabricius)	•			<1835
<i>Agonum muelleri</i> (Herbst)	•	•		1840
<i>Metacalpodes buehneri</i> (Hope)		•		1931
<b>Perigonini</b>				
<i>Perigona nigriceps</i> (Dejean)	•	•		<1853



Species	Introduced in			YFC
	East	West	South	
<b>Cyclosomini</b>				
<i>Tetragonoderus laevigatus</i> Chaudoir			•	2007
<b>Lebiini</b>				
<i>Mochtherus tetraspilotus</i> (Macleay)			•	1992
<i>Somotrichus unifasciatus</i> (Dejean)			•	?
<i>Dromius fenestratus</i> (Fabricius)	•			1952
<i>Philorhizus melanocephalus</i> (Dejean)		•		1996
<i>Plochionus pallens</i> (Fabricius)	•	?	•	<1833

YFC: Year of first collection

Among the 62 species accidentally introduced, *Laemostenus complanatus*, *Laemostenus terricola terricola*, *Somotrichus unifasciatus*, *Plochionus pallens*, and *Perigona nigriceps* are commonly found in cellars or associated with stored products and are now considered subcosmopolitan (Hinton 1945: 21, 27-34). These species have probably been introduced in food and household goods in North America and many other places in the world.

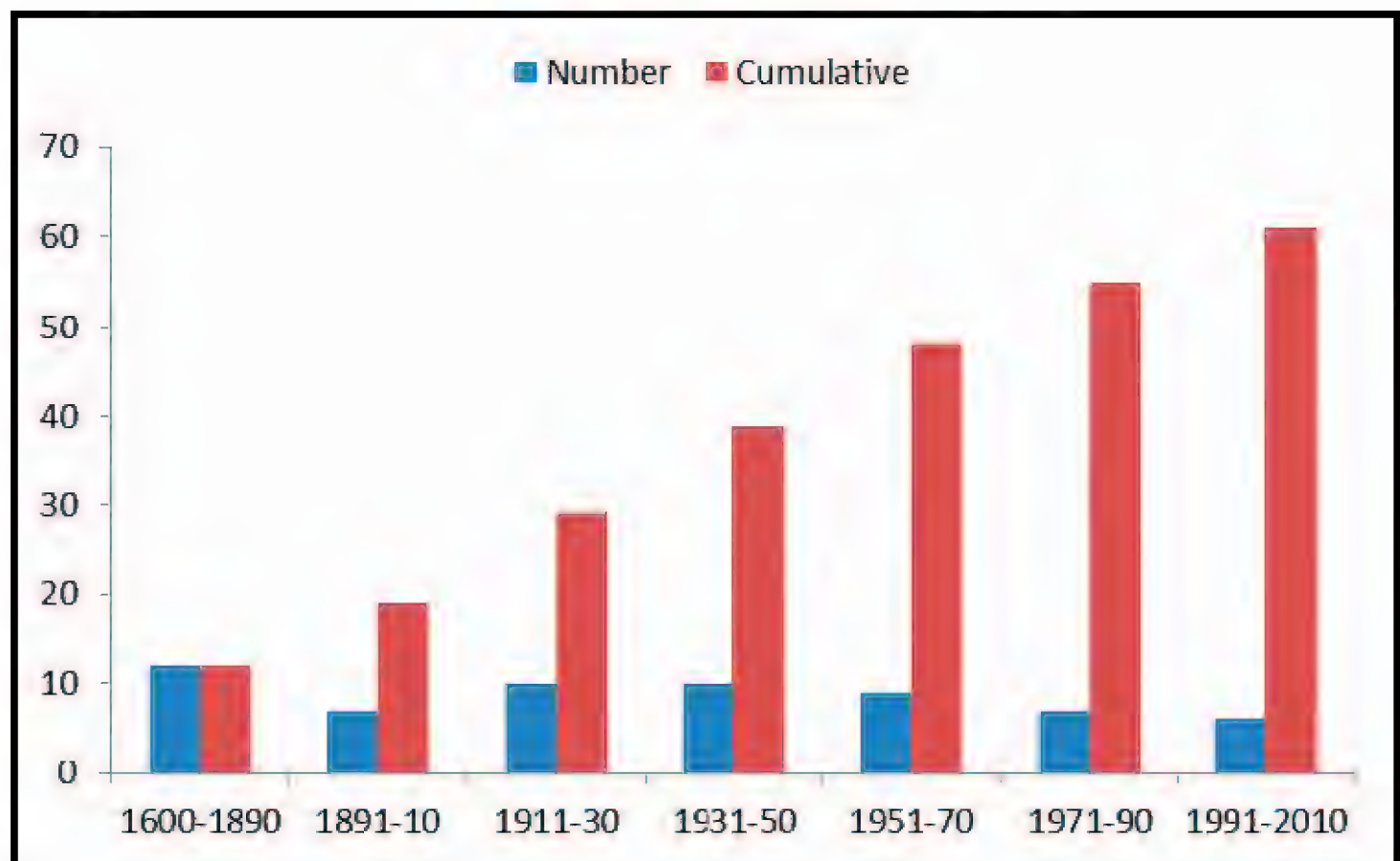
Most of the remaining 57 adventive species found on this continent prior to the xx Century have probably been introduced with bulk rock, bricks, mortar and no doubt soil taken aboard sailing vessels as ballast and dump ashore on this continent (Brown 1940a; Lindroth 1957c). In the xx Century, species have been introduced into North America likely through shipments of nursery stock, within the soil bagged around the roots, as suggested by Kavanaugh and Erwin (1985), Spence and Spence (1988: 166), and Bousquet (1992a). Despite that quarantine regulations were established in the 1960s for the importation of nursery stock, additional species still continue to land and become established on this continent (Fig. 1). The most recent one is *Nebria brevicollis* in the Willamette Valley in northwestern Oregon (Kavanaugh and LaBonte 2008).

All but four of the adventive species, other than those introduced with stored food products, occur naturally in Europe and their North American populations likely originated from that continent and particularly from southwestern England (Lindroth 1957c: 172). *Clivina vespertina* and *Tetragonoderus laevigatus* are native to South America (Nichols 1985b: 380; Shpeley and Ball 2008) while *Metacolpodes buchanani* (see Habu 1978: 125) and *Mochtherus tetraspilotus* (see Habu 1982: 87) are native to Asia.

As far as known, none of the adventive species of carabids found in North America are invasive in that they threaten ecosystems, habitats, or even native species.

Figure 1 illustrates the arrival of adventive species in North America through time based on the collecting date of the first inventoried specimen. The rate of arrival has been steady in the xx Century.

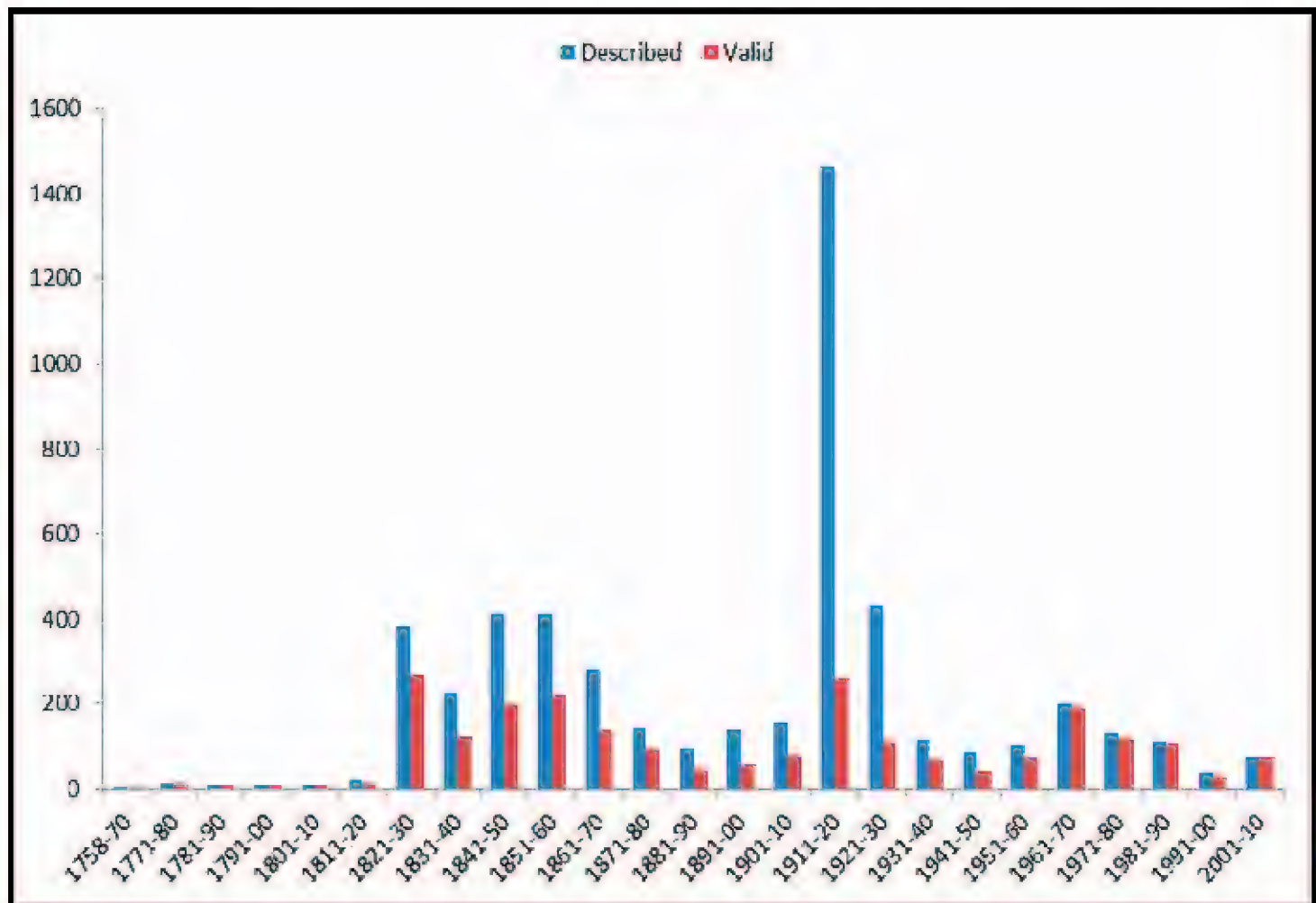
**Native species.** The known North American fauna contains 2,612 native species-group taxa (2,375 species), of which 2,071 are endemic (79.3%). Among the 541 non-



**Figure 1.** Number of adventive species of Geadephaga established in North America through time.

endemic species-group taxa, 98 (3.7% of the entire native fauna) are Holarctic and 446 (17.1%) extend south of North America as defined in this catalogue.

The number of 2,612 native species-group taxa obviously does not give an accurate account of the size of the North American carabid fauna. Several factors are involved. First, 65 species-group taxa described by Casey have not been treated subsequently. Considering that only 13.1% of Casey's North American species-group taxa subsequently treated are currently valid, I estimate that about 50 of the remaining Casey taxa will eventually be synonymized. This would bring the number of valid Nearctic species-group taxa to about 2,560 (2,325 species). Second, several genus-group taxa have not been revised in "modern times" and obviously the number of valid species-group taxa will change. The following generic taxa are those that need revisions: *Clivina* Latreille (except *Antroforceps*), *Paraclivina* Kult, *Elaphropus* Motschulsky, *Tachys* Dejean, *Poecilus* Bonelli, *Hypherpes* Chaudoir, *Stenocellus* Casey, *Selenophorus* Dejean, *Discoderus* LeConte, *Olisthopus* Dejean, *Pinacodera* Schaum, *Apristus* Chaudoir, *Axinopalpus* LeConte, *Zuphium* Latreille, *Pseudaptinus* Laporte, and *Pseudomorpha* Kirby. Third, many species-group taxa are known but still undescribed. For example, Barr (2004: 1) reported that he was aware of 80 undescribed species of *Pseudanophthalmus*. Fourth, through modern techniques, such as DNA sequences, several "species" will probably be found to be a complex of two or more species. For example, Maddison (2008) found out that Lindroth's (1963b) concept of *Bembidion chalconeum* and *B. honestum* was a complex of seven species. Finally, there is no doubt that many species remain to be discovered in North America, especially in peculiar habitats, such as caves, burrows, and deep litter.



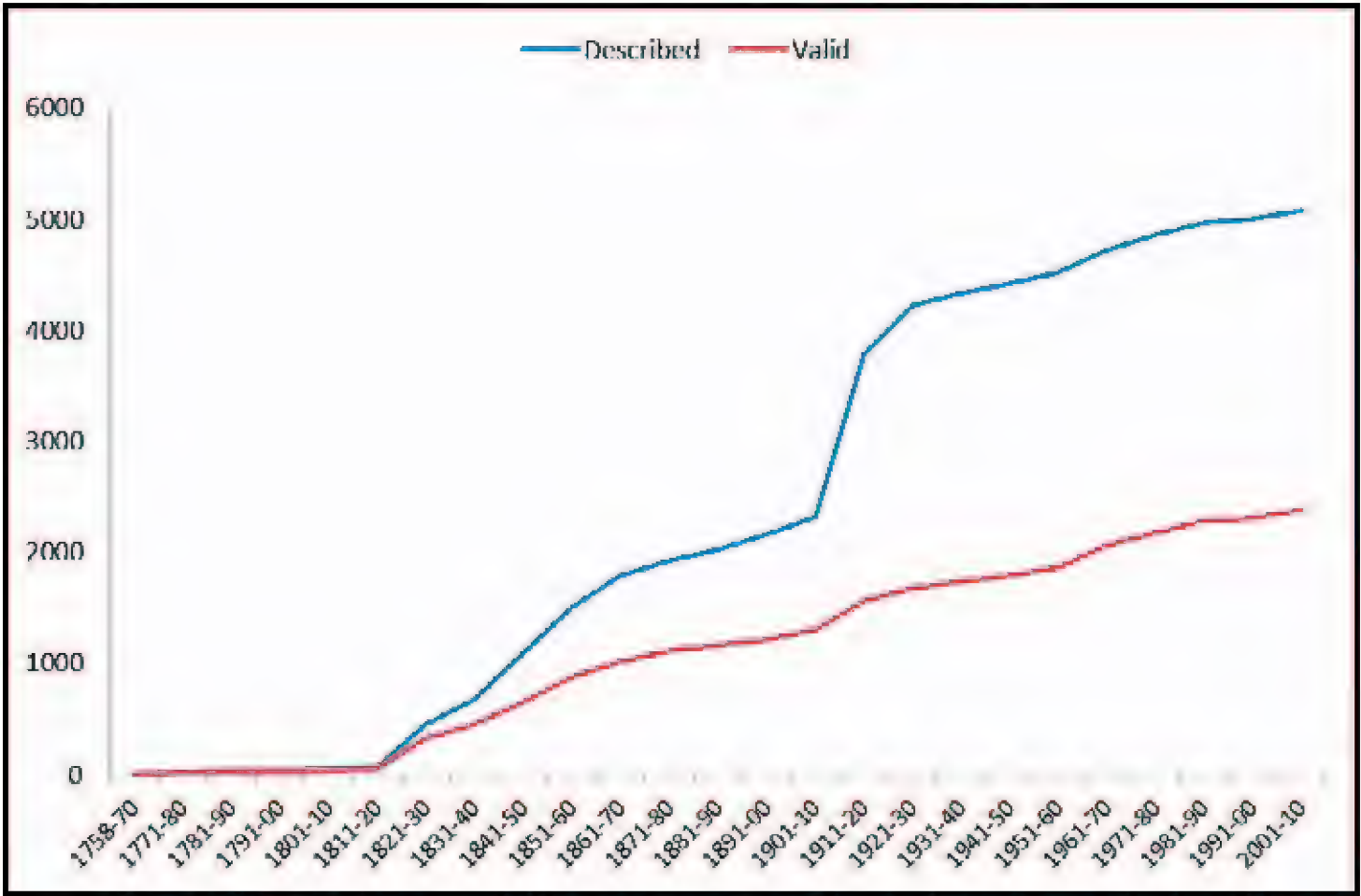
**Figure 2.** Number of North American species-group taxa of Geadephaga described and currently valid, by decade.

Figure 2 illustrates through decades the number of North American species-group taxa described and the number of those regarded as valid today based on the present catalogue. It shows that the periods between 1821-1880, 1911-1930, and 1961-1990 have been the most prolific. The first one, 1821-1880, can be associated with the works of John L. LeConte (724 geadephagan species-group taxa described), Count Dejean (289 taxa), Thomas Say (164 taxa), Baron de Chaudoir (126 taxa), and Victor Motschulsky (121 taxa). The second period, 1911-1930, relates of course to the work of Colonel Casey. By the time of his last publication in 1924, Casey had described 1,864 species-group taxa of carabids based on North American specimens while the number of taxa proposed by all authors combined since Linnaeus amounted to 2,288. The third one, 1961-1990, is connected to the magnificent work of Carl H. Lindroth (76 taxa) on the Carabidae of Canada and Alaska, the work of Thomas Barr (147 taxa) on the cave fauna, and the leadership of George Ball who, besides his own research, directed many students.

Figure 3 shows the growth, through time, of the number of species-group taxa described from North American specimens and those still considered valid. Taking into consideration the trend of description of species-group taxa still valid, the number of native species-group taxa should be slightly over 3,000 by the year 2060.

**Political regions.** Table 5 gives statistics regarding the number of geadephagan species-group taxa for each political region covered in this catalogue.





**Figure 3.** Cumulative number of species-group taxa of Geadephaga described and currently valid, by decade.

**Table 5.** Species-group taxon statistics for political regions.

Political regions	NbNT	NbAD	%NF	RANK
Alabama	439	4	16.8	22
Alaska	248	2	09.5	56
Alberta	405	11	15.5	32
Arizona	502	3	19.2	9
Arkansas	403	4	15.5	33
British Columbia	479	28	18.3	12
California	646	12	24.7	2
Colorado	450	3	17.2	20
Connecticut	383	23	14.7	39
Delaware	201	5	07.7	59
District of Columbia	337	6	12.9	48
Florida	383	8	14.7	39
Georgia	478	3	18.3	14
Greenland	4	0	0.2	66
Idaho	338	10	12.9	47
Illinois	504	9	19.3	8
Indiana	479	9	18.3	12
Iowa	431	9	16.5	25
Kansas	408	4	15.6	30
Kentucky	371	2	14.2	42
Labrador	91	4	03.5	63
Louisiana	399	4	15.3	34

Political regions	NbNT	NbAd	%NF	RANK
Maine	383	27	14.7	39
Manitoba	370	6	14.1	43
Maryland	408	9	15.5	30
Massachusetts	426	27	16.3	27
Michigan	474	15	18.2	16
Minnesota	419	10	16.0	28
Mississippi	439	5	16.8	22
Missouri	396	5	15.1	36
Montana	358	6	13.6	45
Nebraska	358	4	13.7	45
Nevada	239	3	09.2	57
New Brunswick	302	30	11.6	52
Newfoundland	151	27	05.8	61
New Hampshire	429	25	16.4	26
New Jersey	456	10	17.5	18
New Mexico	454	0	17.3	19
New York	528	21	20.2	4
North Carolina	536	4	20.4	3
North Dakota	275	4	10.5	54
Northwest Territories	218	1	08.3	58
Nova Scotia	258	35	09.8	55
Nunavut	34	0	01.3	65
Ohio	499	16	19.1	11
Oklahoma	387	2	14.8	37
Ontario	510	21	19.5	6
Oregon	478	22	18.2	14
Pennsylvania	500	19	19.1	10
Prince Edward Island	144	29	05.5	62
Quebec	446	32	17.1	21
Rhode Island	300	17	11.5	53
Saint Pierre and Miquelon	50	15	01.9	64
Saskatchewan	336	6	12.9	49
South Carolina	414	4	15.8	29
South Dakota	384	4	14.7	38
Tennessee	506	2	19.3	7
Texas	693	1	26.5	1
Utah	323	5	12.4	50
Vermont	397	21	15.2	35
Virginia	520	11	19.9	5
Washington	440	24	16.8	22
West Virginia	367	7	14.1	44
Wisconsin	463	16	17.7	17
Wyoming	309	4	11.8	51
Yukon Territory	201	0	07.7	59

NbNT = Number of native species-group taxa

NbAd = Number of adventive species-group taxa

%NF = % of the native North American fauna

Texas (693 native species-group taxa), California (646 taxa), North Carolina (536 taxa), New York (528 taxa), and Virginia (520 taxa) have the highest number of native taxa recorded and Greenland (4 native taxa), Nunavut (34 taxa), Saint Pierre and Miquelon (50 taxa), Labrador (91 taxa), and Prince Edward Island (144 taxa) the lowest. Are these numbers representative of the relative sizes of the regions? Only to some extent. Some regions, for example Nunavut and Labrador, have been much less surveyed than others like Newfoundland proper. The geadephagan fauna of most states are still inadequately known. In the past 50 years, only Maine (Majka et al. 2011; Bousquet 2010a), New Hampshire and Vermont (Bousquet 2010a), Wisconsin (Messer 2010), Rhode Island (Sikes 2004), Connecticut (Krinsky and Oliver 2001), South Carolina (Ciegler 2000), Florida (Peck and Thomas 1998), South Dakota (Kirk and Balsbaugh 1975), and Alaska (Lindroth 1961-1969) have been the subject of faunistic assessments (see Table 3). Several states never had a checklist of their geadephagan fauna published.

**Table 6.** Checklists and taxonomic treatments on Geadephaga for North American political regions.

Political regions	References
Alabama	Löding (1945)
Alaska	Hamilton (1894a); Lindroth (1961-1969); Bousquet (1991b)
Alberta	Lindroth (1961-1969); Bousquet (1991b)
British Columbia	Hatch (1953); Lindroth (1961-1969); Bousquet (1991b)
Colorado	Wickham (1902)
Connecticut	Britton (1920); Krinsky and Oliver (2001)
District of Columbia	Ulke (1902)
Florida	Schwarz (1878); Leng (1915); Choate (1990); Peck and Thomas (1998)
Georgia	Fattig (1949)
Greenland	Henriksen (1939); Böcher (1988)
Idaho	Hatch (1953)
Indiana	Blatchley (1910)
Iowa	Wickham (1911b); Jaques and Redlinger (1946)
Kansas	Popenoe (1877)
Labrador	Sherman (1910); Lindroth (1961-1969); Bousquet (1991b); Bousquet (2010a)
Maine	Bousquet (2010a); Majka et al. (2011)
Manitoba	Lindroth (1961-1969); Bousquet (1991b)
Massachusetts	Harris (1833); Harris (1835)
New Brunswick	Lindroth (1961-1969); Bousquet (1991b); Majka et al. (2007); Bousquet (2010a)
Newfoundland	Lindroth (1955a); Lindroth (1961-1969); Bousquet (1991b); Bousquet (2010a)
New Hampshire	Bousquet (2010a)
New Jersey	Smith (1890); Smith (1900); Smith (1910)
New Mexico	Fall and Cockerell (1907)
New York	Notman (1928)
North Carolina	Brimley (1938)
Northwest Territories	Lindroth (1961-1969); Bousquet (1991b)
Nova Scotia	Lindroth (1961-1969); Lindroth (1954c); Bousquet (1991b); Majka et al. (2007); Bousquet (2010a)



Political regions	References
Ontario	Lindroth (1961-1969); Bousquet (1991 <i>b</i> )
Oregon	Hatch (1953)
Prince Edward Island	Lindroth (1961-1969); Bousquet (1991 <i>b</i> ); Majka <i>et al.</i> (2007); Majka <i>et al.</i> (2008); Bousquet (2010 <i>a</i> )
Quebec	Chagnon (1917); Lindroth (1961-1969); Larochelle (1975); Larochelle (1976); Larochelle (1979); Bousquet (1991 <i>b</i> ); Laplante <i>et al.</i> (1991); Bousquet (2010 <i>a</i> )
Rhode Island	Davis (1904); Sikes (2004)
Saint Pierre and Miquelon	Lindroth (1955 <i>a</i> ); Roux (1984); Bousquet (2010 <i>a</i> )
Saskatchewan	Lindroth (1961-1969); Bousquet (1991 <i>b</i> )
South Carolina	Kirk (1969 and 1970); Ciegler (2000)
South Dakota	Kirk and Balsbaugh (1975)
Vermont	Bousquet (2010 <i>a</i> )
Washington	Hatch (1939 <i>b</i> ); Hatch (1953)
Wisconsin	Messer (2010)
Yukon Territory	Lindroth (1961-1969); Bousquet (1991 <i>b</i> ); Ball and Currie (1997)

## List of North American valid species-group taxa<sup>6</sup>

### TRACHYPACHINI

- Trachypachus gibbsii* LeConte, 1861  
*Trachypachus inermis* Motschulsky, 1850  
*Trachypachus slevini* Van Dyke, 1925

### CLINIDIINI

- Clinidium* (*Arctoclinidium*) *apertum allegheniense* Bell & Bell, 1975  
*Clinidium* (*Arctoclinidium*) *apertum apertum* Reitter, 1880  
*Clinidium* (*Arctoclinidium*) *baldufi* Bell, 1970  
*Clinidium* (*Arctoclinidium*) *calcaratum* LeConte, 1875  
*Clinidium* (*Arctoclinidium*) *rosenbergi* Bell, 1970  
*Clinidium* (*Arctoclinidium*) *sculptile* (Newman, 1838)  
*Clinidium* (*Arctoclinidium*) *valentinei* Bell, 1970

### OMOGLYMMIINI

- Omoglymmius* (*Boreoglymmius*) *americanus* (Laporte, 1836)  
*Omoglymmius* (*Boreoglymmius*) *hamatus* (LeConte, 1875)

### PELOPHILINI

- Pelophila borealis* (Paykull, 1790)‡  
*Pelophila rudis* (LeConte, 1863)

### OPISTHIINI

- Opisthius richardsoni* Kirby, 1837

### NEBRIINI

- Leistus* (*Leistus*) *ferrugineus* (Linnaeus, 1758)†  
*Leistus* (*Neoleistus*) *ferruginosus* Mannerheim, 1843  
*Leistus* (*Neoleistus*) *longipennis* Casey, 1920  
*Leistus* (*Neoleistus*) *madmeridianus* Erwin, 1970  
*Nippononebria* (*Vancouveria*) *altisierrae* (Kavanaugh, 1984)  
*Nippononebria* (*Vancouveria*) *campbelli* (Kavanaugh, 1984)  
*Nippononebria* (*Vancouveria*) *virescens* (Horn, 1870)  
*Nebria* (*Boreonebria*) *bellorum* Kavanaugh, 1979  
*Nebria* (*Boreonebria*) *crassicornis crassicornis* Van Dyke, 1925  
*Nebria* (*Boreonebria*) *crassicornis intermedia* Van Dyke, 1949  
*Nebria* (*Boreonebria*) *frigida* Sahlberg, 1844‡  
*Nebria* (*Boreonebria*) *gouleti* Kavanaugh, 1979

<sup>6</sup> † = adventive species in North America; ‡ = Holarctic species. The species list is alphabetic within the subgenera and does not necessary follow the catalogue listing.

- Nebria* (*Boreonebria*) *gyllenhali castanipes* (Kirby, 1837)  
*Nebria* (*Boreonebria*) *gyllenhali lassenensis* Kavanaugh, 1979  
*Nebria* (*Boreonebria*) *gyllenhali lindrothi* Kavanaugh, 1979  
*Nebria* (*Boreonebria*) *hudsonica* LeConte, 1863  
*Nebria* (*Boreonebria*) *lacustris* Casey, 1913  
*Nebria* (*Boreonebria*) *nivalis gaspesiana* Kavanaugh, 1979  
*Nebria* (*Boreonebria*) *nivalis nivalis* (Paykull, 1790)‡  
*Nebria* (*Nakanebria*) *paradisi* Darlington, 1931  
*Nebria* (*Nakanebria*) *turmaduodecima* Kavanaugh, 1981  
*Nebria* (*Reductonebria*) *acuta acuta* Lindroth, 1961  
*Nebria* (*Reductonebria*) *acuta quileute* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *acuta sonora* Kavanaugh, 1981  
*Nebria* (*Reductonebria*) *appalachia* Darlington, 1932  
*Nebria* (*Reductonebria*) *arkansana arkansana* Casey, 1913  
*Nebria* (*Reductonebria*) *arkansana edwardsi* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *arkansana fragilis* Casey, 1924  
*Nebria* (*Reductonebria*) *arkansana oowah* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *charlottae* Lindroth, 1961  
*Nebria* (*Reductonebria*) *danmanni* Kavanaugh, 1981  
*Nebria* (*Reductonebria*) *darlingtoni* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *desolata* Kavanaugh, 1971  
*Nebria* (*Reductonebria*) *diversa* LeConte, 1863  
*Nebria* (*Reductonebria*) *eschsoltzii* Ménétriés, 1843  
*Nebria* (*Reductonebria*) *georgei* Kavanaugh, 2008  
*Nebria* (*Reductonebria*) *gregaria* Fischer von Waldheim, 1820  
*Nebria* (*Reductonebria*) *haida* Kavanaugh, 1984  
*Nebria* (*Reductonebria*) *jeffreyi* Kavanaugh, 1984  
*Nebria* (*Reductonebria*) *lituyae* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *louiseae* Kavanaugh, 1984  
*Nebria* (*Reductonebria*) *lyelli* Van Dyke, 1925  
*Nebria* (*Reductonebria*) *mannerheimii* Fischer von Waldheim, 1828  
*Nebria* (*Reductonebria*) *navajo* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *obliqua chuskae* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *obliqua obliqua* LeConte, 1867  
*Nebria* (*Reductonebria*) *pallipes* Say, 1823  
*Nebria* (*Reductonebria*) *sahlbergii modoc* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *sahlbergii sahlbergii* Fischer von Waldheim, 1828  
*Nebria* (*Reductonebria*) *sahlbergii triad* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *suturalis* LeConte, 1850  
*Nebria* (*Reductonebria*) *wallowae* Kavanaugh, 1984  
*Nebria* (*Reductonebria*) *zioni oasis* Kavanaugh, 1979  
*Nebria* (*Reductonebria*) *zioni zioni* Van Dyke, 1943  
*Nebria* (*Catonebria*) *calva* Kavanaugh, 1984



*Nebria* (*Catonebria*) *carri* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *catenata* Casey, 1913  
*Nebria* (*Catonebria*) *coloradensis* Van Dyke, 1943  
*Nebria* (*Catonebria*) *gebleri albimontis* Kavanaugh, 1984  
*Nebria* (*Catonebria*) *gebleri cascadiensis* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *gebleri fragariae* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *gebleri gebleri* Dejean, 1831  
*Nebria* (*Catonebria*) *gebleri rathvoni* LeConte, 1853  
*Nebria* (*Catonebria*) *gebleri siskiyouensis* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *ingens ingens* Horn, 1870  
*Nebria* (*Catonebria*) *ingens riversi* Van Dyke, 1925  
*Nebria* (*Catonebria*) *kincaidi balli* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *kincaidi kincaidi* Schwarz, 1900  
*Nebria* (*Catonebria*) *labonteii* Kavanaugh, 1984  
*Nebria* (*Catonebria*) *meanyi giulianii* Kavanaugh, 1981  
*Nebria* (*Catonebria*) *meanyi lamarckensis* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *meanyi meanyi* Van Dyke, 1925  
*Nebria* (*Catonebria*) *meanyi sylvatica* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *metallica* Fischer von Waldheim, 1820  
*Nebria* (*Catonebria*) *ovipennis* LeConte, 1878  
*Nebria* (*Catonebria*) *piperi* Van Dyke, 1925  
*Nebria* (*Catonebria*) *piute piute* Erwin & Ball, 1972  
*Nebria* (*Catonebria*) *piute sevieri* Kavanaugh, 1984  
*Nebria* (*Catonebria*) *piute utahensis* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *praedicta* Kavanaugh & Schoville, 2009  
*Nebria* (*Catonebria*) *purpurata* LeConte, 1878  
*Nebria* (*Catonebria*) *schwarzi beverlianna* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *schwarzi schwarzi* Van Dyke, 1925  
*Nebria* (*Catonebria*) *sierrablancae* Kavanaugh, 1984  
*Nebria* (*Catonebria*) *spatulata sierrae* Kavanaugh, 1979  
*Nebria* (*Catonebria*) *spatulata spatulata* Van Dyke, 1925  
*Nebria* (*Catonebria*) *steensensis* Kavanaugh, 1984  
*Nebria* (*Catonebria*) *trifaria pasquineli* Kavanaugh, 1984  
*Nebria* (*Catonebria*) *trifaria trifaria* LeConte, 1878  
*Nebria* (*Catonebria*) *vandykei vandykei* Bänninger, 1928  
*Nebria* (*Catonebria*) *vandykei weast* Kavanaugh, 1979  
*Nebria* (*Nebria*) *brevicollis* (Fabricius, 1792)†

## NOTIOPHILINI

*Notiophilus aeneus* (Herbst, 1806)  
*Notiophilus aquaticus* (Linnaeus, 1758)‡  
*Notiophilus biguttatus* (Fabricius, 1779)†  
*Notiophilus borealis* Harris, 1869‡

*Notiophilus directus* Casey, 1920  
*Notiophilus intermedius* Lindroth, 1955  
*Notiophilus nemoralis* Fall, 1906  
*Notiophilus nitens* LeConte, 1857  
*Notiophilus novemstriatus* LeConte, 1847  
*Notiophilus palustris* (Duftschmid, 1812)†  
*Notiophilus semiopacus* Eschscholtz, 1833  
*Notiophilus semistriatus* Say, 1823‡  
*Notiophilus sierranus* Casey, 1920  
*Notiophilus simulator* Fall, 1906  
*Notiophilus sylvaticus* Dejean, 1831

#### CYCHRINI

*Sphaeroderus bicarinatus* (LeConte, 1853)  
*Sphaeroderus canadensis canadensis* Chaudoir, 1861  
*Sphaeroderus canadensis lengi* Darlington, 1933  
*Sphaeroderus indianae* (Blatchley, 1910)  
*Sphaeroderus nitidicollis* Guérin-Méneville, 1829  
*Sphaeroderus schaumii* Chaudoir, 1861  
*Sphaeroderus stenostomus lecontei* Dejean, 1826  
*Sphaeroderus stenostomus stenostomus* (Weber, 1801)  
*Cychrus hemphillii hemphillii* Horn, 1879  
*Cychrus hemphillii rickseckeri* LeConte, 1884  
*Cychrus tuberculatus* Harris, 1839  
*Scaphinotus* (*Scaphinotus*) *elevatus coloradensis* Van Dyke, 1907  
*Scaphinotus* (*Scaphinotus*) *elevatus elevatus* (Fabricius, 1787)  
*Scaphinotus* (*Scaphinotus*) *elevatus flammeus* Haldeman, 1844  
*Scaphinotus* (*Scaphinotus*) *elevatus lengi* Van Dyke, 1938  
*Scaphinotus* (*Scaphinotus*) *elevatus neomexicanus* Van Dyke, 1924  
*Scaphinotus* (*Scaphinotus*) *elevatus tenebricosus* Roeschke, 1907  
*Scaphinotus* (*Scaphinotus*) *kelloggi* (Dury, 1912)  
*Scaphinotus* (*Scaphinotus*) *parisiana* Allen & Carlton, 1988  
*Scaphinotus* (*Scaphinotus*) *petersi biedermani* Roeschke, 1907  
*Scaphinotus* (*Scaphinotus*) *petersi catalinae* Van Dyke, 1924  
*Scaphinotus* (*Scaphinotus*) *petersi corvus* (Fall, 1910)  
*Scaphinotus* (*Scaphinotus*) *petersi grahami* Van Dyke, 1938  
*Scaphinotus* (*Scaphinotus*) *petersi kathleenae* Ball, 1966  
*Scaphinotus* (*Scaphinotus*) *petersi petersi* Roeschke, 1907  
*Scaphinotus* (*Scaphinotus*) *snowi roeschkei* Van Dyke, 1907  
*Scaphinotus* (*Scaphinotus*) *snowi snowi* (LeConte, 1881)  
*Scaphinotus* (*Scaphinotus*) *unicolor* (Fabricius, 1787)  
*Scaphinotus* (*Scaphinotus*) *vandykei* Roeschke, 1907  
*Scaphinotus* (*Irichroa*) *irregularis* (Beutenmüller, 1903)

- Scaphinotus (Irichroa) viduus* (Dejean, 1826)  
*Scaphinotus (Irichroa) webbi* Bell, 1959  
*Scaphinotus (Nomaretus) bilobus* (Say, 1823)  
*Scaphinotus (Nomaretus) cavicollis* (LeConte, 1859)  
*Scaphinotus (Nomaretus) fissicollis* (LeConte, 1853)  
*Scaphinotus (Nomaretus) infletus* Allen & Carlton, 1988  
*Scaphinotus (Nomaretus) liebecki* Van Dyke, 1936  
*Scaphinotus (Maronetus) debilis alpinus* (Beutenmüller, 1903)  
*Scaphinotus (Maronetus) debilis debilis* (LeConte, 1853)  
*Scaphinotus (Maronetus) hoffmani* (Barr, 2009)  
*Scaphinotus (Maronetus) hubbardi* (Schwarz, 1895)  
*Scaphinotus (Maronetus) imperfectus* (Horn, 1861)  
*Scaphinotus (Maronetus) incompletus* (Schwarz, 1895)  
*Scaphinotus (Maronetus) reichlei* (Barr, 2009)  
*Scaphinotus (Maronetus) schwarzi* (Beutenmüller, 1913)  
*Scaphinotus (Maronetus) tenuis* (Casey, 1914)  
*Scaphinotus (Maronetus) unistriatus* (Darlington, 1932)  
*Scaphinotus (Steniridia) aeneicollis* (Beutenmüller, 1903)  
*Scaphinotus (Steniridia) andrewsii amplicollis* (Casey, 1920)  
*Scaphinotus (Steniridia) andrewsii andrewsii* (Harris, 1839)  
*Scaphinotus (Steniridia) andrewsii darlingtoni* (Valentine, 1935)  
*Scaphinotus (Steniridia) andrewsii germari* (Chaudoir, 1861)  
*Scaphinotus (Steniridia) andrewsii mutabilis* (Casey, 1920)  
*Scaphinotus (Steniridia) andrewsii parvitarsalis* (Valentine, 1935)  
*Scaphinotus (Steniridia) andrewsii waldensius* (Valentine, 1935)  
*Scaphinotus (Steniridia) guyotii* (LeConte, 1863)  
*Scaphinotus (Steniridia) lodingi lodingi* (Valentine, 1935)  
*Scaphinotus (Steniridia) lodingi obscurus* (Valentine, 1935)  
*Scaphinotus (Steniridia) ridingsii monongahelae* Leng, 1917  
*Scaphinotus (Steniridia) ridingsii ridingsii* (Bland, 1863)  
*Scaphinotus (Steniridia) tricarinatus* (Casey, 1914)  
*Scaphinotus (Steniridia) violaceus* (LeConte, 1863)  
*Scaphinotus (Pseudonomaretus) mannii* Wickham, 1919  
*Scaphinotus (Pseudonomaretus) merkelii* (Horn, 1890)  
*Scaphinotus (Pseudonomaretus) regularis* (LeConte, 1884)  
*Scaphinotus (Pseudonomaretus) relictus* (Horn, 1881)  
*Scaphinotus (Stenocantharus) angusticollis* (Mannerheim, 1823)  
*Scaphinotus (Stenocantharus) hatchi* Beer, 1971  
*Scaphinotus (Stenocantharus) johnsoni* Van Dyke, 1924  
*Scaphinotus (Stenocantharus) velutinus* (Ménétriés, 1843)  
*Scaphinotus (Brennus) bullatus* Van Dyke, 1924  
*Scaphinotus (Brennus) cordatus* (LeConte, 1853)  
*Scaphinotus (Brennus) crenatus* (Motschulsky, 1859)



- Scaphinotus (Brennus) cristatus* (Harris, 1839)  
*Scaphinotus (Brennus) interruptus* (Ménétriés, 1843)  
*Scaphinotus (Brennus) marginatus* (Fischer von Waldheim, 1820)  
*Scaphinotus (Brennus) obliquus* (LeConte, 1868)  
*Scaphinotus (Brennus) oreophilus* (Rivers, 1890)  
*Scaphinotus (Brennus) punctatus* (LeConte, 1859)  
*Scaphinotus (Brennus) riversi* (Roeschke, 1907)  
*Scaphinotus (Brennus) rugiceps incipiens* (Casey, 1897)  
*Scaphinotus (Brennus) rugiceps rugiceps* (Horn, 1872)  
*Scaphinotus (Brennus) striatopunctatus* (Chaudoir, 1844)  
*Scaphinotus (Brennus) subtilis* (Schaum, 1863)  
*Scaphinotus (Brennus) ventricosus* (Dejean, 1831)  
*Scaphinotus (Neocyclus) angulatus* (Harris, 1839)  
*Scaphinotus (Neocyclus) behrensi* (Roeschke, 1907)  
*Scaphinotus (Neocyclus) longiceps* Van Dyke, 1924

#### CARABINI

- Calosoma (Castrida) sayi* Dejean, 1826  
*Calosoma (Calosoma) frigidum* Kirby, 1837  
*Calosoma (Calosoma) sycophanta* (Linnaeus, 1758)†  
*Calosoma (Calodrepa) aurocinctum* Chaudoir, 1850  
*Calosoma (Calodrepa) scrutator* (Fabricius, 1775)  
*Calosoma (Calodrepa) splendidum* Dejean, 1831  
*Calosoma (Calodrepa) wilcoxi* LeConte, 1847  
*Calosoma (Camegonia) marginale* Casey, 1897  
*Calosoma (Camegonia) parvicolle* Fall, 1910  
*Calosoma (Camegonia) prominens* LeConte, 1853  
*Calosoma (Carabosoma) angulatum* Chevrolat, 1834  
*Calosoma (Carabosoma) eremicola* Fall, 1910  
*Calosoma (Carabosoma) peregrinator* Guérin-Méneville, 1844  
*Calosoma (Carabosoma) sponsa* Casey, 1897  
*Calosoma (Callitropa) externum* (Say, 1823)  
*Calosoma (Callitropa) macrum* LeConte, 1853  
*Calosoma (Callitropa) protractum* LeConte, 1862  
*Calosoma (Blaptosoma) haydeni haydeni* Horn, 1870  
*Calosoma (Blaptosoma) haydeni punctulicolle* Bates, 1891  
*Calosoma (Chrysostigma) affine* Chaudoir, 1843  
*Calosoma (Chrysostigma) calidum* (Fabricius, 1775)  
*Calosoma (Chrysostigma) cancellatum* Eschscholtz, 1833  
*Calosoma (Chrysostigma) lepidum* LeConte, 1845  
*Calosoma (Chrysostigma) morrisonii* Horn, 1885  
*Calosoma (Chrysostigma) obsoletum* Say, 1823  
*Calosoma (Chrysostigma) semilaeve* LeConte, 1852

- Calosoma* (*Chrysostigma*) *simplex* LeConte, 1878  
*Calosoma* (*Chrysostigma*) *tepidum* LeConte, 1852  
*Calosoma* (*Callistenia*) *dawsoni* (Dajoz, 1997)  
*Calosoma* (*Callistenia*) *dietzii* Schaeffer, 1904  
*Calosoma* (*Callistenia*) *discors* LeConte, 1857  
*Calosoma* (*Callistenia*) *lariversi* Van Dyke, 1943  
*Calosoma* (*Callistenia*) *latipenne* Horn, 1870  
*Calosoma* (*Callistenia*) *luxatum* Say, 1823  
*Calosoma* (*Callistenia*) *moniliatum* (LeConte, 1852)  
*Calosoma* (*Callistenia*) *monticola* Casey, 1897  
*Calosoma* (*Callistenia*) *oregonum* (Gidaspow, 1959)  
*Calosoma* (*Callistenia*) *placerum* (Gidaspow, 1959)  
*Calosoma* (*Callistenia*) *schaefferi* Breuning, 1928  
*Calosoma* (*Callistenia*) *subaeneum* Chaudoir, 1869  
*Calosoma* (*Callistenia*) *subasperatum* Schaeffer, 1915  
*Calosoma* (*Callistenia*) *wilkesii* (LeConte, 1852)  
*Carabus* (*Carabus*) *goryi* Dejean, 1831  
*Carabus* (*Carabus*) *granulatus granulatus* Linnaeus, 1758†  
*Carabus* (*Carabus*) *vinctus* (Weber, 1801)  
*Carabus* (*Diocarabus*) *chamissonis* Fischer von Waldheim, 1820  
*Carabus* (*Aulonocarabus*) *truncaticollis truncaticollis* Eschscholtz, 1833‡  
*Carabus* (*Homoeocarabus*) *maeander maeander* Fischer von Waldheim, 1820‡  
*Carabus* (*Hemicarabus*) *serratus* Say, 1823  
*Carabus* (*Archicarabus*) *nemoralis nemoralis* Müller, 1764†  
*Carabus* (*Tachypus*) *auratus auratus* Linnaeus, 1760†  
*Carabus* (*Tanaocarabus*) *finitimus* Haldeman, 1852  
*Carabus* (*Tanaocarabus*) *forreri forreri* Bates, 1882  
*Carabus* (*Tanaocarabus*) *sylvosus* Say, 1823  
*Carabus* (*Tanaocarabus*) *taedatus agassii* LeConte, 1850  
*Carabus* (*Tanaocarabus*) *taedatus bicanaliceps* Casey, 1920  
*Carabus* (*Tanaocarabus*) *taedatus rainieri* Van Dyke, 1945  
*Carabus* (*Tanaocarabus*) *taedatus taedatus* Fabricius, 1787  
*Carabus* (*Megodontus*) *vietinghoffii vietinghoffii* Adams, 1812‡

#### AMBLYCHEILINI

- Amblycheila baroni* Rivers, 1890  
*Amblycheila cylindriformis* (Say, 1823)  
*Amblycheila hoversoni* Gage, 1991  
*Amblycheila picolominii* Reiche, 1840  
*Amblycheila schwarzi* Horn, 1904  
*Omus audouini* Reiche, 1838  
*Omus californicus angustocylindricus* Horn, 1913  
*Omus californicus californicus* Eschscholtz, 1829

- Omus californicus intermedius* Leng, 1902  
*Omus californicus subcylindricus* Nunenmacher, 1940  
*Omus cazieri* van den Berghe, 1994  
*Omus dejeanii* Reiche, 1838  
*Omus submetallicus* Horn, 1869

**MEGACEPHALINI**

- Tetracha* (*Tetracha*) *carolina carolina* (Linnaeus, 1763)  
*Tetracha* (*Tetracha*) *floridana* Leng & Mutchler, 1916  
*Tetracha* (*Tetracha*) *virginica* (Linnaeus, 1767)  
*Tetracha* (*Neotetracha*) *impressa* (Chevrolat, 1841)

**CICINDELINI**

- Cylindera* (*Cylindera*) *celeripes* (LeConte, 1846)  
*Cylindera* (*Cylindera*) *cursitans* (LeConte, 1856)  
*Cylindera* (*Cylindera*) *debilis* (Bates, 1890)  
*Cylindera* (*Cylindera*) *lemniscata lemniscata* (LeConte, 1854)  
*Cylindera* (*Cylindera*) *lemniscata rebaptisata* (Vaurie, 1951)  
*Cylindera* (*Cylindera*) *lunalonga* (Schaupp, 1884)  
*Cylindera* (*Cylindera*) *terricola cinctipennis* (LeConte, 1846)  
*Cylindera* (*Cylindera*) *terricola continua* (Knaus, 1923)  
*Cylindera* (*Cylindera*) *terricola imperfecta* (LeConte, 1851)  
*Cylindera* (*Cylindera*) *terricola kaibabensis* (Johnson, 1990)  
*Cylindera* (*Cylindera*) *terricola susanagraeae* (Kippenhan, 2007)  
*Cylindera* (*Cylindera*) *terricola terricola* (Say, 1824)  
*Cylindera* (*Cylindera*) *unipunctata* (Fabricius, 1775)  
*Cylindera* (*Cylindera*) *viridisticta arizonensis* (Bates, 1884)  
*Ellipsoptera blanda* (Dejean, 1831)  
*Ellipsoptera cuprascens* (LeConte, 1852)  
*Ellipsoptera gratiosa* (Guérin-Méneville, 1840)  
*Ellipsoptera hamata lacerata* (Chaudoir, 1854)  
*Ellipsoptera hamata monti* (Vaurie, 1951)  
*Ellipsoptera hirtilabris* (LeConte, 1875)  
*Ellipsoptera lepida* (Dejean, 1831)  
*Ellipsoptera macra ampliata* (Vaurie, 1951)  
*Ellipsoptera macra fluviatilis* (Vaurie, 1951)  
*Ellipsoptera macra macra* (LeConte, 1856)  
*Ellipsoptera marginata* (Fabricius, 1775)  
*Ellipsoptera nevadica citata* (Rumpp, 1977)  
*Ellipsoptera nevadica knausii* (Leng, 1902)  
*Ellipsoptera nevadica lincolniiana* (Casey, 1916)  
*Ellipsoptera nevadica makosika* (Spomer, 2004)  
*Ellipsoptera nevadica nevadica* (LeConte, 1875)



- Ellipsoptera nevadica olmosa* (Vaurie, 1951)  
*Ellipsoptera nevadica tubensis* (Cazier, 1939)  
*Ellipsoptera puritana* (Horn, 1871)  
*Ellipsoptera rubicunda* (Harris, 1911)  
*Ellipsoptera sperata inquisitor* (Casey, 1897)  
*Ellipsoptera sperata sperata* (LeConte, 1856)  
*Ellipsoptera wapleri* (LeConte, 1875)  
*Microthylax olivaceus* (Chaudoir, 1854)  
*Opilidia chlorocephala smythi* (Harris, 1913)  
*Brasiella wickhami* (Horn, 1903)  
*Dromochorus belfragei* Sallé, 1877  
*Dromochorus pilatei* Guérin-Méneville, 1849  
*Dromochorus pruininus* Casey, 1897  
*Dromochorus velutinigrens* Johnson, 1992  
*Habroscelimorpha californica mojavi* (Cazier, 1937)  
*Habroscelimorpha californica pseudoerronea* (Rumpp, 1958)  
*Habroscelimorpha circumpicta circumpicta* (LaFerté-Sénéctère, 1841)  
*Habroscelimorpha circumpicta johnsonii* (Fitch, 1857)  
*Habroscelimorpha circumpicta pembina* (Johnson, 1993)  
*Habroscelimorpha dorsalis dorsalis* (Say, 1817)  
*Habroscelimorpha dorsalis media* (LeConte, 1856)  
*Habroscelimorpha dorsalis saulcyi* (Guérin-Méneville, 1840)  
*Habroscelimorpha dorsalis venusta* (LaFerté-Sénéctère, 1841)  
*Habroscelimorpha fulgoris albilata* (Acciavatti, 1981)  
*Habroscelimorpha fulgoris erronea* (Vaurie, 1951)  
*Habroscelimorpha fulgoris fulgoris* (Casey, 1913)  
*Habroscelimorpha gabbii* (Horn, 1867)  
*Habroscelimorpha pamphila* (LeConte, 1873)  
*Habroscelimorpha praetextata pallidofemora* (Acciavatti, 1981)  
*Habroscelimorpha praetextata praetextata* (LeConte, 1854)  
*Habroscelimorpha severa* (LaFerté-Sénéctère, 1841)  
*Habroscelimorpha striga* (LeConte, 1875)  
*Eunota togata fascinans* (Casey, 1914)  
*Eunota togata globicollis* (Casey, 1913)  
*Eunota togata togata* (LaFerté-Sénéctère, 1841)  
*Cicindela* (*Cicindelidia*) *abdominalis* Fabricius, 1801  
*Cicindela* (*Cicindelidia*) *amargosae amargosae* Dahl, 1939  
*Cicindela* (*Cicindelidia*) *amargosae nyensis* Rumpp, 1956  
*Cicindela* (*Cicindelidia*) *cazieri* Vogt, 1949  
*Cicindela* (*Cicindelidia*) *floridana* Cartwright, 1939  
*Cicindela* (*Cicindelidia*) *hemorrhagica arizonae* Wickham, 1899  
*Cicindela* (*Cicindelidia*) *hemorrhagica hemorrhagica* LeConte, 1851  
*Cicindela* (*Cicindelidia*) *highlandensis* Choate, 1984

- Cicindela* (*Cicindelidia*) *hornii hornii* Schaupp, 1883  
*Cicindela* (*Cicindelidia*) *marginipennis* Dejean, 1831  
*Cicindela* (*Cicindelidia*) *nigrocoerulea bowditchi* Leng, 1902  
*Cicindela* (*Cicindelidia*) *nigrocoerulea nigrocoerulea* LeConte, 1846  
*Cicindela* (*Cicindelidia*) *nigrocoerulea subtropica* Vogt, 1949  
*Cicindela* (*Cicindelidia*) *obsoleta neojuvenilis* Vogt, 1949  
*Cicindela* (*Cicindelidia*) *obsoleta obsoleta* Say, 1823  
*Cicindela* (*Cicindelidia*) *obsoleta santaclarae* Bates, 1890  
*Cicindela* (*Cicindelidia*) *obsoleta vulturina* LeConte, 1853  
*Cicindela* (*Cicindelidia*) *ocellata ocellata* Klug, 1834  
*Cicindela* (*Cicindelidia*) *ocellata rectilatera* Chaudoir, 1843  
*Cicindela* (*Cicindelidia*) *politula barbaraannae* Sumlin, 1976  
*Cicindela* (*Cicindelidia*) *politula petrophila* Sumlin, 1985  
*Cicindela* (*Cicindelidia*) *politula politula* LeConte, 1875  
*Cicindela* (*Cicindelidia*) *politula viridimonticola* Gage, 1988  
*Cicindela* (*Cicindelidia*) *punctulata chihuahuae* Bates, 1890  
*Cicindela* (*Cicindelidia*) *punctulata punctulata* Olivier, 1790  
*Cicindela* (*Cicindelidia*) *roseiventris tascosaensis* Davis, 1918  
*Cicindela* (*Cicindelidia*) *rufiventris cumatilis* LeConte, 1851  
*Cicindela* (*Cicindelidia*) *rufiventris hentzii* Dejean, 1831  
*Cicindela* (*Cicindelidia*) *rufiventris rufiventris* Dejean, 1825  
*Cicindela* (*Cicindelidia*) *scabrosa* Schaupp, 1884  
*Cicindela* (*Cicindelidia*) *schauppianii* Horn, 1876  
*Cicindela* (*Cicindelidia*) *sedecimpunctata sedecimpunctata* Klug, 1834  
*Cicindela* (*Cicindelidia*) *senilis* Horn, 1867  
*Cicindela* (*Cicindelidia*) *tenuisignata* LeConte, 1851  
*Cicindela* (*Cicindelidia*) *trifasciata ascendens* LeConte, 1851  
*Cicindela* (*Cicindelidia*) *trifasciata sigmoidea* LeConte, 1851  
*Cicindela* (*Cicindelidia*) *willistoni echo* Casey, 1897  
*Cicindela* (*Cicindelidia*) *willistoni estancia* Rumpff, 1962  
*Cicindela* (*Cicindelidia*) *willistoni funaroi* Rotger, 1972  
*Cicindela* (*Cicindelidia*) *willistoni hirtifrons* Willis, 1967  
*Cicindela* (*Cicindelidia*) *willistoni praedicta* Rumpff, 1956  
*Cicindela* (*Cicindelidia*) *willistoni pseudosenilis* Horn, 1900  
*Cicindela* (*Cicindelidia*) *willistoni sulfontis* Rumpff, 1977  
*Cicindela* (*Cicindelidia*) *willistoni willistoni* LeConte, 1879  
*Cicindela* (*Cicindela*) *albissima* Rumpff, 1962  
*Cicindela* (*Cicindela*) *ancocisconensis* Harris, 1852  
*Cicindela* (*Cicindela*) *arenicola* Rumpff, 1967  
*Cicindela* (*Cicindela*) *arida* Davis, 1928  
*Cicindela* (*Cicindela*) *bellissima bellissima* Leng, 1902  
*Cicindela* (*Cicindela*) *bellissima frechini* Leffler, 1979  
*Cicindela* (*Cicindela*) *columbica* Hatch, 1938

- Cicindela* (*Cicindela*) *decemnotata bonnevillensis* Knisley & Kippenhan, 2012  
*Cicindela* (*Cicindela*) *decemnotata decemnotata* Say, 1817  
*Cicindela* (*Cicindela*) *decemnotata meriwetheri* Knisley & Kippenhan, 2012  
*Cicindela* (*Cicindela*) *decemnotata montevolans* Knisley & Kippenhan, 2012  
*Cicindela* (*Cicindela*) *denikei* Brown, 1934  
*Cicindela* (*Cicindela*) *denverensis* Casey, 1897  
*Cicindela* (*Cicindela*) *depressula depressula* Casey, 1897  
*Cicindela* (*Cicindela*) *depressula eureka* Fall, 1901  
*Cicindela* (*Cicindela*) *duodecimguttata* Dejean, 1825  
*Cicindela* (*Cicindela*) *formosa formosa* Say, 1817  
*Cicindela* (*Cicindela*) *formosa generosa* Dejean, 1831  
*Cicindela* (*Cicindela*) *formosa gibsoni* Brown, 1940  
*Cicindela* (*Cicindela*) *formosa pigmentosignata* Horn, 1930  
*Cicindela* (*Cicindela*) *formosa rutilovirescens* Rumpff, 1986  
*Cicindela* (*Cicindela*) *fulgida fulgida* Say, 1823  
*Cicindela* (*Cicindela*) *fulgida pseudowillistoni* Horn, 1938  
*Cicindela* (*Cicindela*) *fulgida westbournei* Calder, 1922  
*Cicindela* (*Cicindela*) *hirticollis abrupta* Casey, 1913  
*Cicindela* (*Cicindela*) *hirticollis athabascensis* Graves, 1988  
*Cicindela* (*Cicindela*) *hirticollis coloradula* Graves, 1988  
*Cicindela* (*Cicindela*) *hirticollis corpuscula* Rumpff, 1962  
*Cicindela* (*Cicindela*) *hirticollis couleensis* Graves, 1988  
*Cicindela* (*Cicindela*) *hirticollis gravida* LeConte, 1851  
*Cicindela* (*Cicindela*) *hirticollis hirticollis* Say, 1817  
*Cicindela* (*Cicindela*) *hirticollis rhodensis* Calder, 1916  
*Cicindela* (*Cicindela*) *hirticollis shelfordi* Graves, 1988  
*Cicindela* (*Cicindela*) *hirticollis siuslawensis* Graves, 1988  
*Cicindela* (*Cicindela*) *latesignata latesignata* LeConte, 1851  
*Cicindela* (*Cicindela*) *lengi jordai* Rotger, 1974  
*Cicindela* (*Cicindela*) *lengi lengi* Horn, 1908  
*Cicindela* (*Cicindela*) *lengi versuta* Casey, 1913  
*Cicindela* (*Cicindela*) *limbalis* Klug, 1834  
*Cicindela* (*Cicindela*) *limbata hyperborea* LeConte, 1863  
*Cicindela* (*Cicindela*) *limbata labradorensis* Johnson, 1991  
*Cicindela* (*Cicindela*) *limbata limbata* Say, 1823  
*Cicindela* (*Cicindela*) *limbata nogahabarensis* Knisley, 2008  
*Cicindela* (*Cicindela*) *limbata nympha* Casey, 1913  
*Cicindela* (*Cicindela*) *longilabris laurentii* Schaupp, 1884  
*Cicindela* (*Cicindela*) *longilabris longilabris* Say, 1824  
*Cicindela* (*Cicindela*) *longilabris perviridis* Schaupp, 1884  
*Cicindela* (*Cicindela*) *nebraskana* Casey, 1909  
*Cicindela* (*Cicindela*) *nigrior* Schaupp, 1884  
*Cicindela* (*Cicindela*) *ohlone* Freitag & Kavanaugh, 1993



- Cicindela* (*Cicindela*) *oregona guttifera* LeConte, 1856  
*Cicindela* (*Cicindela*) *oregona maricopa* Leng, 1902  
*Cicindela* (*Cicindela*) *oregona navajoensis* Van Dyke, 1947  
*Cicindela* (*Cicindela*) *oregona oregona* LeConte, 1856  
*Cicindela* (*Cicindela*) *parowana parowana* Wickham, 1905  
*Cicindela* (*Cicindela*) *parowana platti* Cazier, 1937  
*Cicindela* (*Cicindela*) *parowana wallisi* Calder, 1922  
*Cicindela* (*Cicindela*) *patruela consentanea* Dejean, 1825  
*Cicindela* (*Cicindela*) *patruela patruela* Dejean, 1825  
*Cicindela* (*Cicindela*) *pimeriana* LeConte, 1867  
*Cicindela* (*Cicindela*) *plutonica* Casey, 1897  
*Cicindela* (*Cicindela*) *pugetana* Casey, 1914  
*Cicindela* (*Cicindela*) *pulchra dorothea* Rumpff, 1977  
*Cicindela* (*Cicindela*) *pulchra pulchra* Say, 1823  
*Cicindela* (*Cicindela*) *purpurea audubonii* LeConte, 1845  
*Cicindela* (*Cicindela*) *purpurea cimarrona* LeConte, 1868  
*Cicindela* (*Cicindela*) *purpurea hatchi* Leffler, 1980  
*Cicindela* (*Cicindela*) *purpurea lauta* Casey, 1897  
*Cicindela* (*Cicindela*) *purpurea purpurea* Olivier, 1790  
*Cicindela* (*Cicindela*) *repanda novascotiae* Vaurie, 1951  
*Cicindela* (*Cicindela*) *repanda repanda* Dejean, 1825  
*Cicindela* (*Cicindela*) *repanda tanneri* Knaus, 1929  
*Cicindela* (*Cicindela*) *scutellaris flavoviridis* Vaurie, 1950  
*Cicindela* (*Cicindela*) *scutellaris lecontei* Haldeman, 1853  
*Cicindela* (*Cicindela*) *scutellaris rugata* Vaurie, 1950  
*Cicindela* (*Cicindela*) *scutellaris rugifrons* Dejean, 1825  
*Cicindela* (*Cicindela*) *scutellaris scutellaris* Say, 1823  
*Cicindela* (*Cicindela*) *scutellaris unicolor* Dejean, 1825  
*Cicindela* (*Cicindela*) *scutellaris yampae* Rumpff, 1986  
*Cicindela* (*Cicindela*) *sexguttata* Fabricius, 1775  
*Cicindela* (*Cicindela*) *splendida* Hentz, 1830  
*Cicindela* (*Cicindela*) *tenuicincta* Schaupp, 1884  
*Cicindela* (*Cicindela*) *theatina* Rotger, 1944  
*Cicindela* (*Cicindela*) *tranquebarica cibecuei* Duncan, 1958  
*Cicindela* (*Cicindela*) *tranquebarica diffracta* Casey, 1909  
*Cicindela* (*Cicindela*) *tranquebarica joaquinensis* Knisley & Haines, 2007  
*Cicindela* (*Cicindela*) *tranquebarica kirbyi* LeConte, 1867  
*Cicindela* (*Cicindela*) *tranquebarica parallelonota* Casey, 1914  
*Cicindela* (*Cicindela*) *tranquebarica sierra* Leng, 1902  
*Cicindela* (*Cicindela*) *tranquebarica tranquebarica* Herbst, 1806  
*Cicindela* (*Cicindela*) *tranquebarica vibex* Horn, 1867  
*Cicindela* (*Cicindela*) *tranquebarica viridissima* Fall, 1910  
*Cicindela* (*Cicindela*) *waynei* Leffler, 2001

**LORICERINI**

- Loricera (Loricera) decempunctata* Eschscholtz, 1833  
*Loricera (Loricera) foveata* LeConte, 1851  
*Loricera (Loricera) pilicornis congesta* Mannerheim, 1853 ‡  
*Loricera (Loricera) pilicornis pilicornis* (Fabricius, 1775)‡

**ELAPHRINI**

- Diacheila arctica amoena* (Faldermann, 1835)‡  
*Diacheila polita* (Faldermann, 1835)‡  
*Blethisa catenaria* Brown, 1944‡  
*Blethisa hudsonica* Casey, 1924  
*Blethisa julii* LeConte, 1863  
*Blethisa multipunctata aurata* Fischer von Waldheim, 1828‡  
*Blethisa oregonensis* LeConte, 1853  
*Blethisa quadricollis* Haldeman, 1847  
*Elaphrus (Arctelaphrus) lapponicus lapponicus* Gyllenhal, 1810‡  
*Elaphrus (Arctelaphrus) lapponicus obliterated* Mannerheim, 1853  
*Elaphrus (Neoelaphrus) cicatricosus* LeConte, 1847  
*Elaphrus (Neoelaphrus) clairvillei* Kirby, 1837  
*Elaphrus (Neoelaphrus) fuliginosus* Say, 1830  
*Elaphrus (Neoelaphrus) laevigatus* LeConte, 1852  
*Elaphrus (Neoelaphrus) lindrothi* Goulet, 1983  
*Elaphrus (Neoelaphrus) olivaceus* LeConte, 1863  
*Elaphrus (Elaphrus) americanus americanus* Dejean, 1831  
*Elaphrus (Elaphrus) americanus sylvanus* Goulet, 1982  
*Elaphrus (Elaphrus) californicus* Mannerheim, 1843  
*Elaphrus (Elaphrus) finitimus* Casey, 1920  
*Elaphrus (Elaphrus) lecontei* Crotch, 1876  
*Elaphrus (Elaphrus) marginicollis* Goulet, 1983  
*Elaphrus (Elaphrus) mimus* Goulet, 1983  
*Elaphrus (Elaphrus) ruscarius* Say, 1830  
*Elaphrus (Elaphrus) trossulus* Semenov, 1904‡  
*Elaphrus (Elaphrus) tuberculatus* Mäklin, 1878‡  
*Elaphrus (Elaphrus) viridis* Horn, 1878  
*Elaphrus (Elaphroterus) angusticollis angusticollis* Sahlberg, 1844‡  
*Elaphrus (Elaphroterus) purpurans* Hausen, 1891

**OMOPHRONINI**

- Omophron (Omophron) americanum* Dejean, 1831  
*Omophron (Omophron) dentatum* LeConte, 1852  
*Omophron (Omophron) gilae* LeConte, 1852  
*Omophron (Omophron) grossum* Casey, 1909  
*Omophron (Omophron) labiatum* (Fabricius, 1801)

- Omophron* (*Omophron*) *nitidum* LeConte, 1847  
*Omophron* (*Omophron*) *obliteratum* Horn, 1870  
*Omophron* (*Omophron*) *ovale* Horn, 1870  
*Omophron* (*Omophron*) *robustum* Horn, 1870  
*Omophron* (*Omophron*) *solidum* Casey, 1897  
*Omophron* (*Omophron*) *tessellatum* Say, 1823

#### PASIMACHINI

- Pasimachus* (*Pasimachus*) *californicus* Chaudoir, 1850  
*Pasimachus* (*Pasimachus*) *depressus* (Fabricius, 1787)  
*Pasimachus* (*Pasimachus*) *duplicatus* LeConte, 1853  
*Pasimachus* (*Pasimachus*) *elongatus* LeConte, 1846  
*Pasimachus* (*Pasimachus*) *marginatus* (Fabricius, 1787)  
*Pasimachus* (*Pasimachus*) *obsoletus* LeConte, 1846  
*Pasimachus* (*Pasimachus*) *punctulatus* Haldeman, 1843  
*Pasimachus* (*Pasimachus*) *strenuus* LeConte, 1874  
*Pasimachus* (*Pasimachus*) *sublaevis* (Palisot de Beauvois, 1811)  
*Pasimachus* (*Pasimachus*) *subsulcatus* Say, 1823  
*Pasimachus* (*Pasimachus*) *viridans* LeConte, 1858

#### SCARITINI

- Scarites* (*Scarites*) *lissopterus* Chaudoir, 1881  
*Scarites* (*Scarites*) *marinus* Nichols, 1986  
*Scarites* (*Scarites*) *ocalensis* Nichols, 1986  
*Scarites* (*Scarites*) *quadriceps* Chaudoir, 1843  
*Scarites* (*Scarites*) *stenops* Bousquet & Skelley, 2010  
*Scarites* (*Scarites*) *subterraneus* Fabricius, 1775  
*Scarites* (*Scarites*) *vicinus* Chaudoir, 1843

#### CLIVININI

- Clivina* (*Semiclivina*) *dentipes* Dejean, 1825  
*Clivina* (*Semiclivina*) *vespertina* Putzeys, 1867†  
*Clivina* (*Clivina*) *choatei* Bousquet & Skelley, 2012  
*Clivina* (*Clivina*) *collaris* (Herbst, 1784)†  
*Clivina* (*Clivina*) *fossor fossor* (Linnaeus, 1758)†  
*Clivina* (*Clivina*) *impressefrons* LeConte, 1844  
*Clivina* (*Clivina*) *myops* Bousquet, 1997  
*Clivina* (*Clivina*) *oregona* Fall, 1922  
*Clivina* (*Clivina*) *pallida* Say, 1823  
*Clivina* (*Clivina*) *planicollis* LeConte, 1857  
*Clivina* (*Clivina*) *punctigera* LeConte, 1857  
*Clivina* (*Clivina*) *punctulata* LeConte, 1852  
*Clivina* (*Antroforceps*) *alabama* Bousquet, 2012



- Clivina* (*Antroforceps*) *rubicunda* LeConte, 1857  
*Clivina* (*Antroforceps*) *sasajii* Ball, 2001  
*Clivina* (*Leucocara*) *acuducta* Haldeman, 1843  
*Clivina* (*Leucocara*) *americana* Dejean, 1831  
*Clivina* (*Leucocara*) *californica* Van Dyke, 1925  
*Clivina* (*Leucocara*) *morio* Dejean, 1831  
*Clivina* (*Leucocara*) *rufa* LeConte, 1857  
*Paraclivina* *bipustulata* (Fabricius, 1798)  
*Paraclivina* *convexa* (LeConte, 1844)  
*Paraclivina* *fasciata* (Putzeys, 1846)  
*Paraclivina* *ferrea* (LeConte, 1857)  
*Paraclivina* *marginipennis* (Putzeys, 1846)  
*Paraclivina* *postica* (LeConte, 1846)  
*Paraclivina* *stigmula* (Putzeys, 1846)  
*Paraclivina* *striatopunctata* (Dejean, 1831)  
*Paraclivina* *sulcipennis* (Putzeys, 1867)  
*Schizogenius* (*Genioschizus*) *crenulatus crenulatus* LeConte, 1852  
*Schizogenius* (*Schizogenius*) *amphibius* (Haldeman, 1843)  
*Schizogenius* (*Schizogenius*) *auripennis* Bates, 1881  
*Schizogenius* (*Schizogenius*) *brevisetosus* Whitehead, 1972  
*Schizogenius* (*Schizogenius*) *chiricahuanus* Whitehead, 1972  
*Schizogenius* (*Schizogenius*) *depressus* LeConte, 1852  
*Schizogenius* (*Schizogenius*) *falli* Whitehead, 1972  
*Schizogenius* (*Schizogenius*) *ferrugineus* Putzeys, 1846  
*Schizogenius* (*Schizogenius*) *lindrothi* Whitehead, 1972  
*Schizogenius* (*Schizogenius*) *lineolatus* (Say, 1823)  
*Schizogenius* (*Schizogenius*) *litigiosus* Fall, 1901  
*Schizogenius* (*Schizogenius*) *longipennis* Putzeys, 1867  
*Schizogenius* (*Schizogenius*) *neovalidus* Whitehead, 1972  
*Schizogenius* (*Schizogenius*) *ochthocephalus* Whitehead, 1972  
*Schizogenius* (*Schizogenius*) *ozarkensis* Whitehead, 1972  
*Schizogenius* (*Schizogenius*) *planulatus* LeConte, 1863  
*Schizogenius* (*Schizogenius*) *planuloides* Whitehead, 1972  
*Schizogenius* (*Schizogenius*) *pluripunctatus* LeConte, 1852  
*Schizogenius* (*Schizogenius*) *pygmaeus* Van Dyke, 1925  
*Schizogenius* (*Schizogenius*) *sallei* Putzeys, 1867  
*Schizogenius* (*Schizogenius*) *scopaeus* Whitehead, 1972  
*Schizogenius* (*Schizogenius*) *seticollis seticollis* Fall, 1901  
*Schizogenius* (*Schizogenius*) *sulcifrons* Putzeys, 1846  
*Schizogenius* (*Schizogenius*) *tibialis* Whitehead, 1972  
*Halocoryza* *arenaria* (Darlington, 1939)  
*Oxydrepanus* *rufus* (Putzeys, 1846)  
*Ardistomis* *obliquata* Putzeys, 1846

*Ardistomis schaumii* LeConte, 1857  
*Semiardistomis puncticollis* (Dejean, 1831)  
*Semiardistomis viridis* (Say, 1823)  
*Aspidoglossa subangulata* (Chaudoir, 1843)

#### DYSCHIRIINI

*Akephorus marinus* LeConte, 1852  
*Akephorus obesus* (LeConte, 1863)  
*Dyschirius abbreviatus* Putzeys, 1846  
*Dyschirius aeneolus* LeConte, 1850  
*Dyschirius affinis* Fall, 1901  
*Dyschirius alticola* Lindroth, 1961  
*Dyschirius analis* LeConte, 1852  
*Dyschirius aratus* LeConte, 1852  
*Dyschirius brevispinus* LeConte, 1878  
*Dyschirius campicola* Lindroth, 1961  
*Dyschirius carrorum* Bousquet, 1997  
*Dyschirius cerberus* Larson, 1968  
*Dyschirius chiricahuae* (Dajoz, 2004)  
*Dyschirius comatus* Bousquet, 1988  
*Dyschirius compactus* Lindroth, 1961  
*Dyschirius consobrinus* LeConte, 1852  
*Dyschirius criddlei* Fall, 1925  
*Dyschirius curvispinus* Putzeys, 1846  
*Dyschirius dejeanii* Putzeys, 1846  
*Dyschirius edentulus* Putzeys, 1846  
*Dyschirius erythrocerus* LeConte, 1857  
*Dyschirius exochus* Whitehead, 1970  
*Dyschirius ferrugineus* Bousquet, 1988  
*Dyschirius gibbipennis* LeConte, 1857  
*Dyschirius globosus* (Herbst, 1784)†  
*Dyschirius globulosus* (Say, 1823)  
*Dyschirius haemorrhoidalis* (Dejean, 1831)  
*Dyschirius hiemalis* Bousquet, 1987  
*Dyschirius interior* Fall, 1922  
*Dyschirius laevifasciatus* Horn, 1878  
*Dyschirius larochei* Bousquet, 1988  
*Dyschirius longulus* LeConte, 1850  
*Dyschirius melancholicus* Putzeys, 1867‡  
*Dyschirius montanus* LeConte, 1879  
*Dyschirius owen* (Dajoz, 2004)  
*Dyschirius pacificus* Lindroth, 1961  
*Dyschirius pallipennis* (Say, 1823)

*Dyschirius patruelis* LeConte, 1852  
*Dyschirius perversus* Fall, 1922  
*Dyschirius pilosus* LeConte, 1857  
*Dyschirius planatus* Lindroth, 1961  
*Dyschirius politus politus* (Dejean, 1825)‡  
*Dyschirius pumilus* (Dejean, 1825)  
*Dyschirius quadrimaculatus* Lindroth, 1961  
*Dyschirius salivagans* LeConte, 1875  
*Dyschirius sculptus* Bousquet, 1988  
*Dyschirius sellatus* LeConte, 1857  
*Dyschirius setosus* LeConte, 1857  
*Dyschirius sextoni* Bousquet, 1987  
*Dyschirius soda* (Dajoz, 2004)  
*Dyschirius sphaericollis* (Say, 1823)  
*Dyschirius subarcticus subarcticus* Lindroth, 1961  
*Dyschirius sublaevis* Putzeys, 1846  
*Dyschirius tenuispinus* Lindroth, 1961  
*Dyschirius terminatus* LeConte, 1846  
*Dyschirius timidus* Lindroth, 1961  
*Dyschirius tridentatus* LeConte, 1852  
*Dyschirius truncatus* LeConte, 1857  
*Dyschirius unipunctatus* Fall, 1901  
*Dyschirius varidens* Fall, 1910  
*Dyschirius wayah* (Dajoz, 2005)

#### PROMECOGNATHINI

*Promecognathus crassus* LeConte, 1868  
*Promecognathus laevissimus* (Dejean, 1829)

#### BROSCINI

*Miscodera arctica* (Paykull, 1798)‡  
*Broscodera* (*Broscodera*) *insignis* (Mannerheim, 1852)  
*Zacotus matthewsii* LeConte, 1869  
*Broscus cephalotes* (Linnaeus, 1758)†

#### GEHRINGIINI

*Gehringia olympica* Darlington, 1933

#### TRECHINI

*Trechoblemus westcotti* Barr, 1972  
*Pseudanophthalmus abditus* Krekeler, 1973  
*Pseudanophthalmus acherontis* Barr, 1959  
*Pseudanophthalmus alabamae* Valentine, 1932

- Pseudanophthalmus aladdini* Valentine, 1945  
*Pseudanophthalmus assimilis* Barr, 1981  
*Pseudanophthalmus audax* (Horn, 1883)  
*Pseudanophthalmus avernus* Valentine, 1945  
*Pseudanophthalmus barberi* Jeannel, 1928  
*Pseudanophthalmus barri* Krekeler, 1973  
*Pseudanophthalmus beakleyi* Valentine, 1937  
*Pseudanophthalmus bendermani* Barr, 1959  
*Pseudanophthalmus caecus* Krekeler, 1973  
*Pseudanophthalmus calcareus* Barr, 1981  
*Pseudanophthalmus catherinae* Barr, 1959  
*Pseudanophthalmus catoryctos* Krekeler, 1973  
*Pseudanophthalmus cerberus cerberus* Barr, 1985  
*Pseudanophthalmus cerberus completus* Barr, 1985  
*Pseudanophthalmus chthonius* Krekeler, 1973  
*Pseudanophthalmus ciliaris ciliaris* Valentine, 1937  
*Pseudanophthalmus ciliaris orlindae* Barr, 1959  
*Pseudanophthalmus cnephosus* Krekeler, 1973  
*Pseudanophthalmus colemanensis* Barr, 1959  
*Pseudanophthalmus conditus* Krekeler, 1973  
*Pseudanophthalmus cordicollis* Barr, 1981  
*Pseudanophthalmus cumberlandus* Valentine, 1937  
*Pseudanophthalmus darlingtoni darlingtoni* Barr, 1985  
*Pseudanophthalmus darlingtoni persimilis* Barr, 1985  
*Pseudanophthalmus deceptivus* Barr, 1981  
*Pseudanophthalmus delicatus* Valentine, 1932  
*Pseudanophthalmus desertus* Krekeler, 1973  
*Pseudanophthalmus digitus* Valentine, 1932  
*Pseudanophthalmus distinguens* Valentine, 1948  
*Pseudanophthalmus egberti* Barr, 1965  
*Pseudanophthalmus elongatus* Krekeler, 1973  
*Pseudanophthalmus emersoni* Krekeler, 1958  
*Pseudanophthalmus engelhardti* (Barber, 1928)  
*Pseudanophthalmus eremita* (Horn, 1871)  
*Pseudanophthalmus exiguus* Krekeler, 1973  
*Pseudanophthalmus exoticus* Krekeler, 1973  
*Pseudanophthalmus farrelli* Barr, 1959  
*Pseudanophthalmus fastigatus* Barr, 1981  
*Pseudanophthalmus fluviatilis* Valentine, 1948  
*Pseudanophthalmus fowlerae* Barr, 1980  
*Pseudanophthalmus frigidus* Barr, 1981  
*Pseudanophthalmus fulleri* Valentine, 1932  
*Pseudanophthalmus fuscus constrictus* Valentine, 1932



- Pseudanophthalmus fuscus fuscus* Valentine, 1931  
*Pseudanophthalmus georgiae* Barr, 1981  
*Pseudanophthalmus globiceps* Barr, 1985  
*Pseudanophthalmus gracilis* Valentine, 1931  
*Pseudanophthalmus grandis elevatus* Valentine, 1932  
*Pseudanophthalmus grandis grandis* Valentine, 1931  
*Pseudanophthalmus hadenoecus* Barr, 1965  
*Pseudanophthalmus henroti* Jeannel, 1949  
*Pseudanophthalmus hesperus* Barr, 1959  
*Pseudanophthalmus higinbothami* Valentine, 1931  
*Pseudanophthalmus hirsutus* Valentine, 1931  
*Pseudanophthalmus hoffmani* Barr, 1965  
*Pseudanophthalmus holsingeri* Barr, 1965  
*Pseudanophthalmus horni* (Garman, 1892)  
*Pseudanophthalmus hortulanus* Barr, 1965  
*Pseudanophthalmus hubbardi* (Barber, 1928)  
*Pseudanophthalmus hubrichti* Valentine, 1948  
*Pseudanophthalmus humeralis* Valentine, 1931  
*Pseudanophthalmus hypertrichosis* Valentine, 1932  
*Pseudanophthalmus hypolithos* Barr, 1981  
*Pseudanophthalmus illinoisensis* Barr & Peck, 1966  
*Pseudanophthalmus inexpectatus* Barr, 1959  
*Pseudanophthalmus inquisitor* Barr, 1980  
*Pseudanophthalmus insularis* Barr, 1959  
*Pseudanophthalmus intermedius* (Valentine, 1931)  
*Pseudanophthalmus intersectus* Barr, 1965  
*Pseudanophthalmus jonesi* Valentine, 1945  
*Pseudanophthalmus krameri* Krekeler, 1973  
*Pseudanophthalmus krekeri* Barr, 1965  
*Pseudanophthalmus lallemanti* Jeannel, 1949  
*Pseudanophthalmus leonae* Barr, 1960  
*Pseudanophthalmus limicola* Jeannel, 1931  
*Pseudanophthalmus lodingi* Valentine, 1931  
*Pseudanophthalmus loganensis* Barr, 1959  
*Pseudanophthalmus longiceps* Barr, 1981  
*Pseudanophthalmus macradyi* Valentine, 1948  
*Pseudanophthalmus major* Krekeler, 1973  
*Pseudanophthalmus menetriesii campestris* Barr, 1985  
*Pseudanophthalmus menetriesii menetriesii* (Motschulsky, 1862)  
*Pseudanophthalmus meridionalis* Valentine, 1945  
*Pseudanophthalmus montanus* Barr, 1965  
*Pseudanophthalmus nelsoni* Barr, 1965  
*Pseudanophthalmus nickajackensis* Barr, 1981

- Pseudanophthalmus nortoni* Barr, 1981  
*Pseudanophthalmus occidentalis* Barr, 1959  
*Pseudanophthalmus ohioensis* Krekeler, 1973  
*Pseudanophthalmus orientalis* Krekeler, 1973  
*Pseudanophthalmus orthosulcatus* Valentine, 1932  
*Pseudanophthalmus packardi* Barr, 1959  
*Pseudanophthalmus pallidus* Barr, 1981  
*Pseudanophthalmus paradoxus* Barr, 1981  
*Pseudanophthalmus parvicollis* Jeannel, 1931  
*Pseudanophthalmus parvus* Krekeler, 1973  
*Pseudanophthalmus paulus* Barr, 1981  
*Pseudanophthalmus paynei* Barr, 1981  
*Pseudanophthalmus petrunkevitchi* Valentine, 1945  
*Pseudanophthalmus pholeter* Krekeler, 1973  
*Pseudanophthalmus pilosus* Barr, 1985  
*Pseudanophthalmus pontis* Barr, 1965  
*Pseudanophthalmus potomaca* Valentine, 1932  
*Pseudanophthalmus praetermissus* Barr, 1981  
*Pseudanophthalmus princeps* Barr, 1979  
*Pseudanophthalmus productus* Barr, 1980  
*Pseudanophthalmus profundus* Valentine, 1945  
*Pseudanophthalmus pubescens intrepidus* Barr, 1985  
*Pseudanophthalmus pubescens pubescens* (Horn, 1869)  
*Pseudanophthalmus punctatus* Valentine, 1931  
*Pseudanophthalmus pusillus* Barr, 1981  
*Pseudanophthalmus pusio* (Horn, 1869)  
*Pseudanophthalmus puteanus* Krekeler, 1973  
*Pseudanophthalmus quadratus* Barr, 1965  
*Pseudanophthalmus rittmani* Krekeler, 1973  
*Pseudanophthalmus robustus* Valentine, 1931  
*Pseudanophthalmus rogersae* Barr, 1981  
*Pseudanophthalmus rotundatus* Valentine, 1932  
*Pseudanophthalmus sanctipauli* Barr, 1981  
*Pseudanophthalmus scholasticus* Barr, 1981  
*Pseudanophthalmus scutillus* Barr, 1981  
*Pseudanophthalmus seclusus* Barr, 1981  
*Pseudanophthalmus senecae* Valentine, 1932  
*Pseudanophthalmus sequoyah* Barr, 1981  
*Pseudanophthalmus sericus* Barr, 1981  
*Pseudanophthalmus shilohensis mayfieldensis* Krekeler, 1958  
*Pseudanophthalmus shilohensis shilohensis* Krekeler, 1958  
*Pseudanophthalmus sidus* Barr, 1965  
*Pseudanophthalmus simplex* Barr, 1980

- Pseudanophthalmus simulans* Barr, 1985  
*Pseudanophthalmus solivagus* Krekeler, 1973  
*Pseudanophthalmus steevesi* Barr, 1981  
*Pseudanophthalmus striatus* (Motschulsky, 1862)  
*Pseudanophthalmus stricticollis* Jeannel, 1931  
*Pseudanophthalmus sylvaticus* Barr, 1967  
*Pseudanophthalmus templetoni* Valentine, 1948  
*Pseudanophthalmus tenebrosus* Krekeler, 1973  
*Pseudanophthalmus tennesseensis* Valentine, 1937  
*Pseudanophthalmus tenuis* (Horn, 1871)  
*Pseudanophthalmus thomasi* Barr, 1981  
*Pseudanophthalmus tiresias* Barr, 1959  
*Pseudanophthalmus transfluvialis* Barr, 1985  
*Pseudanophthalmus troglodytes* Krekeler, 1973  
*Pseudanophthalmus tullahoma* Barr, 1959  
*Pseudanophthalmus umbratilis* Krekeler, 1973  
*Pseudanophthalmus unionis* Barr, 1981  
*Pseudanophthalmus valentinei* Jeannel, 1949  
*Pseudanophthalmus vanburenensis* Barr, 1959  
*Pseudanophthalmus ventus* Barr, 1981  
*Pseudanophthalmus vicarius* Barr, 1965  
*Pseudanophthalmus virginicus* (Barr, 1960)  
*Pseudanophthalmus wallacei* Barr, 1981  
*Pseudanophthalmus youngi* Krekeler, 1958  
*Nelsonites jonesei* Valentine, 1952  
*Nelsonites walteri* Valentine, 1952  
*Neaphaenops tellkampfi henroti* Jeannel, 1949  
*Neaphaenops tellkampfi meridionalis* Barr, 1959  
*Neaphaenops tellkampfi tellkampfi* (Erichson, 1844)  
*Neaphaenops tellkampfi viator* Barr, 1979  
*Blemus discus discus* (Fabricius, 1792)†  
*Xenotrechus condei* Barr & Krekeler, 1967  
*Xenotrechus denticollis* Barr & Krekeler, 1967  
*Darlingtonia kentuckensis* Valentine, 1952  
*Amerodualius jeanneli jeanneli* Valentine, 1952  
*Amerodualius jeanneli rockcastlei* Valentine, 1952  
*Trechus* (*Trechus*) *alinae* Dajoz, 1990  
*Trechus* (*Trechus*) *apache* Dajoz, 1990  
*Trechus* (*Trechus*) *apicalis* Motschulsky, 1845‡  
*Trechus* (*Trechus*) *arizonae* Casey, 1918  
*Trechus* (*Trechus*) *caliginis* Barr, 1985  
*Trechus* (*Trechus*) *carolinae* Schaeffer, 1901  
*Trechus* (*Trechus*) *chalybeus* Dejean, 1831



- Trechus* (*Trechus*) *coloradensis* Schaeffer, 1915  
*Trechus* (*Trechus*) *conformis* Jeannel, 1927  
*Trechus* (*Trechus*) *crassiscapus* Lindroth, 1955  
*Trechus* (*Trechus*) *cumberlandus* Barr, 1962  
*Trechus* (*Trechus*) *humboldti* Van Dyke, 1945  
*Trechus* (*Trechus*) *hydropicus avus* Barr, 1962  
*Trechus* (*Trechus*) *hydropicus beutenmuelleri* Jeannel, 1931  
*Trechus* (*Trechus*) *hydropicus canus* Barr, 1962  
*Trechus* (*Trechus*) *hydropicus hydropicus* Horn, 1883  
*Trechus* (*Trechus*) *mittchellensis* Barr, 1962  
*Trechus* (*Trechus*) *obtus* Erichson, 1837†  
*Trechus* (*Trechus*) *oregonensis* Hatch, 1951  
*Trechus* (*Trechus*) *ovipennis* Motschulsky, 1845  
*Trechus* (*Trechus*) *pomona* Fall, 1901  
*Trechus* (*Trechus*) *quadristriatus* (Schränk, 1781)†  
*Trechus* (*Trechus*) *roanicus* Barr, 1962  
*Trechus* (*Trechus*) *rubens* (Fabricius, 1792)†  
*Trechus* (*Trechus*) *schwarzi saludae* Barr, 1979  
*Trechus* (*Trechus*) *schwarzi schwarzi* Jeannel, 1931  
*Trechus* (*Trechus*) *schwarzi scopulosus* Barr, 1979  
*Trechus* (*Trechus*) *tenuiscapus* Lindroth, 1961  
*Trechus* (*Trechus*) *yvesbousqueti* Donabauer, 2010  
*Trechus* (*Microtrechus*) *aduncus* Barr, 1962  
*Trechus* (*Microtrechus*) *balsamensis* Barr, 1962  
*Trechus* (*Microtrechus*) *barberi* (Jeannel, 1931)  
*Trechus* (*Microtrechus*) *bowlingi* Barr, 1962  
*Trechus* (*Microtrechus*) *cheoahensis* Donabauer, 2005  
*Trechus* (*Microtrechus*) *clingmanensis* Donabauer, 2005  
*Trechus* (*Microtrechus*) *coweensis* Barr, 1979  
*Trechus* (*Microtrechus*) *haoe* Barr, 1979  
*Trechus* (*Microtrechus*) *haoeleadensis* Donabauer, 2005  
*Trechus* (*Microtrechus*) *howellae* Barr, 1979  
*Trechus* (*Microtrechus*) *inexpectatus* Barr, 1985  
*Trechus* (*Microtrechus*) *luculentus cheoahbaldensis* Donabauer, 2005  
*Trechus* (*Microtrechus*) *luculentus joannabaldensis* Donabauer, 2005  
*Trechus* (*Microtrechus*) *luculentus luculentus* Barr, 1962  
*Trechus* (*Microtrechus*) *luculentus wayahensis* Barr, 1979  
*Trechus* (*Microtrechus*) *nantahalae* Barr, 1979  
*Trechus* (*Microtrechus*) *nebulosus* Barr, 1962  
*Trechus* (*Microtrechus*) *novaculosus* Barr, 1962  
*Trechus* (*Microtrechus*) *plottbalsamensis* Donabauer, 2005  
*Trechus* (*Microtrechus*) *pseudobarberi* Donabauer, 2009  
*Trechus* (*Microtrechus*) *pseudonovaculosus* Donabauer, 2005



*Trechus (Microtrechus) pseudosubtilis* Donabauer, 2009  
*Trechus (Microtrechus) ramseyensis* Donabauer, 2005  
*Trechus (Microtrechus) rivulis* Dajoz, 2005  
*Trechus (Microtrechus) rosenbergi* Barr, 1962  
*Trechus (Microtrechus) satanicus* Barr, 1962  
*Trechus (Microtrechus) snowbirdensis* Donabauer, 2005  
*Trechus (Microtrechus) stefanschoedli* Donabauer, 2005  
*Trechus (Microtrechus) stupkai* Barr, 1979  
*Trechus (Microtrechus) subtilis* Barr, 1962  
*Trechus (Microtrechus) talequah* Barr, 1962  
*Trechus (Microtrechus) tennesseeensis tauricus* Barr, 1962  
*Trechus (Microtrechus) tennesseeensis tennesseeensis* Barr, 1962  
*Trechus (Microtrechus) thomasbarri* Donabauer, 2005  
*Trechus (Microtrechus) thunderheadensis* Donabauer, 2005  
*Trechus (Microtrechus) tobiasi* Donabauer, 2005  
*Trechus (Microtrechus) tonitru* Barr, 1962  
*Trechus (Microtrechus) toxawayi* Barr, 1979  
*Trechus (Microtrechus) tuckaleechee* Barr, 1962  
*Trechus (Microtrechus) tusquitee* Barr, 1979  
*Trechus (Microtrechus) tusquitensis* Donabauer, 2005  
*Trechus (Microtrechus) uncifer* Barr, 1962  
*Trechus (Microtrechus) unicoi* Barr, 1979  
*Trechus (Microtrechus) valentinei* Barr, 1979  
*Trechus (Microtrechus) vandykei pisgahensis* Barr, 1979  
*Trechus (Microtrechus) vandykei vandykei* (Jeannel, 1927)  
*Trechus (Microtrechus) verus* Barr, 1962  
*Trechus (Microtrechus) wayahbaldensis* Donabauer, 2005

## BEMBIDIINI

*Amerizus (Amerizus) oblonguloides* (Lindroth, 1963)  
*Amerizus (Amerizus) oblongulus* (Mannerheim, 1852)  
*Amerizus (Amerizus) spectabilis* (Mannerheim, 1852)  
*Amerizus (Amerizus) utahensis* (Van Dyke, 1926)  
*Amerizus (Amerizus) wingatei* (Bland, 1864)  
*Lionepha casta* (Casey, 1918)  
*Lionepha chintimini* (Erwin & Kavanaugh, 1981)  
*Lionepha disjuncta* (Lindroth, 1963)  
*Lionepha erasa* (LeConte, 1859)  
*Lionepha lindrothellus* (Erwin & Kavanaugh, 1981)  
*Lionepha lummi* (Erwin & Kavanaugh, 1981)  
*Lionepha osculans* (Casey, 1918)  
*Lionepha pseudoerasa* (Lindroth, 1963)  
*Lionepha sequoiae* (Lindroth, 1963)

- Asaphidion alaskanum* Wickham, 1919  
*Asaphidion curtum curtum* (Heyden, 1870)†  
*Asaphidion yukonense* Wickham, 1919  
*Bembidion* (*Hirmoplataphus*) *alpineanum* Casey, 1924  
*Bembidion* (*Hirmoplataphus*) *avidum* Casey, 1918  
*Bembidion* (*Hirmoplataphus*) *concolor* (Kirby, 1837)  
*Bembidion* (*Hirmoplataphus*) *humboldtense* Blaisdell, 1902  
*Bembidion* (*Hirmoplataphus*) *nigrum* Say, 1823  
*Bembidion* (*Hirmoplataphus*) *quadrulum* LeConte, 1861  
*Bembidion* (*Hirmoplataphus*) *recticolle* LeConte, 1863  
*Bembidion* (*Hirmoplataphus*) *salebratum* (LeConte, 1847)  
*Bembidion* (*Hirmoplataphus*) *subaerarium* Casey, 1924  
*Bembidion* (*Hydriomicrus*) *brevistriatum* Hayward, 1897  
*Bembidion* (*Hydriomicrus*) *californicum* Hayward, 1897  
*Bembidion* (*Hydriomicrus*) *innocuum* Casey, 1918  
*Bembidion* (*Hydriomicrus*) *quadratum* Notman, 1920  
*Bembidion* (*Hydriomicrus*) *semistriatum* (Haldeman, 1843)  
*Bembidion* (*Odontium*) *aenulum* Hayward, 1901  
*Bembidion* (*Odontium*) *bowditchii* LeConte, 1878  
*Bembidion* (*Odontium*) *carinatum* (LeConte, 1852)  
*Bembidion* (*Odontium*) *confusum* Hayward, 1897  
*Bembidion* (*Odontium*) *coxendix* Say, 1823  
*Bembidion* (*Odontium*) *durangoense* Bates, 1891  
*Bembidion* (*Odontium*) *gilae* Lindroth, 1963  
*Bembidion* (*Odontium*) *paraenulum* Maddison, 2009  
*Bembidion* (*Odontium*) *robusticolle* Hayward, 1897  
*Bembidion* (*Odontium*) *sculpturatum* (Motschulsky, 1859)  
*Bembidion* (*Bracteon*) *alaskense* Lindroth, 1962‡  
*Bembidion* (*Bracteon*) *balli* Lindroth, 1962  
*Bembidion* (*Bracteon*) *carinula* Chaudoir, 1868  
*Bembidion* (*Bracteon*) *foveum* Motschulsky, 1844‡  
*Bembidion* (*Bracteon*) *hesperium* Fall, 1910  
*Bembidion* (*Bracteon*) *inaequale* Say, 1823  
*Bembidion* (*Bracteon*) *lapponicum* Zetterstedt, 1828‡  
*Bembidion* (*Bracteon*) *levettei carrianum* Casey, 1924  
*Bembidion* (*Bracteon*) *levettei levettei* Casey, 1918  
*Bembidion* (*Bracteon*) *lorquinii* Chaudoir, 1868  
*Bembidion* (*Bracteon*) *punctatostriatum* Say, 1823  
*Bembidion* (*Bracteon*) *zephyrum* Fall, 1910  
*Bembidion* (*Ochthedromus*) *americanum* Dejean, 1831  
*Bembidion* (*Ochthedromus*) *bifossulatum* (LeConte, 1852)  
*Bembidion* (*Ochthedromus*) *cheyennense* Casey, 1918  
*Bembidion* (*Pseudoperyphus*) *antiquum* Dejean, 1831

- Bembidion* (*Pseudoperyphus*) *arenobile* Maddison, 2008  
*Bembidion* (*Pseudoperyphus*) *bellorum* Maddison, 2008  
*Bembidion* (*Pseudoperyphus*) *chalceum* Dejean, 1831  
*Bembidion* (*Pseudoperyphus*) *honestum* Say, 1823  
*Bembidion* (*Pseudoperyphus*) *integrum* Casey, 1918  
*Bembidion* (*Pseudoperyphus*) *louisella* Maddison, 2008  
*Bembidion* (*Pseudoperyphus*) *rothfelsi* Maddison, 2008  
*Bembidion* (*Pseudoperyphus*) *rufotinctum* Chaudoir, 1868  
*Bembidion* (*Cillenus*) *palosverdes* Kavanaugh & Erwin, 1992  
*Bembidion* (*Actedium*) *lachnophoroides* Darlington, 1926  
*Bembidion* (*Ocydromus*) *scopulinum* (Kirby, 1837)‡  
*Bembidion* (*Peryphus*) *actuosum* Casey, 1918  
*Bembidion* (*Peryphus*) *bruxellense* Wesmael, 1835†  
*Bembidion* (*Peryphus*) *consanguineum* Hayward, 1897  
*Bembidion* (*Peryphus*) *dauricum* (Motschulsky, 1844)‡  
*Bembidion* (*Peryphus*) *femoratum femoratum* Sturm, 1825†  
*Bembidion* (*Peryphus*) *lugubre* LeConte, 1857  
*Bembidion* (*Peryphus*) *mexicanum* Dejean, 1831  
*Bembidion* (*Peryphus*) *nevadense* Ulke, 1875  
*Bembidion* (*Peryphus*) *obscurellum obscurellum* (Motschulsky, 1845)‡  
*Bembidion* (*Peryphus*) *pernotum* Casey, 1918  
*Bembidion* (*Peryphus*) *perspicuum* (LeConte, 1848)  
*Bembidion* (*Peryphus*) *petrosum attuense* Lindroth, 1963  
*Bembidion* (*Peryphus*) *petrosum petrosum* Gebler, 1833‡  
*Bembidion* (*Peryphus*) *plagiatum* (Zimmermann, 1869)  
*Bembidion* (*Peryphus*) *poppii schalleri* Lindroth, 1963  
*Bembidion* (*Peryphus*) *rupicola* (Kirby, 1837)  
*Bembidion* (*Peryphus*) *sarpedon* Casey, 1918  
*Bembidion* (*Peryphus*) *satelles* Casey, 1918  
*Bembidion* (*Peryphus*) *sejunctum sejunctum* Casey, 1918  
*Bembidion* (*Peryphus*) *sejunctum semiaureum* Fall, 1922  
*Bembidion* (*Peryphus*) *striola* (LeConte, 1852)  
*Bembidion* (*Peryphus*) *tetracolum tetracolum* Say, 1823†  
*Bembidion* (*Peryphus*) *transversale* Dejean, 1831  
*Bembidion* (*Terminophanes*) *mckinleyi carneum* Lindroth, 1963  
*Bembidion* (*Terminophanes*) *mckinleyi mckinleyi* Fall, 1926  
*Bembidion* (*Asioperyphus*) *bimaculatum* (Kirby, 1837)  
*Bembidion* (*Asioperyphus*) *lenae* Csiki, 1928‡  
*Bembidion* (*Asioperyphus*) *postremum* Say, 1830  
*Bembidion* (*Asioperyphus*) *renoanum* Casey, 1918  
*Bembidion* (*Asioperyphus*) *sordidum* (Kirby, 1837)  
*Bembidion* (*Asioperyphus*) *umiatense* Lindroth, 1963‡  
*Bembidion* (*Peryphanes*) *grapii* Gyllenhal, 1827‡

- Bembidion* (*Peryphanes*) *lacunarium* (Zimmermann, 1869)  
*Bembidion* (*Peryphanes*) *platynoides* Hayward, 1897  
*Bembidion* (*Peryphanes*) *stephensii* Crotch, 1866†  
*Bembidion* (*Peryphanes*) *subangustatum* Hayward, 1897  
*Bembidion* (*Peryphanes*) *texanum* Chaudoir, 1868  
*Bembidion* (*Peryphanes*) *yukonum* Fall, 1926‡  
*Bembidion* (*Testediolum*) *commotum* Casey, 1918  
*Bembidion* (*Testediolum*) *modocianum* Casey, 1924  
*Bembidion* (*Testediolum*) *nebraskense* LeConte, 1863  
*Bembidion* (*Testediolum*) *obscuripenne* Blaisdell, 1902  
*Bembidion* (*Testediolum*) *perbrevicolle* Casey, 1924  
*Bembidion* (*Testediolum*) *ulkei* Lindroth, 1963  
*Bembidion* (*Leuchydrium*) *tigrinum* LeConte, 1879  
*Bembidion* (*Bembidion*) *adductum* Casey, 1918  
*Bembidion* (*Bembidion*) *mutatum* Gemminger & Harold, 1868  
*Bembidion* (*Bembidion*) *oregonense* Hatch, 1953  
*Bembidion* (*Bembidion*) *pedicellatum* LeConte, 1857  
*Bembidion* (*Bembidion*) *praecinctum* LeConte, 1879  
*Bembidion* (*Bembidion*) *quadrinaculatum dubitans* (LeConte, 1852)  
*Bembidion* (*Bembidion*) *quadrinaculatum oppositum* Say, 1823  
*Bembidion* (*Cyclolopha*) *jucundum* Horn, 1895  
*Bembidion* (*Cyclolopha*) *poculare* Bates, 1884  
*Bembidion* (*Cyclolopha*) *sphaeroderum* Bates, 1882  
*Bembidion* (*Furcacampa*) *affine* Say, 1823  
*Bembidion* (*Furcacampa*) *egens* Casey, 1918  
*Bembidion* (*Furcacampa*) *fuchsii* Blaisdell, 1902  
*Bembidion* (*Furcacampa*) *impotens* Casey, 1918  
*Bembidion* (*Furcacampa*) *mimus* Hayward, 1897  
*Bembidion* (*Furcacampa*) *nogalesium* Casey, 1924  
*Bembidion* (*Furcacampa*) *timidum* (LeConte, 1847)  
*Bembidion* (*Furcacampa*) *triviale* Casey, 1918  
*Bembidion* (*Furcacampa*) *versicolor* (LeConte, 1847)  
*Bembidion* (*Neobembidion*) *constricticollae* Hayward, 1897  
*Bembidion* (*Neobembidion*) *nitidicollae* Bousquet, 2006  
*Bembidion* (*Neobembidion*) *nudipenne* Lindroth, 1963  
*Bembidion* (*Neobembidion*) *tencenti* Hatch, 1951  
*Bembidion* (*Diplocampa*) *transparens transparens* (Gebler, 1830)‡  
*Bembidion* (*Semicampa*) *convexulum* Hayward, 1897  
*Bembidion* (*Semicampa*) *morulum* LeConte, 1863  
*Bembidion* (*Semicampa*) *musculicola* Hayward, 1897  
*Bembidion* (*Semicampa*) *nigrivestis* Bousquet, 2006  
*Bembidion* (*Semicampa*) *praticola* Lindroth, 1963  
*Bembidion* (*Semicampa*) *roosevelti* Pic, 1902



- Bembidion* (*Semicampa*) *rubiginosum* LeConte, 1879  
*Bembidion* (*Semicampa*) *semicinctorum* Notman, 1919  
*Bembidion* (*Notaphus*) *acticola* Casey, 1884  
*Bembidion* (*Notaphus*) *aeneicolle* (LeConte, 1847)  
*Bembidion* (*Notaphus*) *approximatum* (LeConte, 1852)  
*Bembidion* (*Notaphus*) *aratum* (LeConte, 1852)  
*Bembidion* (*Notaphus*) *auxiliator* Casey, 1924  
*Bembidion* (*Notaphus*) *callens* Casey, 1918  
*Bembidion* (*Notaphus*) *castor* Lindroth, 1963  
*Bembidion* (*Notaphus*) *coloradense* Hayward, 1897  
*Bembidion* (*Notaphus*) *consimile* Hayward, 1897  
*Bembidion* (*Notaphus*) *conspersum* Chaudoir, 1868  
*Bembidion* (*Notaphus*) *constrictum* (LeConte, 1847)  
*Bembidion* (*Notaphus*) *consuetum* Casey, 1918  
*Bembidion* (*Notaphus*) *contractum* Say, 1823  
*Bembidion* (*Notaphus*) *cordatum* (LeConte, 1847)  
*Bembidion* (*Notaphus*) *debiliceps* Casey, 1918  
*Bembidion* (*Notaphus*) *dejectum* Casey, 1884  
*Bembidion* (*Notaphus*) *dorsale* Say, 1823  
*Bembidion* (*Notaphus*) *evidens* Casey, 1918  
*Bembidion* (*Notaphus*) *flohri* Bates, 1878  
*Bembidion* (*Notaphus*) *graphicum* Casey, 1918  
*Bembidion* (*Notaphus*) *hageni* Hayward, 1897  
*Bembidion* (*Notaphus*) *idoneum* Casey, 1918  
*Bembidion* (*Notaphus*) *indistinctum* Dejean, 1831  
*Bembidion* (*Notaphus*) *insulatum* (LeConte, 1852)  
*Bembidion* (*Notaphus*) *intermedium* (Kirby, 1837)  
*Bembidion* (*Notaphus*) *jacobianum* Casey, 1918  
*Bembidion* (*Notaphus*) *latebricola* Casey, 1918  
*Bembidion* (*Notaphus*) *lecontei* Csiki, 1928  
*Bembidion* (*Notaphus*) *luculentum* Casey, 1918  
*Bembidion* (*Notaphus*) *mormon* Hayward, 1897  
*Bembidion* (*Notaphus*) *nigripes* (Kirby, 1837)‡  
*Bembidion* (*Notaphus*) *nubiculosum* Chaudoir, 1868  
*Bembidion* (*Notaphus*) *oberthueri* Hayward, 1901  
*Bembidion* (*Notaphus*) *obscurumaculatum* (Motschulsky, 1859)  
*Bembidion* (*Notaphus*) *obtusangulum* LeConte, 1863  
*Bembidion* (*Notaphus*) *obtusidens* Fall, 1922  
*Bembidion* (*Notaphus*) *operosum* Casey, 1918  
*Bembidion* (*Notaphus*) *patruele* Dejean, 1831  
*Bembidion* (*Notaphus*) *pilatei* Chaudoir, 1868  
*Bembidion* (*Notaphus*) *pimantum* Casey, 1918  
*Bembidion* (*Notaphus*) *rapidum* (LeConte, 1847)

- Bembidion* (*Notaphus*) *scintillans* Bates, 1882  
*Bembidion* (*Notaphus*) *scudderi* LeConte, 1878  
*Bembidion* (*Notaphus*) *semiopacum* Casey, 1924  
*Bembidion* (*Notaphus*) *semipunctatum* (Donovan, 1806)‡  
*Bembidion* (*Notaphus*) *umbratum* (LeConte, 1847)  
*Bembidion* (*Notaphus*) *versutum* LeConte, 1878  
*Bembidion* (*Notaphus*) *viridicolle* (LaFerté-Sénectère, 1841)  
*Bembidion* (*Notaphus*) *vividum* Casey, 1884  
*Bembidion* (*Notaphus*) *vulpecula* Casey, 1918  
*Bembidion* (*Trepanedoris*) *acutifrons* LeConte, 1879  
*Bembidion* (*Trepanedoris*) *ampliceps* Casey, 1918  
*Bembidion* (*Trepanedoris*) *anguliferum* (LeConte, 1852)  
*Bembidion* (*Trepanedoris*) *canadianum* Casey, 1924  
*Bembidion* (*Trepanedoris*) *clemens* Casey, 1918  
*Bembidion* (*Trepanedoris*) *concretum* Casey, 1918  
*Bembidion* (*Trepanedoris*) *connivens* (LeConte, 1852)  
*Bembidion* (*Trepanedoris*) *elizabethae* Hatch, 1950  
*Bembidion* (*Trepanedoris*) *fortestriatum* (Motschulsky, 1845)  
*Bembidion* (*Trepanedoris*) *frontale* (LeConte, 1847)  
*Bembidion* (*Trepanedoris*) *pseudocautum* Lindroth, 1963  
*Bembidion* (*Trepanedoris*) *scenicum* Casey, 1918  
*Bembidion* (*Trepanedoris*) *siticum* Casey, 1918  
*Bembidion* (*Peryphodes*) *ephippigerum* (LeConte, 1852)  
*Bembidion* (*Peryphodes*) *salinarium* Casey, 1918  
*Bembidion* (*Emphanes*) *diligens* Casey, 1918  
*Bembidion* (*Emphanes*) *vile* (LeConte, 1852)  
*Bembidion* (*Blepharoplastaphus*) *hastii* Sahlberg, 1827‡  
*Bembidion* (*Plataphus*) *arcticum* Lindroth, 1963‡  
*Bembidion* (*Plataphus*) *basicorne* Notman, 1920  
*Bembidion* (*Plataphus*) *brachythorax* Lindroth, 1963‡  
*Bembidion* (*Plataphus*) *breve* (Motschulsky, 1845)  
*Bembidion* (*Plataphus*) *carolinense* Casey, 1924  
*Bembidion* (*Plataphus*) *complanulum* (Mannerheim, 1853)  
*Bembidion* (*Plataphus*) *compressum* Lindroth, 1963‡  
*Bembidion* (*Plataphus*) *curtulum* Casey, 1918  
*Bembidion* (*Plataphus*) *falsum* Blaisdell, 1902  
*Bembidion* (*Plataphus*) *farrarae* Hatch, 1950  
*Bembidion* (*Plataphus*) *gebleri turbatum* Casey, 1918  
*Bembidion* (*Plataphus*) *gordoni* Lindroth, 1963  
*Bembidion* (*Plataphus*) *gratiosum* Casey, 1918  
*Bembidion* (*Plataphus*) *haruspex* Casey, 1918  
*Bembidion* (*Plataphus*) *hyperboreaorum* Munster, 1923‡  
*Bembidion* (*Plataphus*) *improvidens* Casey, 1924

- Bembidion* (*Plataphus*) *kalumae* Lindroth, 1963  
*Bembidion* (*Plataphus*) *kuprianovii* Mannerheim, 1843  
*Bembidion* (*Plataphus*) *laxatum* Casey, 1918  
*Bembidion* (*Plataphus*) *manningense* Lindroth, 1969  
*Bembidion* (*Plataphus*) *neocoerulescens* Bousquet, 1993  
*Bembidion* (*Plataphus*) *nigrocoeruleum* Hayward, 1897  
*Bembidion* (*Plataphus*) *occultator* Notman, 1920  
*Bembidion* (*Plataphus*) *oppressum* Casey, 1918  
*Bembidion* (*Plataphus*) *placeranum* Casey, 1924  
*Bembidion* (*Plataphus*) *planiusculum* Mannerheim, 1843  
*Bembidion* (*Plataphus*) *quadrifoveolatum* Mannerheim, 1843  
*Bembidion* (*Plataphus*) *rosslandicum* Lindroth, 1963  
*Bembidion* (*Plataphus*) *rufinum* Lindroth, 1963  
*Bembidion* (*Plataphus*) *rusticum lenensoides* Lindroth, 1963  
*Bembidion* (*Plataphus*) *rusticum rusticum* Casey, 1918  
*Bembidion* (*Plataphus*) *sierricola* Casey, 1924  
*Bembidion* (*Plataphus*) *simplex* Hayward, 1897  
*Bembidion* (*Plataphus*) *stillaguamish* Hatch, 1950  
*Bembidion* (*Plataphus*) *sulcipenne hyperboroides* Lindroth, 1963  
*Bembidion* (*Plataphus*) *sulcipenne prasinoides* Lindroth, 1963  
*Bembidion* (*Plataphus*) *vandykei* Blaisdell, 1902  
*Bembidion* (*Plataphus*) *viator* Casey, 1918  
*Bembidion* (*Hydrium*) *interventor* Lindroth, 1963  
*Bembidion* (*Hydrium*) *levigatum* Say, 1823  
*Bembidion* (*Hydrium*) *nitidum* (Kirby, 1837)  
*Bembidion* (*Hydrium*) *obliquulum* LeConte, 1859  
*Bembidion* (*Metallina*) *dyschirinum* LeConte, 1861  
*Bembidion* (*Metallina*) *lampros* (Herbst, 1784)†  
*Bembidion* (*Metallina*) *properans* (Stephens, 1828)†  
*Bembidion* (*Lindrochthus*) *wickhami* Hayward, 1897  
*Bembidion* (*Eupetedromus*) *graciliforme* Hayward, 1897  
*Bembidion* (*Eupetedromus*) *immaturum* Lindroth, 1954  
*Bembidion* (*Eupetedromus*) *incrematum* LeConte, 1860‡  
*Bembidion* (*Eupetedromus*) *iridipenne* Bousquet & Webster, 2006  
*Bembidion* (*Eupetedromus*) *variegatum* Say, 1823  
*Bembidion* (*Trechonepha*) *iridescens* (LeConte, 1852)  
*Bembidion* (*Trechonepha*) *trechiforme* (LeConte, 1852)  
*Bembidion* (*Liocosmius*) *festivum* Casey, 1918  
*Bembidion* (*Liocosmius*) *horni* Hayward, 1897  
*Bembidion* (*Liocosmius*) *mundum* (LeConte, 1852)  
*Bembidion* (*Melomalus*) *planatum* (LeConte, 1847)  
*Bembidion* (*Trichoplataphus*) *fugax* (LeConte, 1848)  
*Bembidion* (*Trichoplataphus*) *grandiceps* Hayward, 1897

- Bembidion* (*Trichoplataphus*) *ozarkense* Maddison & Hildebrandt, 2011  
*Bembidion* (*Trichoplataphus*) *planum* (Haldeman, 1843)  
*Bembidion* (*Trichoplataphus*) *rolandi* Fall, 1922  
*Bembidion* (*Phyla*) *obtusum* Audinet-Serville, 1821†  
*Bembidion* (*Lymnaeum*) *laticeps* (LeConte, 1858)  
*Bembidion* (*Lymnaeum*) *nigropiceum* (Marsham, 1802)†  
*Phrypeus* *rickseckeri* (Hayward, 1897)  
*Mioptachys* *flavicauda* (Say, 1823)  
*Tachyta* (*Tachyta*) *angulata* Casey, 1918  
*Tachyta* (*Tachyta*) *falli* (Hayward, 1900)  
*Tachyta* (*Tachyta*) *inornata* (Say, 1823)  
*Tachyta* (*Tachyta*) *kirbyi* Casey, 1918  
*Tachyta* (*Tachyta*) *parvicornis* Notman, 1922  
*Elaphropus* (*Barytachys*) *anceps* (LeConte, 1848)  
*Elaphropus* (*Barytachys*) *anthrax* (LeConte, 1852)  
*Elaphropus* (*Barytachys*) *brevis* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *brunnicollis* (Motschulsky, 1862)  
*Elaphropus* (*Barytachys*) *capax* (LeConte, 1863)  
*Elaphropus* (*Barytachys*) *cockerelli* (Fall, 1907)  
*Elaphropus* (*Barytachys*) *congener* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *conjugens* (Notman, 1919)  
*Elaphropus* (*Barytachys*) *dolosus* (LeConte, 1848)  
*Elaphropus* (*Barytachys*) *fatuus* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *ferrugineus* (Dejean, 1831)  
*Elaphropus* (*Barytachys*) *fuscicornis* (Chaudoir, 1868)  
*Elaphropus* (*Barytachys*) *granarius* (Dejean, 1831)  
*Elaphropus* (*Barytachys*) *incurvus* (Say, 1830)  
*Elaphropus* (*Barytachys*) *liebecki* (Hayward, 1900)  
*Elaphropus* (*Barytachys*) *monticola* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *nebulosus* (Chaudoir, 1868)  
*Elaphropus* (*Barytachys*) *obesulus* (LeConte, 1852)  
*Elaphropus* (*Barytachys*) *rapax* (LeConte, 1852)  
*Elaphropus* (*Barytachys*) *renoicus* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *rubricauda* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *saturatus* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *sectator* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *sedulus* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *tahoensis* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *tripunctatus* (Say, 1830)  
*Elaphropus* (*Barytachys*) *vernificatus* (Casey, 1918)  
*Elaphropus* (*Barytachys*) *vivax* (LeConte, 1848)  
*Elaphropus* (*Barytachys*) *xanthopus* (Dejean, 1831)  
*Elaphropus* (*Tachyura*) *parvulus* (Dejean, 1831)†



*Micratopus aenescens* (LeConte, 1848)  
*Pericompsus* (*Pericompsus*) *ephippiatus* (Say, 1830)  
*Pericompsus* (*Pericompsus*) *laetulus* LeConte, 1852  
*Pericompsus* (*Pericompsus*) *sellatus* LeConte, 1852  
*Porotachys bisulcatus* (Nicolai, 1822)†  
*Polyderis diaphana* (Casey, 1918)  
*Polyderis laeva* (Say, 1823)  
*Polyderis rufotestacea* (Hayward, 1900)  
*Tachys* (*Tachys*) *bradycellinus* Hayward, 1900  
*Tachys* (*Tachys*) *bryanti* Lindroth, 1966  
*Tachys* (*Tachys*) *corax* LeConte, 1852  
*Tachys* (*Tachys*) *halophilus* Lindroth, 1966  
*Tachys* (*Tachys*) *litoralis* Casey, 1884  
*Tachys* (*Tachys*) *misellus* LaFerté-Sénectère, 1841  
*Tachys* (*Tachys*) *mordax* LeConte, 1852  
*Tachys* (*Tachys*) *pallidus* Chaudoir, 1868  
*Tachys* (*Tachys*) *pulchellus* LaFerté-Sénectère, 1841  
*Tachys* (*Tachys*) *translucens* Darlington, 1937  
*Tachys* (*Tachys*) *virgo* LeConte, 1852  
*Tachys* (*Tachys*) *vittiger* LeConte, 1852  
*Tachys* (*Paratachys*) *aeneipennis* Motschulsky, 1862  
*Tachys* (*Paratachys*) *albipes* LeConte, 1863  
*Tachys* (*Paratachys*) *austinicus* (Casey, 1918)  
*Tachys* (*Paratachys*) *columbiensis* Hayward, 1900  
*Tachys* (*Paratachys*) *edax* LeConte, 1852  
*Tachys* (*Paratachys*) *hyalinus* Casey, 1918  
*Tachys* (*Paratachys*) *oblitus* Casey, 1918  
*Tachys* (*Paratachys*) *potomaca* (Erwin, 1981)  
*Tachys* (*Paratachys*) *proximus* (Say, 1823)  
*Tachys* (*Paratachys*) *pumilus* (Dejean, 1831)  
*Tachys* (*Paratachys*) *rectangulus* Notman, 1919  
*Tachys* (*Paratachys*) *rhodeanus* Casey, 1918  
*Tachys* (*Paratachys*) *sagax* Casey, 1918  
*Tachys* (*Paratachys*) *scitulus* LeConte, 1848  
*Tachys* (*Paratachys*) *sequax* LeConte, 1848  
*Tachys* (*Paratachys*) *spadix* Casey, 1918  
*Tachys* (*Paratachys*) *umbripennis* Chaudoir, 1868  
*Tachys* (*Paratachys*) *ventricosus* LeConte, 1863  
*Tachys* (*Paratachys*) *vernalis* Casey, 1918  
*Tachys* (*Paratachys*) *vorax* LeConte, 1852  
*Anillodes debilis* (LeConte, 1853)  
*Anillodes minutus* Jeannel, 1963  
*Anillodes walkeri* Jeannel, 1963

- Anillinus affabilis* (Brues, 1902)  
*Anillinus aleyae* Sokolov & Watrous, 2008  
*Anillinus balli* Sokolov & Carlton, 2004  
*Anillinus barberi* Jeannel, 1963  
*Anillinus barri* Sokolov & Carlton, 2004  
*Anillinus campbelli* Giachino, 2011  
*Anillinus carltoni* Sokolov, 2011  
*Anillinus chandleri* Sokolov, 2011  
*Anillinus cherokee* Sokolov & Carlton, 2008  
*Anillinus chilhowee* Sokolov, 2011  
*Anillinus cieglerae* Sokolov & Carlton, 2007  
*Anillinus cornelli* Sokolov & Carlton, 2004  
*Anillinus daggyi* Sokolov & Carlton, 2004  
*Anillinus depressus* (Jeannel, 1963)  
*Anillinus docwatsoni* Sokolov & Carlton, 2004  
*Anillinus dohrni* (Ehlers, 1884)  
*Anillinus elongatus* Jeannel, 1963  
*Anillinus erwini* Sokolov & Carlton, 2004  
*Anillinus folkertsi* Sokolov & Carlton, 2004  
*Anillinus fortis* (Horn, 1869)  
*Anillinus gimmeli* Sokolov & Carlton, 2010  
*Anillinus indianae* Jeannel, 1963  
*Anillinus juliae* Sokolov & Carlton, 2010  
*Anillinus kovariki* Sokolov & Carlton, 2004  
*Anillinus langdoni* Sokolov & Carlton, 2004  
*Anillinus lescheni* Sokolov & Carlton, 2004  
*Anillinus longiceps* Jeannel, 1963  
*Anillinus loweae* Sokolov & Carlton, 2004  
*Anillinus magazinensis* Sokolov & Carlton, 2004  
*Anillinus merritti* Sokolov & Carlton, 2010  
*Anillinus moseleyae* Sokolov & Carlton, 2004  
*Anillinus murrayae* Sokolov & Carlton, 2004  
*Anillinus nantahala* Dajoz, 2005  
*Anillinus pecki* Giachino, 2011  
*Anillinus pusillus* Sokolov & Carlton, 2007  
*Anillinus robisoni* Sokolov & Carlton, 2004  
*Anillinus sinuaticollis* Jeannel, 1963  
*Anillinus sinuatus* Jeannel, 1963  
*Anillinus smokiensis* Sokolov, 2011  
*Anillinus steevesi* Barr, 1995  
*Anillinus stephani* Sokolov & Carlton, 2004  
*Anillinus tishechkini* Sokolov & Carlton, 2004  
*Anillinus turneri* Jeannel, 1963

*Anillinus unicoi* Sokolov, 2011  
*Anillinus valentinei* (Jeannel, 1963)  
*Anillinus virginiae* Jeannel, 1963  
*Serranillus dunavani* (Jeannel, 1963)  
*Serranillus jeanneli* Barr, 1995  
*Serranillus septentrionis* Sokolov & Carlton, 2008  
*Anillaspis caseyi* Jeannel, 1963  
*Anillaspis explanata* (Horn, 1888)  
*Horologion speokoites* Valentine, 1932

#### POGONINI

*Thalassotrechus barbarae* (Horn, 1892)  
*Diplochaetus emaciatus* (Bates, 1891)  
*Diplochaetus megacephalus* Bousquet & Laplante, 1997  
*Diplochaetus planatus* (Horn, 1876)  
*Diplochaetus rutilus* (Chevrolat, 1863)  
*Pogonus texanus* Chaudoir, 1868

#### PATROBINI

*Diplous (Platidius) aterrimus* (Dejean, 1828)  
*Diplous (Platidius) californicus* (Motschulsky, 1844)  
*Diplous (Platidius) filicornis* (Casey, 1918)  
*Diplous (Platidius) rugicollis* (Randall, 1838)  
*Patrobis cinctus* Motschulsky, 1860‡  
*Patrobis fossifrons* (Eschscholtz, 1823)  
*Patrobis foveocollis* (Eschscholtz, 1823)‡  
*Patrobis lecontei* Chaudoir, 1872  
*Patrobis longicornis* (Say, 1823)  
*Patrobis septentrionis septentrionis* Dejean, 1828‡  
*Patrobis stygicus* Chaudoir, 1872‡  
*Platypatrobis lacustris* Darlington, 1938  
*Platidiolus vandykei* Kurnakov, 1960

#### PSYDRINI

*Nomius pygmaeus* (Dejean, 1831)  
*Psydrus piceus* LeConte, 1846

#### METRIINI

*Metrius contractus contractus* Eschscholtz, 1829  
*Metrius contractus planatus* Van Dyke, 1925  
*Metrius contractus sericeus* Rivers, 1900  
*Metrius explodens* Bousquet & Goulet, 1990

**PAUSSINI**

- Pachyteles gyllenhalii* (Dejean, 1825)  
*Goniotropis kuntzeni kuntzeni* Bänninger, 1927  
*Goniotropis parca* (LeConte, 1884)  
*Physeia hirta* LeConte, 1853  
*Ozaena lemoulti* Bänninger, 1932

**BRACHININI**

- Brachinus* (*Neobrachinus*) *aabaaba* Erwin, 1970  
*Brachinus* (*Neobrachinus*) *adustipennis* Erwin, 1969  
*Brachinus* (*Neobrachinus*) *aeger* Chaudoir, 1876  
*Brachinus* (*Neobrachinus*) *alexiguus* Erwin, 1970  
*Brachinus* (*Neobrachinus*) *alternans* Dejean, 1825  
*Brachinus* (*Neobrachinus*) *americanus* (LeConte, 1844)  
*Brachinus* (*Neobrachinus*) *azureipennis* Chaudoir, 1876  
*Brachinus* (*Neobrachinus*) *capnicus* Erwin, 1970  
*Brachinus* (*Neobrachinus*) *cibolensis* Erwin, 1970  
*Brachinus* (*Neobrachinus*) *conformis* Dejean, 1831  
*Brachinus* (*Neobrachinus*) *cordicollis* Dejean, 1826  
*Brachinus* (*Neobrachinus*) *costipennis* Motschulsky, 1859  
*Brachinus* (*Neobrachinus*) *cyanipennis* Say, 1823  
*Brachinus* (*Neobrachinus*) *cyanochroaticus* Erwin, 1969  
*Brachinus* (*Neobrachinus*) *elongatulus* Chaudoir, 1876  
*Brachinus* (*Neobrachinus*) *explosus* Erwin, 1970  
*Brachinus* (*Neobrachinus*) *favicollis* Erwin, 1965  
*Brachinus* (*Neobrachinus*) *fulminatus* Erwin, 1969  
*Brachinus* (*Neobrachinus*) *fumans* (Fabricius, 1781)  
*Brachinus* (*Neobrachinus*) *gebhardis* Erwin, 1965  
*Brachinus* (*Neobrachinus*) *geniculatus* Dejean, 1831  
*Brachinus* (*Neobrachinus*) *hirsutus* Bates, 1884  
*Brachinus* (*Neobrachinus*) *ichabodopsis* Erwin, 1970  
*Brachinus* (*Neobrachinus*) *imperialensis* Erwin, 1965  
*Brachinus* (*Neobrachinus*) *imporcitis* Erwin, 1970  
*Brachinus* (*Neobrachinus*) *janthinipennis* (Dejean, 1831)  
*Brachinus* (*Neobrachinus*) *javalinopsis* Erwin, 1970  
*Brachinus* (*Neobrachinus*) *kansanus* LeConte, 1863  
*Brachinus* (*Neobrachinus*) *kavanaughi* Erwin, 1969  
*Brachinus* (*Neobrachinus*) *lateralis* Dejean, 1831  
*Brachinus* (*Neobrachinus*) *medius* Harris, 1828  
*Brachinus* (*Neobrachinus*) *mexicanus* Dejean, 1831  
*Brachinus* (*Neobrachinus*) *microamericanus* Erwin, 1969  
*Brachinus* (*Neobrachinus*) *mobilis* Erwin, 1970



*Brachinus* (*Neobrachinus*) *neglectus* LeConte, 1844  
*Brachinus* (*Neobrachinus*) *ovipennis* LeConte, 1863  
*Brachinus* (*Neobrachinus*) *oxygonus* Chaudoir, 1843  
*Brachinus* (*Neobrachinus*) *pallidus* Erwin, 1965  
*Brachinus* (*Neobrachinus*) *patruelis* LeConte, 1844  
*Brachinus* (*Neobrachinus*) *perplexus* Dejean, 1831  
*Brachinus* (*Neobrachinus*) *phaeocerus* Chaudoir, 1868  
*Brachinus* (*Neobrachinus*) *puberulus* Chaudoir, 1868  
*Brachinus* (*Neobrachinus*) *quadripennis* Dejean, 1825  
*Brachinus* (*Neobrachinus*) *rugipennis* Chaudoir, 1868  
*Brachinus* (*Neobrachinus*) *sublaevis* Chaudoir, 1868  
*Brachinus* (*Neobrachinus*) *tenuicollis* LeConte, 1844  
*Brachinus* (*Neobrachinus*) *texanus* Chaudoir, 1868  
*Brachinus* (*Neobrachinus*) *velutinus* Erwin, 1965  
*Brachinus* (*Neobrachinus*) *viridipennis* Dejean, 1831  
*Brachinus* (*Neobrachinus*) *vulcanoides* Erwin, 1969

#### MORIONINI

*Morion aridus* Allen, 1969  
*Morion monilicornis* (Latreille, 1805)

#### ABACETINI

*Loxandrus accelerans* Casey, 1918  
*Loxandrus agilis* (Dejean, 1828)  
*Loxandrus algidus* Allen, 1972  
*Loxandrus brevicollis* (LeConte, 1846)  
*Loxandrus celer* (Dejean, 1828)  
*Loxandrus cervicalis* Casey, 1918  
*Loxandrus cincinnati* Casey, 1924  
*Loxandrus circulus* Allen, 1972  
*Loxandrus collucens* Casey, 1918  
*Loxandrus crenatus* LeConte, 1853  
*Loxandrus duryi* Wright, 1939  
*Loxandrus erraticus* (Dejean, 1828)  
*Loxandrus extendus* Allen, 1972  
*Loxandrus floridanus* LeConte, 1878  
*Loxandrus gibbus* Allen, 1972  
*Loxandrus icarus* Will & Liebherr, 1998  
*Loxandrus infimus* Bates, 1882  
*Loxandrus lucens* Chaudoir, 1868  
*Loxandrus micans* Chaudoir, 1868  
*Loxandrus minor* (Chaudoir, 1843)  
*Loxandrus nitidulus* (LeConte, 1846)

*Loxandrus pactinullus* Allen, 1972  
*Loxandrus parallelus* Casey, 1918  
*Loxandrus parvulus* Chaudoir, 1868  
*Loxandrus piceolus* Chaudoir, 1868  
*Loxandrus piciventris* (LeConte, 1846)  
*Loxandrus pravitubus* Allen, 1972  
*Loxandrus proximus* Chaudoir, 1868  
*Loxandrus pusillus* LeConte, 1853  
*Loxandrus rectangulus* LeConte, 1878  
*Loxandrus rectus* (Say, 1823)  
*Loxandrus robustus* Allen, 1972  
*Loxandrus rossi* Allen, 1972  
*Loxandrus saccisecundaris* Allen, 1972  
*Loxandrus saphyrinus* (Chaudoir, 1843)  
*Loxandrus sculptilis* Bates, 1884  
*Loxandrus spinilunatus* Allen, 1972  
*Loxandrus straneoi* Will & Liebherr, 1998  
*Loxandrus taeniatus* LeConte, 1853  
*Loxandrus uniformis* Allen, 1972  
*Loxandrus unilobus* Allen, 1972  
*Loxandrus velocipes* Casey, 1918  
*Loxandrus velox* (Dejean, 1828)  
*Loxandrus vulneratus* Casey, 1918  
*Stolonis intercepta* Chaudoir, 1874

#### PTEROSTICHINI

*Abaris (Abaridius) splendidula* (LeConte, 1863)  
*Hybothecus flohri* (Bates, 1882)  
*Poecilus (Poecilus) chalcites* (Say, 1823)  
*Poecilus (Poecilus) coloradensis* (Csiki, 1930)  
*Poecilus (Poecilus) corvus* (LeConte, 1873)  
*Poecilus (Poecilus) cursitor* LeConte, 1853  
*Poecilus (Poecilus) cyanicolor* Chaudoir, 1876  
*Poecilus (Poecilus) diplophryus* Chaudoir, 1876  
*Poecilus (Poecilus) laetulus* (LeConte, 1863)  
*Poecilus (Poecilus) lucublandus* (Say, 1823)  
*Poecilus (Poecilus) mexicanus* Chaudoir, 1876  
*Poecilus (Poecilus) occidentalis* (Dejean, 1828)  
*Poecilus (Poecilus) scitulus* LeConte, 1846  
*Poecilus (Poecilus) texanus* (LeConte, 1863)  
*Poecilus (Derus) nearcticus* (Lindroth, 1966)‡  
*Lophoglossus gravis* LeConte, 1873  
*Lophoglossus haldemanni* (LeConte, 1846)

- Lophoglossus scrutator* (LeConte, 1846)  
*Lophoglossus substrenuus* (Csiki, 1930)  
*Lophoglossus tartaricus* (Say, 1823)  
*Lophoglossus vernix* Casey, 1913  
*Piesmus submarginatus* (Say, 1823)  
*Gastrellarius blanchardi* (Horn, 1891)  
*Gastrellarius honestus* (Say, 1823)  
*Gastrellarius unicarum* (Darlington, 1932)  
*Stomis* (*Neostomis*) *termitiformis* (Van Dyke, 1926)  
*Stomis* (*Stomis*) *pumicatus* (Panzer, 1795)†  
*Stereocerus haematopus* (Dejean, 1831)‡  
*Stereocerus rubripes* (Motschulsky, 1860)‡  
*Myas* (*Trigonognatha*) *coracinus* (Say, 1823)  
*Myas* (*Trigonognatha*) *cyanescens* Dejean, 1828  
*Pterostichus* (*Argutor*) *commutabilis* (Motschulsky, 1866)  
*Pterostichus* (*Argutor*) *praetermissus* (Chaudoir, 1868)  
*Pterostichus* (*Argutor*) *vernalis* (Panzer, 1795)†  
*Pterostichus* (*Phonias*) *corrusculus* LeConte, 1873  
*Pterostichus* (*Phonias*) *femoralis* (Kirby, 1837)  
*Pterostichus* (*Phonias*) *patruelis* (Dejean, 1831)  
*Pterostichus* (*Phonias*) *strenuus* (Panzer, 1796)†  
*Pterostichus* (*Bothriopterus*) *adstrictus* Eschscholtz, 1823‡  
*Pterostichus* (*Bothriopterus*) *lustrans* LeConte, 1851  
*Pterostichus* (*Bothriopterus*) *mutus* (Say, 1823)  
*Pterostichus* (*Bothriopterus*) *oregonus* LeConte, 1861  
*Pterostichus* (*Bothriopterus*) *pennsylvanicus* LeConte, 1873  
*Pterostichus* (*Bothriopterus*) *trinarius* (Casey, 1918)  
*Pterostichus* (*Melanius*) *castor* Goulet & Bousquet, 1983  
*Pterostichus* (*Melanius*) *corvinus* (Dejean, 1828)  
*Pterostichus* (*Melanius*) *ebeninus* (Dejean, 1828)  
*Pterostichus* (*Pseudomaseus*) *luctuosus* (Dejean, 1828)  
*Pterostichus* (*Pseudomaseus*) *tenuis* (Casey, 1924)  
*Pterostichus* (*Feronina*) *barri* Bousquet, 2006  
*Pterostichus* (*Feronina*) *palmi* Schaeffer, 1910  
*Pterostichus* (*Paraferonia*) *lubricus* LeConte, 1853  
*Pterostichus* (*Pseudoferonina*) *amadeus* Bousquet, nomen novum  
*Pterostichus* (*Pseudoferonina*) *bousqueti* Bergdahl, 2011  
*Pterostichus* (*Pseudoferonina*) *campbelli* Bousquet, 1985  
*Pterostichus* (*Pseudoferonina*) *humidulus* (Van Dyke, 1943)  
*Pterostichus* (*Pseudoferonina*) *lanei* Van Dyke, 1926  
*Pterostichus* (*Pseudoferonina*) *lolo* Bergdahl, 2011  
*Pterostichus* (*Pseudoferonina*) *shulli* (Hatch, 1949)  
*Pterostichus* (*Pseudoferonina*) *smetanai* Bousquet, 1985

- Pterostichus* (*Pseudoferonina*) *spathifer* Bousquet, 1992  
*Pterostichus* (*Gastrosticta*) *enodis* Bousquet, 1992  
*Pterostichus* (*Gastrosticta*) *mutoides* Bousquet, 1992  
*Pterostichus* (*Gastrosticta*) *obesulus* LeConte, 1873  
*Pterostichus* (*Gastrosticta*) *ophryoderus* (Chaudoir, 1878)  
*Pterostichus* (*Gastrosticta*) *punctiventris* (Chaudoir, 1878)  
*Pterostichus* (*Gastrosticta*) *putus* Casey, 1913  
*Pterostichus* (*Gastrosticta*) *sayanus* Csiki, 1930  
*Pterostichus* (*Gastrosticta*) *subacutus* (Casey, 1918)  
*Pterostichus* (*Gastrosticta*) *tumescens* LeConte, 1863  
*Pterostichus* (*Gastrosticta*) *ventralis* (Say, 1823)  
*Pterostichus* (*Morphnosoma*) *melanarius melanarius* (Illiger, 1798)†  
*Pterostichus* (*Euferonia*) *coracinus* (Newman, 1838)  
*Pterostichus* (*Euferonia*) *ingens* (Casey, 1918)  
*Pterostichus* (*Euferonia*) *lachrymosus* (Newman, 1838)  
*Pterostichus* (*Euferonia*) *novus* Straneo, 1944  
*Pterostichus* (*Euferonia*) *relictus* (Newman, 1838)  
*Pterostichus* (*Euferonia*) *stygius* (Say, 1823)  
*Pterostichus* (*Lenapterus*) *agonus* Horn, 1880‡  
*Pterostichus* (*Lenapterus*) *costatus* (Ménétriés, 1851)‡  
*Pterostichus* (*Lenapterus*) *punctatissimus* (Randall, 1838)  
*Pterostichus* (*Lenapterus*) *vermiculosus* (Ménétriés, 1851)‡  
*Pterostichus* (*Metallophilus*) *sublaevis* (Sahlberg, 1880)‡  
*Pterostichus* (*Abacidus*) *atratus* (Newman, 1838)  
*Pterostichus* (*Abacidus*) *fallax* (Dejean, 1828)  
*Pterostichus* (*Abacidus*) *hamiltoni* Horn, 1880  
*Pterostichus* (*Abacidus*) *permundus* (Say, 1830)  
*Pterostichus* (*Abacidus*) *sculptus* LeConte, 1853  
*Pterostichus* (*Orsonjohnsonus*) *johnsoni* Ulke, 1889  
*Pterostichus* (*Lamenius*) *caudicalis* (Say, 1823)  
*Pterostichus* (*Eosteropus*) *circulosus* Lindroth, 1966  
*Pterostichus* (*Eosteropus*) *moestus* (Say, 1823)  
*Pterostichus* (*Eosteropus*) *superciliosus* (Say, 1823)  
*Pterostichus* (*Monoferonia*) *carolinus carolinus* Darlington, 1932  
*Pterostichus* (*Monoferonia*) *carolinus fumorum* Darlington, 1932  
*Pterostichus* (*Monoferonia*) *diligendus* (Chaudoir, 1868)  
*Pterostichus* (*Monoferonia*) *mancus* (LeConte, 1853)  
*Pterostichus* (*Monoferonia*) *primus* Darlington, 1932  
*Pterostichus* (*Cylindrocharis*) *acutipes acutipes* Barr, 1971  
*Pterostichus* (*Cylindrocharis*) *acutipes kentuckensis* Barr, 1971  
*Pterostichus* (*Cylindrocharis*) *hypogeus* Barr, 1971  
*Pterostichus* (*Cylindrocharis*) *rostratus* (Newman, 1838)  
*Pterostichus* (*Leptoferonia*) *angustus* (Dejean, 1828)



- Pterostichus* (*Leptoferonia*) *beyeri* Van Dyke, 1926  
*Pterostichus* (*Leptoferonia*) *blodgettensis* Will, 2007  
*Pterostichus* (*Leptoferonia*) *caligans* Horn, 1891  
*Pterostichus* (*Leptoferonia*) *cochlearis* Hacker, 1968  
*Pterostichus* (*Leptoferonia*) *deino* Will, 2007  
*Pterostichus* (*Leptoferonia*) *enyo* Will, 2007  
*Pterostichus* (*Leptoferonia*) *falli* Van Dyke, 1926  
*Pterostichus* (*Leptoferonia*) *fenyesi fenderi* Hacker, 1968  
*Pterostichus* (*Leptoferonia*) *fenyesi fenyesi* Csiki, 1930  
*Pterostichus* (*Leptoferonia*) *fuchsi* Schaeffer, 1910  
*Pterostichus* (*Leptoferonia*) *hatchi* Hacker, 1968  
*Pterostichus* (*Leptoferonia*) *humilis* Casey, 1913  
*Pterostichus* (*Leptoferonia*) *idahoae* Csiki, 1930  
*Pterostichus* (*Leptoferonia*) *inanis* Horn, 1891  
*Pterostichus* (*Leptoferonia*) *infernalis* Hatch, 1936  
*Pterostichus* (*Leptoferonia*) *inopinus* (Casey, 1918)  
*Pterostichus* (*Leptoferonia*) *lobatus* Hacker, 1968  
*Pterostichus* (*Leptoferonia*) *marinensis* Hacker, 1968  
*Pterostichus* (*Leptoferonia*) *mattolensis* Hacker, 1968  
*Pterostichus* (*Leptoferonia*) *pemphredo* Will, 2007  
*Pterostichus* (*Leptoferonia*) *pumilus pumilus* Casey, 1913  
*Pterostichus* (*Leptoferonia*) *pumilus willamettensis* Hacker, 1968  
*Pterostichus* (*Leptoferonia*) *rothi* (Hatch, 1951)  
*Pterostichus* (*Leptoferonia*) *sphodrinus* LeConte, 1863  
*Pterostichus* (*Leptoferonia*) *stapedius* Hacker, 1968  
*Pterostichus* (*Leptoferonia*) *trinitensis* Hacker, 1968  
*Pterostichus* (*Leptoferonia*) *yosemitensis* Hacker, 1968  
*Pterostichus* (*Anilloferonia*) *lanei* (Hatch, 1935)  
*Pterostichus* (*Anilloferonia*) *malkini* (Hatch, 1953)  
*Pterostichus* (*Anilloferonia*) *testaceus* (Van Dyke, 1926)  
*Pterostichus* (*Hypherpes*) *adoxus* (Say, 1823)  
*Pterostichus* (*Hypherpes*) *algidus* LeConte, 1853  
*Pterostichus* (*Hypherpes*) *amethystinus* Mannerheim, 1843  
*Pterostichus* (*Hypherpes*) *annosus* Casey, 1913  
*Pterostichus* (*Hypherpes*) *arcanus* Casey, 1913  
*Pterostichus* (*Hypherpes*) *baldwini* (Casey, 1924)  
*Pterostichus* (*Hypherpes*) *barbarinus* Casey, 1913  
*Pterostichus* (*Hypherpes*) *brachylobus* Kavanaugh & LaBonte, 2006  
*Pterostichus* (*Hypherpes*) *californicus* (Dejean, 1828)  
*Pterostichus* (*Hypherpes*) *canallatus* Casey, 1913  
*Pterostichus* (*Hypherpes*) *castaneus* (Dejean, 1828)  
*Pterostichus* (*Hypherpes*) *castanipes* (Ménétriés, 1843)  
*Pterostichus* (*Hypherpes*) *congestus* (Ménétriés, 1843)

- Pterostichus* (Hypherpes) *craterensis* (Hatch, 1949)  
*Pterostichus* (Hypherpes) *crenicollis* LeConte, 1873  
*Pterostichus* (Hypherpes) *ecarinatus* Hatch, 1936  
*Pterostichus* (Hypherpes) *esuriens* Casey, 1913  
*Pterostichus* (Hypherpes) *gliscans* Casey, 1913  
*Pterostichus* (Hypherpes) *gracilior* LeConte, 1873  
*Pterostichus* (Hypherpes) *herculaneus* Mannerheim, 1843  
*Pterostichus* (Hypherpes) *hornii* LeConte, 1873  
*Pterostichus* (Hypherpes) *illustris* LeConte, 1851  
*Pterostichus* (Hypherpes) *inermis* Fall, 1901  
*Pterostichus* (Hypherpes) *isabellae* LeConte, 1851  
*Pterostichus* (Hypherpes) *jacobinus* Casey, 1913  
*Pterostichus* (Hypherpes) *laborans* Casey, 1913  
*Pterostichus* (Hypherpes) *lacertus* Casey, 1913  
*Pterostichus* (Hypherpes) *lama* (Ménétriés, 1843)  
*Pterostichus* (Hypherpes) *lassulus* (Casey, 1920)  
*Pterostichus* (Hypherpes) *lattini* LaBonte, 2006  
*Pterostichus* (Hypherpes) *luscus* (Casey, 1918)  
*Pterostichus* (Hypherpes) *menetriesii* LeConte, 1873  
*Pterostichus* (Hypherpes) *mercedianus* (Casey, 1918)  
*Pterostichus* (Hypherpes) *miscellus* Casey, 1913  
*Pterostichus* (Hypherpes) *morionides* (Chaudoir, 1868)  
*Pterostichus* (Hypherpes) *neobrunneus* Lindroth, 1966  
*Pterostichus* (Hypherpes) *nigrocaeruleus* Van Dyke, 1926  
*Pterostichus* (Hypherpes) *obsidianus* Casey, 1913  
*Pterostichus* (Hypherpes) *occultus* Casey, 1913  
*Pterostichus* (Hypherpes) *ordinarius* Casey, 1913  
*Pterostichus* (Hypherpes) *ovalipennis* Casey, 1913  
*Pterostichus* (Hypherpes) *panticulatus* Casey, 1913  
*Pterostichus* (Hypherpes) *pergracilis* (Casey, 1920)  
*Pterostichus* (Hypherpes) *planctus* LeConte, 1853  
*Pterostichus* (Hypherpes) *protensiformis* (Casey, 1924)  
*Pterostichus* (Hypherpes) *protractus* LeConte, 1860  
*Pterostichus* (Hypherpes) *restrictus* (Casey, 1918)  
*Pterostichus* (Hypherpes) *scutellaris* LeConte, 1873  
*Pterostichus* (Hypherpes) *serripes* (LeConte, 1875)  
*Pterostichus* (Hypherpes) *setosus* Hatch, 1951  
*Pterostichus* (Hypherpes) *sierranus* Casey, 1913  
*Pterostichus* (Hypherpes) *sponsor* Casey, 1913  
*Pterostichus* (Hypherpes) *spraguei* LeConte, 1873  
*Pterostichus* (Hypherpes) *suffusus* Casey, 1913  
*Pterostichus* (Hypherpes) *tarsalis* LeConte, 1873  
*Pterostichus* (Hypherpes) *tristis* (Dejean, 1828)

- Pterostichus (Hypherpes) tuberculofemoratus* Hatch, 1936  
*Pterostichus (Hypherpes) vandykei* Schaeffer, 1910  
*Pterostichus (Hypherpes) vicinus* Mannerheim, 1843  
*Pterostichus (Hypherpes) ybousqueti* Berlov, 1999  
*Pterostichus (Cryobius) arcticola* (Chaudoir, 1868)  
*Pterostichus (Cryobius) auriga* Ball, 1962  
*Pterostichus (Cryobius) barryorum* Ball, 1962  
*Pterostichus (Cryobius) brevicornis brevicornis* (Kirby, 1837)‡  
*Pterostichus (Cryobius) bryanti biocryus* Ball, 1962  
*Pterostichus (Cryobius) bryanti bryanti* (Van Dyke, 1951)  
*Pterostichus (Cryobius) bryanti bryantoides* Ball, 1962  
*Pterostichus (Cryobius) bryanti cacumenis* Ball, 1966  
*Pterostichus (Cryobius) bryanti stantonensis* Ball, 1966  
*Pterostichus (Cryobius) bryanti tiliaceoradix* Ball, 1962  
*Pterostichus (Cryobius) caribou* Ball, 1962  
*Pterostichus (Cryobius) chipewyan* Ball, 1962  
*Pterostichus (Cryobius) empetricola* (Dejean, 1828)‡  
*Pterostichus (Cryobius) gerstlensis* Ball, 1962  
*Pterostichus (Cryobius) hudsonicus* LeConte, 1863  
*Pterostichus (Cryobius) kotzebuei* Ball, 1962  
*Pterostichus (Cryobius) mandibularoides* Ball, 1966  
*Pterostichus (Cryobius) nivalis* (Sahlberg, 1844)‡  
*Pterostichus (Cryobius) parasimilis* Ball, 1962‡  
*Pterostichus (Cryobius) pinguedineus* (Eschscholtz, 1823)‡  
*Pterostichus (Cryobius) planus* (Sahlberg, 1885)  
*Pterostichus (Cryobius) riparius* (Dejean, 1828)  
*Pterostichus (Cryobius) similis* Mannerheim, 1852‡  
*Pterostichus (Cryobius) soperi* Ball, 1966  
*Pterostichus (Cryobius) surgens* LeConte, 1878  
*Pterostichus (Cryobius) tareumiut* Ball, 1962‡  
*Pterostichus (Cryobius) ventricosus ventricosus* (Eschscholtz, 1823)‡  
*Pterostichus (Cryobius) woodi* Ball & Currie, 1997  
*Cyclotrachelus (Cyclotrachelus) alabamensis* (Casey, 1920)  
*Cyclotrachelus (Cyclotrachelus) approximatus* (LeConte, 1846)  
*Cyclotrachelus (Cyclotrachelus) brevoorti* (LeConte, 1846)  
*Cyclotrachelus (Cyclotrachelus) dejeanellus* (Csiki, 1930)  
*Cyclotrachelus (Cyclotrachelus) faber* (Germar, 1824)  
*Cyclotrachelus (Cyclotrachelus) freitagi* Bousquet, 1993  
*Cyclotrachelus (Cyclotrachelus) fucatus* (Freitag, 1969)  
*Cyclotrachelus (Cyclotrachelus) hernandensis* (Van Dyke, 1943)  
*Cyclotrachelus (Cyclotrachelus) iuvenis* (Freitag, 1969)  
*Cyclotrachelus (Cyclotrachelus) laevipennis* (LeConte, 1846)  
*Cyclotrachelus (Cyclotrachelus) levifaber* (Freitag, 1969)

*Cyclotrachelus* (*Cyclotrachelus*) *macrovulum* (Freitag, 1969)  
*Cyclotrachelus* (*Cyclotrachelus*) *ovulum* (Chaudoir, 1868)  
*Cyclotrachelus* (*Cyclotrachelus*) *parafaber* (Freitag, 1969)  
*Cyclotrachelus* (*Cyclotrachelus*) *spoliatus* (Newman, 1838)  
*Cyclotrachelus* (*Cyclotrachelus*) *texensis* (Freitag, 1969)  
*Cyclotrachelus* (*Cyclotrachelus*) *unicolor* (Say, 1823)  
*Cyclotrachelus* (*Cyclotrachelus*) *vinctus* (LeConte, 1853)  
*Cyclotrachelus* (*Evarthrus*) *alabamiae* (Van Dyke, 1926)  
*Cyclotrachelus* (*Evarthrus*) *alternans* (Casey, 1920)  
*Cyclotrachelus* (*Evarthrus*) *blatchleyi* (Casey, 1918)  
*Cyclotrachelus* (*Evarthrus*) *constrictus* (Say, 1823)  
*Cyclotrachelus* (*Evarthrus*) *convivus* (LeConte, 1853)  
*Cyclotrachelus* (*Evarthrus*) *deceptus* (Casey, 1918)  
*Cyclotrachelus* (*Evarthrus*) *engelmani* (LeConte, 1853)  
*Cyclotrachelus* (*Evarthrus*) *floridensis* (Freitag, 1969)  
*Cyclotrachelus* (*Evarthrus*) *furtivus* (LeConte, 1853)  
*Cyclotrachelus* (*Evarthrus*) *gigas* (Casey, 1918)  
*Cyclotrachelus* (*Evarthrus*) *gravesi* (Freitag, 1969)  
*Cyclotrachelus* (*Evarthrus*) *gravidus* (Haldeman, 1853)  
*Cyclotrachelus* (*Evarthrus*) *heros* (Say, 1823)  
*Cyclotrachelus* (*Evarthrus*) *hypherpiformis* (Freitag, 1969)  
*Cyclotrachelus* (*Evarthrus*) *incisus* (LeConte, 1846)  
*Cyclotrachelus* (*Evarthrus*) *iowensis* (Freitag, 1969)  
*Cyclotrachelus* (*Evarthrus*) *lodingi* (Van Dyke, 1926)  
*Cyclotrachelus* (*Evarthrus*) *nonnitens* (LeConte, 1873)  
*Cyclotrachelus* (*Evarthrus*) *parasodalis* (Freitag, 1969)  
*Cyclotrachelus* (*Evarthrus*) *sallei* (LeConte, 1873)  
*Cyclotrachelus* (*Evarthrus*) *seximpressus* (LeConte, 1846)  
*Cyclotrachelus* (*Evarthrus*) *sigillatus* (Say, 1823)  
*Cyclotrachelus* (*Evarthrus*) *sinus* (Freitag, 1969)  
*Cyclotrachelus* (*Evarthrus*) *sodalis colossus* (LeConte, 1846)  
*Cyclotrachelus* (*Evarthrus*) *sodalis sodalis* (LeConte, 1846)  
*Cyclotrachelus* (*Evarthrus*) *substriatus* (LeConte, 1846)  
*Cyclotrachelus* (*Evarthrus*) *torvus* (LeConte, 1863)  
*Cyclotrachelus* (*Evarthrus*) *whitcombi* (Freitag, 1969)  
*Abax* (*Abax*) *parallelepipedus* (Piller & Mitterpacher, 1783)†

## ZABRINI

*Amara* (*Curtonotus*) *alpina* (Paykull, 1790)‡  
*Amara* (*Curtonotus*) *aulica* (Panzer, 1796)†  
*Amara* (*Curtonotus*) *blanchardi* Hayward, 1908  
*Amara* (*Curtonotus*) *bokori* Csiki, 1929‡  
*Amara* (*Curtonotus*) *carinata* (LeConte, 1847)



- Amara* (*Curtonotus*) *daurica* (Motschulsky, 1844)‡  
*Amara* (*Curtonotus*) *deparca* (Say, 1830)  
*Amara* (*Curtonotus*) *hyperborea* Dejean, 1831‡  
*Amara* (*Curtonotus*) *jacobina* LeConte, 1855  
*Amara* (*Curtonotus*) *kurnakowi* Hieke, 1994‡  
*Amara* (*Curtonotus*) *lacustris* LeConte, 1855  
*Amara* (*Curtonotus*) *pennsylvanica* Hayward, 1908  
*Amara* (*Curtonotus*) *pterostichina* Hayward, 1908  
*Amara* (*Curtonotus*) *thoracica* Hayward, 1908  
*Amara* (*Curtonotus*) *torrida* (Panzer, 1796)‡  
*Amara* (*Bradytus*) *apricaria* (Paykull, 1790)†  
*Amara* (*Bradytus*) *avida* (Say, 1823)  
*Amara* (*Bradytus*) *browni* Lindroth, 1968  
*Amara* (*Bradytus*) *exarata* Dejean, 1828  
*Amara* (*Bradytus*) *fulva* (Müller, 1776)†  
*Amara* (*Bradytus*) *glacialis* (Mannerheim, 1853)‡  
*Amara* (*Bradytus*) *insignis* Dejean, 1831  
*Amara* (*Bradytus*) *insularis* Horn, 1875  
*Amara* (*Bradytus*) *latior* (Kirby, 1837)  
*Amara* (*Bradytus*) *lindrothi* Hieke, 1990  
*Amara* (*Bradytus*) *neomexicana* (Casey, 1924)  
*Amara* (*Bradytus*) *schwarzi* Hayward, 1908  
*Amara* (*Neopercosia*) *fortis* LeConte, 1880  
*Amara* (*Percosia*) *obesa* (Say, 1823)  
*Amara* (*Xenocelia*) *apachensis* Casey, 1884  
*Amara* (*Xenocelia*) *bradytonota* Hieke, 2001  
*Amara* (*Xenocelia*) *chalcea* Dejean, 1828  
*Amara* (*Xenocelia*) *discors* Kirby, 1837  
*Amara* (*Xenocelia*) *gibba* (LeConte, 1847)  
*Amara* (*Xenocelia*) *harpalonota* Hieke, 2001  
*Amara* (*Xenocelia*) *hicksi* Lindroth, 1968‡  
*Amara* (*Xenocelia*) *lugubris* (Casey, 1918)  
*Amara* (*Xenocelia*) *merula* (Casey, 1918)  
*Amara* (*Xenocelia*) *rectangula ciudadensis* (Bates, 1891)  
*Amara* (*Xenocelia*) *rectangula rectangula* LeConte, 1855  
*Amara* (*Xenocelia*) *spuria* Lindroth, 1968  
*Amara* (*Reductocelia*) *colvillensis* Lindroth, 1968‡  
*Amara* (*Celia*) *bifrons* (Gyllenhal, 1810)†  
*Amara* (*Celia*) *brunnea* (Gyllenhal, 1810)‡  
*Amara* (*Celia*) *californica californica* Dejean, 1828  
*Amara* (*Celia*) *exlineae* Minsk & Hatch, 1939  
*Amara* (*Celia*) *harpalina* LeConte, 1855  
*Amara* (*Celia*) *idahoana* (Casey, 1924)

- Amara (Celia) musculus* (Say, 1823)  
*Amara (Celia) pseudobrunnea* Lindroth, 1968  
*Amara (Celia) rubrica* Haldeman, 1843  
*Amara (Celia) sinuosa* (Casey, 1918)  
*Amara (Celia) texana* (Putzeys, 1866)  
*Amara (Celia) volatilis* (Casey, 1918)  
*Amara (Amarocelia) ellipsis* (Casey, 1918)  
*Amara (Amarocelia) erratica* (Duftschmid, 1812)‡  
*Amara (Amarocelia) farcta* LeConte, 1855  
*Amara (Amarocelia) interstitialis* Dejean, 1828‡  
*Amara (Amarocelia) laevipennis* Kirby, 1837  
*Amara (Amarocelia) lugens* Zimmermann, 1832  
*Amara (Amarocelia) nexa* (Casey, 1918)  
*Amara (Amarocelia) patruelis* Dejean, 1831  
*Amara (Amarocelia) rugulifera* Hieke, 2002  
*Amara (Amarocelia) sodalicia* Casey, 1924  
*Amara (Amarocelia) tenebrionella* (Bates, 1882)  
*Amara (Amarocelia) transberingiensis* Hieke, 2002‡  
*Amara (Amara) aenea* (DeGeer, 1774)†  
*Amara (Amara) aeneopolita* Casey, 1918  
*Amara (Amara) anthobia* Villa & Villa, 1833†  
*Amara (Amara) aurata* Dejean, 1828  
*Amara (Amara) basillaris* (Say, 1823)  
*Amara (Amara) coelebs* Hayward, 1908  
*Amara (Amara) communis* (Panzer, 1797)†  
*Amara (Amara) conflata* LeConte, 1855  
*Amara (Amara) confusa* LeConte, 1847  
*Amara (Amara) convexa* LeConte, 1847  
*Amara (Amara) crassispina* LeConte, 1855  
*Amara (Amara) cupreolata* Putzeys, 1866  
*Amara (Amara) emancipata* Lindroth, 1968  
*Amara (Amara) eurynota* (Panzer, 1796)†  
*Amara (Amara) externefoveata* Hieke, 2002  
*Amara (Amara) familiaris* (Duftschmid, 1812)†  
*Amara (Amara) haywardi* Csiki, 1929  
*Amara (Amara) impuncticollis* (Say, 1823)  
*Amara (Amara) littoralis* Dejean, 1828‡  
*Amara (Amara) lunicollis* Schiødte, 1837‡  
*Amara (Amara) neoscotica* Casey, 1924  
*Amara (Amara) occidentalis* Hieke, 2002  
*Amara (Amara) otiosa* Casey, 1918  
*Amara (Amara) ovata* (Fabricius, 1792)†  
*Amara (Amara) pomona* Casey, 1918

*Amara (Amara) sanjuanensis* Hatch, 1949  
*Amara (Amara) sera* Say, 1830  
*Amara (Amara) tenax* Casey, 1918  
*Amara (Amara) turbata* Casey, 1918  
*Amara (Paracelia) quenseli quenseli* (Schönherr, 1806)‡  
*Amara (Zezea) angustata* (Say, 1823)  
*Amara (Zezea) angustatoides* Hieke, 2000  
*Amara (Zezea) belfragei* Horn, 1892  
*Amara (Zezea) flebilis* (Casey, 1918)  
*Amara (Zezea) inexpectata* Hieke, 1990  
*Amara (Zezea) kavanaughi* Hieke, 1990  
*Amara (Zezea) longula* LeConte, 1855  
*Amara (Zezea) pallipes* Kirby, 1837  
*Amara (Zezea) scitula* Zimmermann, 1832

### OODINI

*Dercylinus impressus* (LeConte, 1853)  
*Evolenes exarata* (Dejean, 1831)  
*Anatrichis minuta* (Dejean, 1831)  
*Anatrichis oblonga* Horn, 1891  
*Oodinus alutaceus* (Bates, 1882)  
*Oodinus pseudopiceus* Bousquet, 1996  
*Lachnocrepis parallela* (Say, 1830)  
*Oodes amaroides* Dejean, 1831  
*Oodes americanus* Dejean, 1826  
*Oodes brevis* Lindroth, 1957  
*Oodes fluvialis* LeConte, 1863  
*Stenocrepis (Stenocrepis) insulana* (Jacquelin du Val, 1857)  
*Stenocrepis (Stenous) cuprea* (Chaudoir, 1843)  
*Stenocrepis (Stenous) duodecimstriata* (Chevrolat, 1836)  
*Stenocrepis (Stenous) elegans* (LeConte, 1851)  
*Stenocrepis (Stenous) mexicana* (Chevrolat, 1835)  
*Stenocrepis (Stenous) tibialis* (Chevrolat, 1834)

### PANAGAEINI

*Panagaeus (Hologaeus) cruciger* Say, 1823  
*Panagaeus (Hologaeus) fasciatus* Say, 1823  
*Panagaeus (Hologaeus) sallei* Chaudoir, 1862  
*Micrixys distincta* (Haldeman, 1852)

### CHLAENIINI

*Chlaenius (Pseudanomoglossus) maxillosus* Horn, 1876  
*Chlaenius (Eurydactylus) pimalicus* Casey, 1914

- Chlaenius* (*Eurydactylus*) *tomentosus* Say, 1823  
*Chlaenius* (*Anomoglossus*) *amoenus* Dejean, 1831  
*Chlaenius* (*Anomoglossus*) *emarginatus* Say, 1823  
*Chlaenius* (*Anomoglossus*) *pusillus* Say, 1823  
*Chlaenius* (*Chlaenius*) *aestivus* Say, 1823  
*Chlaenius* (*Chlaenius*) *augustus* Newman, 1838  
*Chlaenius* (*Chlaenius*) *azurescens* Chaudoir, 1876  
*Chlaenius* (*Chlaenius*) *chaudoiri* Horn, 1876  
*Chlaenius* (*Chlaenius*) *cumatilis* LeConte, 1851  
*Chlaenius* (*Chlaenius*) *erythropus* Germar, 1824  
*Chlaenius* (*Chlaenius*) *fuscicornis* Dejean, 1831  
*Chlaenius* (*Chlaenius*) *laticollis* Say, 1823  
*Chlaenius* (*Chlaenius*) *orbis* Horn, 1871  
*Chlaenius* (*Chlaenius*) *patruelis* LeConte, 1844  
*Chlaenius* (*Chlaenius*) *platyderus* Chaudoir, 1856  
*Chlaenius* (*Chlaenius*) *sericeus* (Forster, 1771)  
*Chlaenius* (*Chlaenius*) *sparsus* LeConte, 1863  
*Chlaenius* (*Chlaenius*) *viduus* Horn, 1871  
*Chlaenius* (*Lithochlaenius*) *cordicollis* Kirby, 1837  
*Chlaenius* (*Lithochlaenius*) *leucoscelis monachus* LeConte, 1851  
*Chlaenius* (*Lithochlaenius*) *leucoscelis sanantonialis* Casey, 1914  
*Chlaenius* (*Lithochlaenius*) *leucoscelis sonomae* Casey, 1920  
*Chlaenius* (*Lithochlaenius*) *prasinus* Dejean, 1826  
*Chlaenius* (*Lithochlaenius*) *purpureus* Chaudoir, 1876  
*Chlaenius* (*Lithochlaenius*) *solitarius* Say, 1823  
*Chlaenius* (*Chlaeniellus*) *brevilabris* LeConte, 1847  
*Chlaenius* (*Chlaeniellus*) *circumcinctus* Say, 1830  
*Chlaenius* (*Chlaeniellus*) *flaccidus* Horn, 1876  
*Chlaenius* (*Chlaeniellus*) *floridanus* Horn, 1876  
*Chlaenius* (*Chlaeniellus*) *glaucus* LeConte, 1856  
*Chlaenius* (*Chlaeniellus*) *impunctifrons* Say, 1823  
*Chlaenius* (*Chlaeniellus*) *nebraskensis* LeConte, 1856  
*Chlaenius* (*Chlaeniellus*) *nemoralis* Say, 1823  
*Chlaenius* (*Chlaeniellus*) *obsoletus* LeConte, 1851  
*Chlaenius* (*Chlaeniellus*) *oxygonus* Chaudoir, 1843  
*Chlaenius* (*Chlaeniellus*) *pennsylvanicus blanditus* Casey, 1920  
*Chlaenius* (*Chlaeniellus*) *pennsylvanicus pennsylvanicus* Say, 1823  
*Chlaenius* (*Chlaeniellus*) *pertinax* Casey, 1920  
*Chlaenius* (*Chlaeniellus*) *simillimus* Chaudoir, 1856  
*Chlaenius* (*Chlaeniellus*) *texanus* Horn, 1876  
*Chlaenius* (*Chlaeniellus*) *tricolor tricolor* Dejean, 1826  
*Chlaenius* (*Chlaeniellus*) *tricolor vigilans* Say, 1830  
*Chlaenius* (*Chlaeniellus*) *vafer* LeConte, 1852



- Chlaenius* (*Chlaeniellus*) *variabilipes* Eschscholtz, 1833  
*Chlaenius* (*Callistometus*) *ruficauda* Chaudoir, 1856  
*Chlaenius* (*Brachylobus*) *caurinus* (Horn, 1885)  
*Chlaenius* (*Brachylobus*) *lithophilus* Say, 1823  
*Chlaenius* (*Agostenus*) *alternatus* Horn, 1871  
*Chlaenius* (*Agostenus*) *caeruleicollis* Chaudoir, 1876  
*Chlaenius* (*Agostenus*) *harpalinus* Eschscholtz, 1833  
*Chlaenius* (*Agostenus*) *interruptus* Horn, 1876  
*Chlaenius* (*Agostenus*) *niger* Randall, 1838  
*Chlaenius* (*Randallius*) *purpuricollis* Randall, 1838

# LICININI

- Diplocheila* (*Isorembus*) *assimilis* (LeConte, 1844)  
*Diplocheila* (*Isorembus*) *crossi* Will, 1998  
*Diplocheila* (*Isorembus*) *impressicollis* (Dejean, 1831)  
*Diplocheila* (*Isorembus*) *major major* (LeConte, 1847)  
*Diplocheila* (*Isorembus*) *major melissisa* Ball, 1959  
*Diplocheila* (*Isorembus*) *nupera* Casey, 1897  
*Diplocheila* (*Isorembus*) *obtusa* (LeConte, 1847)  
*Diplocheila* (*Isorembus*) *oregona* (Hatch, 1951)  
*Diplocheila* (*Isorembus*) *striatopunctata* (LeConte, 1844)  
*Diplocheila* (*Isorembus*) *undulata* Carr, 1920  
*Dicaelus* (*Paradicaelus*) *ambiguus* LaFerté-Sénectère, 1841  
*Dicaelus* (*Paradicaelus*) *dilatatus dilatatus* Say, 1823  
*Dicaelus* (*Paradicaelus*) *dilatatus sinuatus* Ball, 1959  
*Dicaelus* (*Paradicaelus*) *elongatus* Bonelli, 1813  
*Dicaelus* (*Paradicaelus*) *furvus carinatus* Dejean, 1831  
*Dicaelus* (*Paradicaelus*) *furvus furvus* Dejean, 1826  
*Dicaelus* (*Paradicaelus*) *politus* Dejean, 1826  
*Dicaelus* (*Paradicaelus*) *sculptilis intricatus* LeConte, 1873  
*Dicaelus* (*Paradicaelus*) *sculptilis sculptilis* Say, 1823  
*Dicaelus* (*Paradicaelus*) *sculptilis upioides* Ball, 1959  
*Dicaelus* (*Paradicaelus*) *teter* Bonelli, 1813  
*Dicaelus* (*Dicaelus*) *alternans* Dejean, 1826  
*Dicaelus* (*Dicaelus*) *costatus* LeConte, 1853  
*Dicaelus* (*Dicaelus*) *crenatus* LeConte, 1853  
*Dicaelus* (*Dicaelus*) *purpuratus purpuratus* Bonelli, 1813  
*Dicaelus* (*Dicaelus*) *purpuratus splendidus* Say, 1823  
*Dicaelus* (*Dicaelus*) *quadratus* LeConte, 1847  
*Dicaelus* (*Dicaelus*) *subtropicus* Casey, 1913  
*Dicaelus* (*Liodicaelus*) *chermocki* Ball, 1959  
*Dicaelus* (*Liodicaelus*) *laevipennis laevipennis* LeConte, 1847  
*Dicaelus* (*Liodicaelus*) *suffusus* (Casey, 1913)

*Badister* (*Badister*) *elegans* LeConte, 1880  
*Badister* (*Badister*) *ferrugineus* Dejean, 1831  
*Badister* (*Badister*) *flavipes flavipes* LeConte, 1853  
*Badister* (*Badister*) *maculatus* LeConte, 1853  
*Badister* (*Badister*) *neopulchellus* Lindroth, 1954  
*Badister* (*Badister*) *notatus* Haldeman, 1843  
*Badister* (*Badister*) *obtusius* LeConte, 1878  
*Badister* (*Badister*) *pulchellus* LeConte, 1847  
*Badister* (*Baudia*) *grandiceps* Casey, 1920  
*Badister* (*Baudia*) *micans* LeConte, 1844  
*Badister* (*Baudia*) *parviceps* Ball, 1959  
*Badister* (*Baudia*) *reflexus* LeConte, 1880  
*Badister* (*Baudia*) *submarinus* Motschulsky, 1859  
*Badister* (*Baudia*) *transversus* Casey, 1920

## HARPALINI

*Notiobia* (*Anisotarsus*) *brevicollis* (Chaudoir, 1837)  
*Notiobia* (*Anisotarsus*) *cephala* (Casey, 1914)  
*Notiobia* (*Anisotarsus*) *maculicornis* (Chaudoir, 1843)  
*Notiobia* (*Anisotarsus*) *mexicana* (Dejean, 1829)  
*Notiobia* (*Anisotarsus*) *nitidipennis* (LeConte, 1847)  
*Notiobia* (*Anisotarsus*) *purpurascens* (Bates, 1882)  
*Notiobia* (*Anisotarsus*) *sayi* (Blatchley, 1910)  
*Notiobia* (*Anisotarsus*) *terminata* (Say, 1823)  
*Xestonotus lugubris* (Dejean, 1829)  
*Anisodactylus* (*Anisodactylus*) *agricola* (Say, 1823)  
*Anisodactylus* (*Anisodactylus*) *binotatus* (Fabricius, 1787)†  
*Anisodactylus* (*Anisodactylus*) *californicus* Dejean, 1829  
*Anisodactylus* (*Anisodactylus*) *carbonarius* (Say, 1823)  
*Anisodactylus* (*Anisodactylus*) *consobrinus* LeConte, 1851  
*Anisodactylus* (*Anisodactylus*) *furvus* LeConte, 1863  
*Anisodactylus* (*Anisodactylus*) *harrisii* LeConte, 1863  
*Anisodactylus* (*Anisodactylus*) *kirbyi* Lindroth, 1953  
*Anisodactylus* (*Anisodactylus*) *lodingi* Schaeffer, 1911  
*Anisodactylus* (*Anisodactylus*) *melanopus* (Haldeman, 1843)  
*Anisodactylus* (*Anisodactylus*) *nigerrimus* (Dejean, 1831)  
*Anisodactylus* (*Anisodactylus*) *nigrita* Dejean, 1829  
*Anisodactylus* (*Anisodactylus*) *pseudagricola* Noonan, 1996  
*Anisodactylus* (*Anisodactylus*) *similis* LeConte, 1851  
*Anisodactylus* (*Gynandrotarsus*) *anthracinus* (Dejean, 1829)  
*Anisodactylus* (*Gynandrotarsus*) *dulcicollis* (LaFerté-Sénectère, 1841)  
*Anisodactylus* (*Gynandrotarsus*) *haplomus* Chaudoir, 1868  
*Anisodactylus* (*Gynandrotarsus*) *harpaloides* (LaFerté-Sénectère, 1841)

- Anisodactylus* (*Gynandrotarsus*) *merula* (Germar, 1824)  
*Anisodactylus* (*Gynandrotarsus*) *opaculus* (LeConte, 1863)  
*Anisodactylus* (*Gynandrotarsus*) *ovularis* (Casey, 1914)  
*Anisodactylus* (*Gynandrotarsus*) *rusticus* (Say, 1823)  
*Anisodactylus* (*Gynandrotarsus*) *texanus* Schaeffer, 1910  
*Anisodactylus* (*Anadaptus*) *alternans* (Motschulsky, 1845)  
*Anisodactylus* (*Anadaptus*) *discoideus* Dejean, 1831  
*Anisodactylus* (*Anadaptus*) *pitychrous* LeConte, 1861  
*Anisodactylus* (*Anadaptus*) *porosus* (Motschulsky, 1845)  
*Anisodactylus* (*Anadaptus*) *rudis* LeConte, 1863  
*Anisodactylus* (*Anadaptus*) *sanctaecrucis* (Fabricius, 1798)  
*Anisodactylus* (*Spongopus*) *verticalis* (LeConte, 1847)  
*Anisodactylus* (*Aplocentrus*) *amaroides* LeConte, 1851  
*Anisodactylus* (*Aplocentrus*) *caenus* (Say, 1823)  
*Anisodactylus* (*Pseudaplocentrus*) *laetus* Dejean, 1829  
*Geopinus* *incrassatus* (Dejean, 1829)  
*Amphasia* (*Pseudamphasia*) *sericea* (Harris, 1828)  
*Amphasia* (*Amphasia*) *interstitialis* (Say, 1823)  
*Dicheirus* *brunneus* (Dejean, 1829)  
*Dicheirus* *dilatatus angulatus* Casey, 1914  
*Dicheirus* *dilatatus dilatatus* (Dejean, 1829)  
*Dicheirus* *obtusus* LeConte, 1852  
*Dicheirus* *piceus* (Ménétriés, 1843)  
*Dicheirus* *strenuus* (Horn, 1869)  
*Pelmatellus* (*Pelmatellus*) *obtusus* Bates, 1882  
*Pelmatellus* (*Pelmatellus*) *stenolophoides parallelus* Goulet, 1974  
*Stenolophus* (*Stenolophus*) *anceps* LeConte, 1857  
*Stenolophus* (*Stenolophus*) *carbo* Bousquet, 1993  
*Stenolophus* (*Stenolophus*) *cincticollis* LeConte, 1858  
*Stenolophus* (*Stenolophus*) *dissimilis* Dejean, 1829  
*Stenolophus* (*Stenolophus*) *flavipes* LeConte, 1858  
*Stenolophus* (*Stenolophus*) *fuliginosus* Dejean, 1829  
*Stenolophus* (*Stenolophus*) *fuscatus* Dejean, 1829  
*Stenolophus* (*Stenolophus*) *humidus* Hamilton, 1893  
*Stenolophus* (*Stenolophus*) *incultus* Casey, 1914  
*Stenolophus* (*Stenolophus*) *limbalis* LeConte, 1857  
*Stenolophus* (*Stenolophus*) *megacephalus* Lindroth, 1968  
*Stenolophus* (*Stenolophus*) *ochropezus* (Say, 1823)  
*Stenolophus* (*Stenolophus*) *plebejus* Dejean, 1829  
*Stenolophus* (*Stenolophus*) *splendidulus* Motschulsky, 1864  
*Stenolophus* (*Stenolophus*) *spretus* Dejean, 1831  
*Stenolophus* (*Agonoderus*) *binotatus* (Casey, 1914)  
*Stenolophus* (*Agonoderus*) *comma* (Fabricius, 1775)

- Stenolophus* (*Agonoderus*) *infuscatus* (Dejean, 1829)  
*Stenolophus* (*Agonoderus*) *lecontei* (Chaudoir, 1868)  
*Stenolophus* (*Agonoderus*) *lineola* (Fabricius, 1775)  
*Stenolophus* (*Agonoderus*) *maculatus* (LeConte, 1869)  
*Stenolophus* (*Agonoderus*) *rugicollis* (LeConte, 1859)  
*Agonoleptus conjunctus* (Say, 1823)  
*Agonoleptus dolosus* (Casey, 1914)  
*Agonoleptus parviceps* Casey, 1914  
*Agonoleptus rotundatus* (LeConte, 1863)  
*Agonoleptus rotundicollis* (Haldeman, 1843)  
*Agonoleptus thoracicus* (Casey, 1914)  
*Agonoleptus unicolor* (Dejean, 1829)  
*Bradycellus* (*Liocellus*) *curticollis* (Casey, 1924)  
*Bradycellus* (*Liocellus*) *intermedius* (Fall, 1905)  
*Bradycellus* (*Liocellus*) *laticollis* (Casey, 1924)  
*Bradycellus* (*Liocellus*) *nitidus* (Dejean, 1829)  
*Bradycellus* (*Liocellus*) *obtusus* (Fall, 1905)  
*Bradycellus* (*Liocellus*) *politus* (Fall, 1905)  
*Bradycellus* (*Liocellus*) *tahoensis* (Casey, 1924)  
*Bradycellus* (*Bradycellus*) *fenderi* Hatch, 1951  
*Bradycellus* (*Bradycellus*) *harpalinus* (Audinet-Serville, 1821)†  
*Bradycellus* (*Catharellus*) *lecontei* Csiki, 1932  
*Bradycellus* (*Stenocellus*) *ardelio* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *aridus* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *californicus* (LeConte, 1857)  
*Bradycellus* (*Stenocellus*) *carolinensis* (Casey, 1924)  
*Bradycellus* (*Stenocellus*) *congener* (LeConte, 1847)  
*Bradycellus* (*Stenocellus*) *decorus* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *discipulus* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *exstans* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *festinans* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *humboldtianus* (Casey, 1924)  
*Bradycellus* (*Stenocellus*) *insulsus* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *larvatus* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *lineatus* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *lustrellus* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *montanus* (Casey, 1914)  
*Bradycellus* (*Stenocellus*) *nebulosus* LeConte, 1853  
*Bradycellus* (*Stenocellus*) *neglectus* (LeConte, 1847)  
*Bradycellus* (*Stenocellus*) *nigerrimus* Lindroth, 1968  
*Bradycellus* (*Stenocellus*) *nigriceps* LeConte, 1869  
*Bradycellus* (*Stenocellus*) *nubifer* LeConte, 1858  
*Bradycellus* (*Stenocellus*) *picipes* (Casey, 1914)



- Bradycellus (Stenocellus) provoensis* (Casey, 1914)  
*Bradycellus (Stenocellus) puncticollis* (Casey, 1914)  
*Bradycellus (Stenocellus) purgatus* (Casey, 1914)  
*Bradycellus (Stenocellus) rivalis* LeConte, 1858  
*Bradycellus (Stenocellus) rupestris* (Say, 1823)  
*Bradycellus (Stenocellus) sejunctus* (Casey, 1914)  
*Bradycellus (Stenocellus) suavis* (Casey, 1914)  
*Bradycellus (Stenocellus) subcordatus* Chaudoir, 1868  
*Bradycellus (Stenocellus) supplex* (Casey, 1914)  
*Bradycellus (Stenocellus) symmetricus* (Motschulsky, 1850)  
*Bradycellus (Stenocellus) tantillus* (Dejean, 1829)  
*Bradycellus (Stenocellus) veronianus* (Casey, 1924)  
*Bradycellus (Lipalocellus) nigrinus* (Dejean, 1829)  
*Bradycellus (Lipalocellus) semipubescens* Lindroth, 1968  
*Bradycellus (Triliarthrus) atrimedeus* (Say, 1823)  
*Bradycellus (Triliarthrus) badipennis* (Haldeman, 1843)  
*Bradycellus (Triliarthrus) conformis* (Fall, 1905)  
*Bradycellus (Triliarthrus) georgei* Lindroth, 1968  
*Bradycellus (Triliarthrus) kirbyi* (Horn, 1883)  
*Bradycellus (Triliarthrus) lugubris* (LeConte, 1847)  
*Amerinus linearis* (LeConte, 1863)  
*Dicheirotichus (Oreoxenus) mannerheimii mannerheimii* (Sahlberg, 1844)‡  
*Dicheirotichus (Trichocellus) cognatus* (Gyllenhal, 1827)‡  
*Acupalpus (Acupalpus) canadensis* Casey, 1924  
*Acupalpus (Acupalpus) carus* (LeConte, 1863)  
*Acupalpus (Acupalpus) hydropicus* (LeConte, 1863)  
*Acupalpus (Acupalpus) meridianus* (Linnaeus, 1760)†  
*Acupalpus (Acupalpus) nanellus* Casey, 1914  
*Acupalpus (Acupalpus) pumilus* Lindroth, 1968  
*Acupalpus (Tachistodes) indistinctus* Dejean, 1831  
*Acupalpus (Tachistodes) partiarius* (Say, 1823)  
*Acupalpus (Tachistodes) pauperculus* Dejean, 1829  
*Acupalpus (Tachistodes) testaceus* Dejean, 1829  
*Acupalpus (Anthracus) punctulatus* Hatch, 1953  
*Acupalpus (Anthracus) tener* (LeConte, 1857)  
*Philodes (Philodes) alternans* (LeConte, 1853)  
*Philodes (Goniolophus) flavilimbus* (LeConte, 1869)  
*Philodes (Goniolophus) longulus* (Dejean, 1829)  
*Philodes (Goniolophus) rectangulus* (Chaudoir, 1868)  
*Pogonodaptus mexicanus* (Bates, 1878)  
*Polpochila (Phymatocephalus) capitata* (Chaudoir, 1852)  
*Polpochila (Phymatocephalus) erro* (LeConte, 1854)  
*Polpochila (Polpochila) rotundicollis* Bates, 1882

- Piosoma setosum* LeConte, 1847  
*Euryderus grossus* (Say, 1830)  
*Ophonus* (*Metophonus*) *puncticeps* Stephens, 1828 †  
*Ophonus* (*Metophonus*) *rufibarbis* (Fabricius, 1792) †  
*Harpalus* (*Pseudoophonus*) *actiosus* Casey, 1914  
*Harpalus* (*Pseudoophonus*) *compar* LeConte, 1847  
*Harpalus* (*Pseudoophonus*) *erythropus* Dejean, 1829  
*Harpalus* (*Pseudoophonus*) *faunus* Say, 1823  
*Harpalus* (*Pseudoophonus*) *hatchi* Ball & Anderson, 1962  
*Harpalus* (*Pseudoophonus*) *liobasis* Chaudoir, 1868  
*Harpalus* (*Pseudoophonus*) *paratus* Casey, 1924  
*Harpalus* (*Pseudoophonus*) *pensylvanicus* (DeGeer, 1774)  
*Harpalus* (*Pseudoophonus*) *poncei* Will, 2002  
*Harpalus* (*Pseudoophonus*) *protractus* Casey, 1914  
*Harpalus* (*Pseudoophonus*) *rufipes* (DeGeer, 1774) †  
*Harpalus* (*Pseudoophonus*) *texanus* Casey, 1914  
*Harpalus* (*Pseudoophonus*) *vagans* LeConte, 1865  
*Harpalus* (*Megapangus*) *caliginosus* (Fabricius, 1775)  
*Harpalus* (*Megapangus*) *katiae* Battoni, 1985  
*Harpalus* (*Plectralidus*) *erraticus* Say, 1823  
*Harpalus* (*Plectralidus*) *retractus* LeConte, 1863  
*Harpalus* (*Opadius*) *animosus* Casey, 1924  
*Harpalus* (*Opadius*) *apache* Kataev, 2010  
*Harpalus* (*Opadius*) *cordatus* (LeConte, 1853)  
*Harpalus* (*Opadius*) *cordifer* Notman, 1919  
*Harpalus* (*Opadius*) *desertus* LeConte, 1859  
*Harpalus* (*Opadius*) *fraternus* LeConte, 1852  
*Harpalus* (*Opadius*) *fulvilabris* Mannerheim, 1853  
*Harpalus* (*Opadius*) *gravis* LeConte, 1858  
*Harpalus* (*Opadius*) *indianus* Csiki, 1932  
*Harpalus* (*Opadius*) *indigenus* Casey, 1924  
*Harpalus* (*Opadius*) *laevipes* Zetterstedt, 1828 ‡  
*Harpalus* (*Opadius*) *laticeps* LeConte, 1850  
*Harpalus* (*Opadius*) *lewisii* LeConte, 1865  
*Harpalus* (*Opadius*) *megacephalus* LeConte, 1847  
*Harpalus* (*Opadius*) *nigritarsis* Sahlberg, 1827 ‡  
*Harpalus* (*Opadius*) *providens* Casey, 1914  
*Harpalus* (*Opadius*) *reversus* Casey, 1924  
*Harpalus* (*Opadius*) *spadiceus* Dejean, 1829  
*Harpalus* (*Opadius*) *ventralis* LeConte, 1847  
*Harpalus* (*Harpalus*) *affinis* (Schränk, 1781) †  
*Harpalus* (*Harpalus*) *amputatus amputatus* Say, 1830  
*Harpalus* (*Harpalus*) *atrichatus* Hatch, 1949

- Harpalus* (*Harpalus*) *balli* Noonan, 1991  
*Harpalus* (*Harpalus*) *cautus* Dejean, 1829  
*Harpalus* (*Harpalus*) *ellipsis* LeConte, 1847  
*Harpalus* (*Harpalus*) *herbivagus* Say, 1823  
*Harpalus* (*Harpalus*) *innocuus* LeConte, 1863  
*Harpalus* (*Harpalus*) *martini* Van Dyke, 1926  
*Harpalus* (*Harpalus*) *obnixus* Casey, 1924  
*Harpalus* (*Harpalus*) *ochropus* Kirby, 1837  
*Harpalus* (*Harpalus*) *opacipennis* (Haldeman, 1843)  
*Harpalus* (*Harpalus*) *plentalis* Casey, 1914  
*Harpalus* (*Harpalus*) *rubripes* (Duftschmid, 1812)†  
*Harpalus* (*Harpalus*) *solitarius* Dejean, 1829‡  
*Harpalus* (*Harpalus*) *somnulentus* Dejean, 1829  
*Harpalus* (*Harpalus*) *vittatus alaskensis* Lindroth, 1968‡  
*Harpalus* (*Glanodes*) *cohnii* Ball, 1972  
*Harpalus* (*Glanodes*) *corpulentus* (Casey, 1914)  
*Harpalus* (*Glanodes*) *huachuca* Ball, 1972  
*Harpalus* (*Glanodes*) *obliquus* Horn, 1880  
*Harpalus* (*Glanodes*) *puncticeps* (Casey, 1914)  
*Harpalus* (*Glanodes*) *stephani* Ball, 1972  
*Harpalus* (*Harpalobius*) *fuscipalpis* Sturm, 1818‡  
*Harpalobrachys leiroides* (Motschulsky, 1844)‡  
*Hartonymus alternatus* (LeConte, 1863)  
*Hartonymus hoodi* Casey, 1914  
*Amblygnathus evansi* Ball & Maddison, 1987  
*Amblygnathus iripennis* (Say, 1823)  
*Amblygnathus mexicanus* Bates, 1882  
*Amblygnathus subtinatus* (LeConte, 1867)  
*Athrostictus punctatulus* (Putzeys, 1878)  
*Selenophorus* (*Celiamorphus*) *adjunctus* (Casey, 1914)  
*Selenophorus* (*Celiamorphus*) *contractus* (Casey, 1914)  
*Selenophorus* (*Celiamorphus*) *discopunctatus* Dejean, 1829  
*Selenophorus* (*Celiamorphus*) *ellipticus* Dejean, 1829  
*Selenophorus* (*Celiamorphus*) *fossulatus* Dejean, 1829  
*Selenophorus* (*Celiamorphus*) *granarius* Dejean, 1829  
*Selenophorus* (*Celiamorphus*) *municeps* (Casey, 1924)  
*Selenophorus* (*Celiamorphus*) *nanulus* (Casey, 1924)  
*Selenophorus* (*Celiamorphus*) *subtropicus* (Casey, 1924)  
*Selenophorus* (*Selenophorus*) *aeneopiceus* Casey, 1884  
*Selenophorus* (*Selenophorus*) *blanchardi* Manee, 1915  
*Selenophorus* (*Selenophorus*) *chaparralus* Purrington, 2000  
*Selenophorus* (*Selenophorus*) *concinus* Schaeffer, 1910  
*Selenophorus* (*Selenophorus*) *cupreolus* Casey, 1914

- Selenophorus* (*Selenophorus*) *discoderoides* Schaeffer, 1910  
*Selenophorus* (*Selenophorus*) *elongatus* (LeConte, 1847)  
*Selenophorus* (*Selenophorus*) *famulus* Casey, 1914  
*Selenophorus* (*Selenophorus*) *fatuus* LeConte, 1863  
*Selenophorus* (*Selenophorus*) *gagatinus* Dejean, 1829  
*Selenophorus* (*Selenophorus*) *houstoni* Casey, 1914  
*Selenophorus* (*Selenophorus*) *hylacis* (Say, 1823)  
*Selenophorus* (*Selenophorus*) *implicans* Casey, 1914  
*Selenophorus* (*Selenophorus*) *integer* (Fabricius, 1798)  
*Selenophorus* (*Selenophorus*) *laesus* (LeConte, 1858)  
*Selenophorus* (*Selenophorus*) *maritimus* Casey, 1914  
*Selenophorus* (*Selenophorus*) *opalinus* (LeConte, 1863)  
*Selenophorus* (*Selenophorus*) *otiosus* Casey, 1914  
*Selenophorus* (*Selenophorus*) *palliatus* (Fabricius, 1798)  
*Selenophorus* (*Selenophorus*) *parumpunctatus* Dejean, 1829  
*Selenophorus* (*Selenophorus*) *pedicularius* Dejean, 1829  
*Selenophorus* (*Selenophorus*) *planipennis* LeConte, 1847  
*Selenophorus* (*Selenophorus*) *riparius* Casey, 1914  
*Selenophorus* (*Selenophorus*) *schaefferi* Csiki, 1932  
*Selenophorus* (*Selenophorus*) *scolopaceus* Casey, 1914  
*Selenophorus* (*Selenophorus*) *sinuaticollis* Notman, 1922  
*Selenophorus* (*Selenophorus*) *striatopunctatus* Putzeys, 1878  
*Selenophorus* (*Selenophorus*) *trepidus* (Casey, 1924)  
*Selenophorus* *breviusculus* Horn, 1880  
*Discoderus* *aequalis* Casey, 1914  
*Discoderus* *amoenus* LeConte, 1863  
*Discoderus* *congruens* Casey, 1914  
*Discoderus* *cordicollis* Horn, 1891  
*Discoderus* *crassicollis* Horn, 1891  
*Discoderus* *dallasensis* Casey, 1924  
*Discoderus* *impotens* (LeConte, 1858)  
*Discoderus* *longicollis* Casey, 1914  
*Discoderus* *obsidianus* Casey, 1914  
*Discoderus* *papagonis* Casey, 1924  
*Discoderus* *parallelus* (Haldeman, 1843)  
*Discoderus* *parilis* (Casey, 1914)  
*Discoderus* *peregrinus* Casey, 1924  
*Discoderus* *pinguis* Casey, 1884  
*Discoderus* *robustus piceus* Casey, 1914  
*Discoderus* *robustus robustus* Horn, 1883  
*Discoderus* *subviolaceus* Casey, 1914  
*Discoderus* *symbolicus* Casey, 1914  
*Discoderus* *tenebrosus* (LeConte, 1847)



*Discoderus texanus* Casey, 1924  
*Stenomorphus californicus californicus* (Ménétriés, 1843)  
*Stenomorphus californicus rufipes* LeConte, 1858  
*Stenomorphus convexior* Notman, 1922  
*Stenomorphus sinaloae* Darlington, 1936  
*Trichotichnus* (*Trichotichnus*) *dichrous* (Dejean, 1829)  
*Trichotichnus* (*Trichotichnus*) *vulpeculus* (Say, 1823)  
*Trichotichnus* (*Iridessus*) *autumnalis* (Say, 1823)  
*Trichotichnus* (*Iridessus*) *fulgens* (Csiki, 1932)  
*Aztecarpalus schaefferi* Ball, 1970  
*Cratacanthus dubius* (Palisot de Beauvois, 1811)

### SPHODRINI

*Pseudamara arenaria* (LeConte, 1847)  
*Calathus* (*Calathus*) *fuscipes* (Goeze, 1777)†  
*Calathus* (*Neocalathus*) *calceus* Ball & Nègre, 1972  
*Calathus* (*Neocalathus*) *gregarius* (Say, 1823)  
*Calathus* (*Neocalathus*) *ingratus* Dejean, 1828  
*Calathus* (*Neocalathus*) *opaculus* LeConte, 1854  
*Calathus* (*Neocalathus*) *peropacus* Casey, 1920  
*Calathus* (*Neocalathus*) *ruficollis grandicollis* Casey, 1920  
*Calathus* (*Neocalathus*) *ruficollis ignicollis* Casey, 1920  
*Calathus* (*Neocalathus*) *ruficollis ruficollis* Dejean, 1828  
*Calathus* (*Acalathus*) *advena* (LeConte, 1846)  
*Synuchus dubius* (LeConte, 1854)  
*Synuchus impunctatus* (Say, 1823)  
*Laemostenus* (*Laemostenus*) *complanatus* (Dejean, 1828)†  
*Laemostenus* (*Pristonychus*) *terricola terricola* (Herbst, 1784)†

### PLATYNINI

*Olisthopus brevicornis* Casey, 1913  
*Olisthopus filicornis* Casey, 1913  
*Olisthopus innuens* Casey, 1913  
*Olisthopus iterans* Casey, 1913  
*Olisthopus micans* LeConte, 1846  
*Olisthopus parmatum* (Say, 1823)  
*Olisthopus pusio* Casey, 1913  
*Elliptoleus acutesculptus* Bates, 1882  
*Sericoda bembidioides* Kirby, 1837  
*Sericoda bogemannii* (Gyllenhal, 1813)‡  
*Sericoda obsoleta* (Say, 1823)  
*Sericoda quadripunctata* (DeGeer, 1774)‡  
*Tetraleucus picticornis* (Newman, 1844)

- Anchomenus* (*Anchomenus*) *aeneolus* (LeConte, 1854)  
*Anchomenus* (*Anchomenus*) *funnebris* (LeConte, 1854)  
*Anchomenus* (*Anchomenus*) *quadratus* (LeConte, 1854)  
*Rhadine albamontana* Dajoz, 1998  
*Rhadine anthicoides* Casey, 1913  
*Rhadine austinica* Barr, 1974  
*Rhadine babcocki* (Barr, 1960)  
*Rhadine balesi* (Gray, 1937)  
*Rhadine bullis* Reddell & Cokendolpher, 2004  
*Rhadine caudata* (LeConte, 1863)  
*Rhadine constricta* Casey, 1913  
*Rhadine dissecta* (LeConte, 1863)  
*Rhadine exilis* (Barr & Lawrence, 1960)  
*Rhadine grubbsi* Reddell & Dupérré, 2009  
*Rhadine howdeni* (Barr & Lawrence, 1960)  
*Rhadine infernalis ewersi* (Barr, 1960)  
*Rhadine infernalis infernalis* (Barr & Lawrence, 1960)  
*Rhadine insolita* Barr, 1974  
*Rhadine ivyi* Reddell & Cokendolpher, 2004  
*Rhadine jejuna* (LeConte, 1878)  
*Rhadine koepkei koepkei* (Barr, 1960)  
*Rhadine koepkei privata* Barr, 1974  
*Rhadine lanei* (Gray, 1937)  
*Rhadine larvalis* LeConte, 1846  
*Rhadine lindrothi* Barr, 1965  
*Rhadine longiceps* Van Dyke, 1949  
*Rhadine longicollis* Benedict, 1927  
*Rhadine longipes* Casey, 1913  
*Rhadine myrmecodes* (Horn, 1892)  
*Rhadine nivalis* (Horn, 1881)  
*Rhadine noctivaga* Barr, 1974  
*Rhadine ozarkensis* Sanderson & Miller, 1941  
*Rhadine perlevis* Casey, 1913  
*Rhadine persephone* Barr, 1974  
*Rhadine pertenuis* Casey, 1920  
*Rhadine reyesi* Reddell & Cokendolpher, 2001  
*Rhadine rossi* Van Dyke, 1949  
*Rhadine rubra* (Barr, 1960)  
*Rhadine russelli* Barr, 1974  
*Rhadine specum crinicollis* Barr, 1974  
*Rhadine specum gentilis* Barr, 1974  
*Rhadine specum specum* (Barr, 1960)  
*Rhadine sprousei* Reddell & Cokendolpher, 2004

*Rhadine sublustris* Casey, 1913  
*Rhadine subterranea mitchelli* Barr, 1974  
*Rhadine subterranea subterranea* (Van Dyke, 1919)  
*Rhadine tenebrosa mckenziei* Barr, 1974  
*Rhadine tenebrosa tenebrosa* (Barr, 1960)  
*Rhadine testacea* Casey, 1920  
*Rhadine umbra* Casey, 1913  
*Mexisphodrus valverdensis* Barr, 1982  
*Tanystoma cuyama* Liebherr, 1985  
*Tanystoma maculicolle* (Dejean, 1828)  
*Tanystoma striatum* (Dejean, 1828)  
*Tanystoma sulcatum* (Dejean, 1828)  
*Paranchus albipes* (Fabricius, 1794)†  
*Oxypselaphus pusillus* (LeConte, 1854)  
*Agonum* (*Platynomicrus*) *ferruginosum* (Dejean, 1828)  
*Agonum* (*Platynomicrus*) *nigriceps* LeConte, 1846‡  
*Agonum* (*Europhilus*) *anchomenoides* Randall, 1838  
*Agonum* (*Europhilus*) *canadense* Goulet, 1969  
*Agonum* (*Europhilus*) *consimile* (Gyllenhal, 1810)‡  
*Agonum* (*Europhilus*) *darlingtoni* Lindroth, 1954  
*Agonum* (*Europhilus*) *exaratum* (Mannerheim, 1853)‡  
*Agonum* (*Europhilus*) *galvestonicum* (Casey, 1920)  
*Agonum* (*Europhilus*) *gratiosum* (Mannerheim, 1853)‡  
*Agonum* (*Europhilus*) *limbatum* Motschulsky, 1845  
*Agonum* (*Europhilus*) *lutulentum* (LeConte, 1854)  
*Agonum* (*Europhilus*) *palustre* Goulet, 1969  
*Agonum* (*Europhilus*) *pivicornoides* Lindroth, 1966  
*Agonum* (*Europhilus*) *retractum* LeConte, 1846  
*Agonum* (*Europhilus*) *simile* Kirby, 1837  
*Agonum* (*Europhilus*) *sordens* Kirby, 1837  
*Agonum* (*Europhilus*) *superioris* Lindroth, 1966  
*Agonum* (*Europhilus*) *thoreyi* Dejean, 1828‡  
*Agonum* (*Agonum*) *bicolor* (Dejean, 1828)‡  
*Agonum* (*Agonum*) *muelleri* (Herbst, 1784)†  
*Agonum* (*Agonum*) *piceolum* (LeConte, 1879)  
*Agonum* (*Agonum*) *placidum* (Say, 1823)  
*Agonum* (*Olisares*) *aeruginosum* Dejean, 1828  
*Agonum* (*Olisares*) *affine* Kirby, 1837  
*Agonum* (*Olisares*) *albicrus* Dejean, 1828  
*Agonum* (*Olisares*) *anthracinum* Dejean, 1831  
*Agonum* (*Olisares*) *basale* LeConte, 1846  
*Agonum* (*Olisares*) *belleri* (Hatch, 1933)

- Agonum* (Olisares) *brevicolle* Dejean, 1828  
*Agonum* (Olisares) *collare* (Say, 1830)  
*Agonum* (Olisares) *corvus* (LeConte, 1860)  
*Agonum* (Olisares) *crenistriatum* (LeConte, 1863)  
*Agonum* (Olisares) *crenulatum* (LeConte, 1854)  
*Agonum* (Olisares) *cupreum* Dejean, 1831  
*Agonum* (Olisares) *cupripenne* (Say, 1823)  
*Agonum* (Olisares) *cyanopis* (Bates, 1882)  
*Agonum* (Olisares) *cyclifer* (Bates, 1884)  
*Agonum* (Olisares) *deceptivum* (LeConte, 1879)  
*Agonum* (Olisares) *decorum* (Say, 1823)  
*Agonum* (Olisares) *deplanatum* Ménétriés, 1843  
*Agonum* (Olisares) *elongatulum* (Dejean, 1828)  
*Agonum* (Olisares) *errans* (Say, 1823)  
*Agonum* (Olisares) *excavatum* Dejean, 1828  
*Agonum* (Olisares) *extensicolle* (Say, 1823)  
*Agonum* (Olisares) *extimum* Liebherr, 1986  
*Agonum* (Olisares) *ferreum* Haldeman, 1843  
*Agonum* (Olisares) *fidele* Casey, 1920  
*Agonum* (Olisares) *fossiger* Dejean, 1828  
*Agonum* (Olisares) *harrisii* LeConte, 1846  
*Agonum* (Olisares) *imitans* (Notman, 1919)  
*Agonum* (Olisares) *melanarium* Dejean, 1828  
*Agonum* (Olisares) *metallescens* (LeConte, 1854)  
*Agonum* (Olisares) *moerens* Dejean, 1828  
*Agonum* (Olisares) *muii* Liebherr, 1984  
*Agonum* (Olisares) *mutatum* (Gemminger & Harold, 1868)  
*Agonum* (Olisares) *nutans* (Say, 1823)  
*Agonum* (Olisares) *octopunctatum* (Fabricius, 1798)  
*Agonum* (Olisares) *pacificum* Casey, 1920  
*Agonum* (Olisares) *pallipes* (Fabricius, 1787)  
*Agonum* (Olisares) *parextimum* Liebherr, 1986  
*Agonum* (Olisares) *propinquum* (Gemminger & Harold, 1868)  
*Agonum* (Olisares) *punctiforme* (Say, 1823)  
*Agonum* (Olisares) *quadrимaculatum* (Horn, 1885)  
*Agonum* (Olisares) *quinquepunctatum* Motschulsky, 1844‡  
*Agonum* (Olisares) *rigidulum* (Casey, 1920)  
*Agonum* (Olisares) *rufipes* Dejean, 1828  
*Agonum* (Olisares) *striatopunctatum* Dejean, 1828  
*Agonum* (Olisares) *sulcipes* (Horn, 1881)  
*Agonum* (Olisares) *suturale* Say, 1830  
*Agonum* (Olisares) *tenue* (LeConte, 1854)



*Agonum (Olisares) texanum* (LeConte, 1878)  
*Agonum (Olisares) trigeminum* Lindroth, 1954  
*Platynus (Microplatynus) agilis* LeConte, 1863  
*Platynus (Microplatynus) pecki* Barr, 1982  
*Platynus (Platynus) brunneomarginatus* (Mannerheim, 1843)  
*Platynus (Platynus) daviesi* Bousquet, 2012  
*Platynus (Platynus) decentis* (Say, 1823)  
*Platynus (Platynus) indecentis* Liebherr & Will, 1996  
*Platynus (Platynus) opaculus* LeConte, 1863  
*Platynus (Platynus) ovipennis* (Mannerheim, 1843)  
*Platynus (Platynus) parmarginatus* Hamilton, 1893  
*Platynus (Platynus) tenuicollis* (LeConte, 1846)  
*Platynus (Platynus) trifoveolatus* Beutenmüller, 1903  
*Platynus (Batenus) angustatus* Dejean, 1828  
*Platynus (Batenus) cincticollis* (Say, 1823)  
*Platynus (Batenus) hypolithos* (Say, 1823)  
*Platynus (Batenus) mannerheimii* (Dejean, 1828)‡  
*Platynus (Batenus) prognathus* Van Dyke, 1926  
*Platynus (Glyptolenopsis) ovatulus* (Bates, 1884)  
*Platynus (Trapezodera) cohni* Liebherr & Will, 1996  
*Platynus (Dyscolus) cazieri* Liebherr & Will, 1996  
*Platynus (Dyscolus) falli* (Darlington, 1936)  
*Platynus (Dyscolus) lyratus* (Chaudoir, 1879)  
*Platynus (Dyscolus) megalops* (Bates, 1882)  
*Platynus (Dyscolus) rufiventris* (Van Dyke, 1926)  
*Metacolpodes buchanani* (Hope, 1831)†

#### PERIGONINI

*Perigona (Trechicus) nigriceps* (Dejean, 1831)†  
*Perigona (Trechicus) pallipennis* (LeConte, 1853)

#### ATRANINI

*Atranus pubescens* (Dejean, 1828)

#### LACHNOPHORINI

*Anchonoderus quadrinotatus* Horn, 1878  
*Anchonoderus schaefferi* Liebke, 1928  
*Lachnophorus elegantulus* Mannerheim, 1843  
*Euphorticus occidentalis* Horn, 1891  
*Euphorticus pubescens* (Dejean, 1831)  
*Calybe (Ega) laetula* (LeConte, 1851)  
*Calybe (Ega) sallei* (Chevrolat, 1839)  
*Eucaerus (Eucaerus) varicornis* LeConte, 1853

**PENTAGONICINI**

- Pentagonica bicolor* (LeConte, 1863)  
*Pentagonica felix* Bell, 1987  
*Pentagonica flavipes flavipes* (LeConte, 1853)  
*Pentagonica marshalli* Mateu, 1995  
*Pentagonica nigricornis* Darlington, 1934  
*Pentagonica picticornis* Bates, 1883

**ODACANTHINI**

- Colliuris (Mimocasnonia) pilatei* (Chaudoir, 1848)  
*Colliuris (Cosnania) lengi* (Schaeffer, 1910)  
*Colliuris (Cosnania) pensylvanica* (Linnaeus, 1758)  
*Colliuris (Calocolliuris) caymanensis* Darlington, 1947  
*Colliuris (Calocolliuris) lioptera* (Bates, 1891)  
*Colliuris (Calocolliuris) ludoviciana* (Sallé, 1849)

**CTENODACTYLINI**

- Leptotrachelus depressus* Blatchley, 1923  
*Leptotrachelus dorsalis* (Fabricius, 1801)  
*Leptotrachelus pallidulus* Motschulsky, 1864

**CYCLOSOMINI**

- Tetragonoderus (Crossonychus) fasciatus* (Haldeman, 1843)  
*Tetragonoderus (Crossonychus) intersectus* (Germar, 1824)  
*Tetragonoderus (Crossonychus) laevigatus* Chaudoir, 1876†  
*Tetragonoderus (Crossonychus) latipennis* LeConte, 1874  
*Tetragonoderus (Crossonychus) pallidus* Horn, 1869

**LEBIINI**

- Mochtherus tetraspilotus* (Macleay, 1825)†  
*Phloeoxena (Oenaphelox) signata* (Dejean, 1825)  
*Eucheila (Inna) boyeri* (Solier, 1835)  
*Somotrichus unifasciatus* (Dejean, 1831)†  
*Coptodera (Coptodera) aerata* Dejean, 1825  
*Coptodera (Coptodera) brunnea* Shpeley & Ball, 1994  
*Coptodera (Coptodera) festiva* Dejean, 1825  
*Coptodera (Coptodera) nitidula* (Buquet, 1835)  
*Coptodera (Coptodera) picea* Dejean, 1826  
*Cymindis (Tarulus) americana* Dejean, 1826  
*Cymindis (Tarulus) arizonensis* Schaeffer, 1910  
*Cymindis (Tarulus) borealis* LeConte, 1863  
*Cymindis (Tarulus) californica* Horn, 1895  
*Cymindis (Tarulus) cribricollis* Dejean, 1831

- Cymindis* (*Tarulus*) *elegans* LeConte, 1846  
*Cymindis* (*Tarulus*) *evanescens* Casey, 1913  
*Cymindis* (*Tarulus*) *interior* Lindroth, 1969  
*Cymindis* (*Tarulus*) *laticollis* Say, 1830  
*Cymindis* (*Tarulus*) *neglecta* Haldeman, 1843  
*Cymindis* (*Tarulus*) *pilosa* Say, 1823  
*Cymindis* (*Tarulus*) *planipennis* LeConte, 1863  
*Cymindis* (*Tarulus*) *seriata* Hatch, 1953  
*Cymindis* (*Tarulus*) *unicolor* Kirby, 1837  
*Cymindis* (*Tarulus*) *uniseriata* Bates, 1884  
*Cymindis* (*Tarulus*) *vaporariorum* (Linnaeus, 1758)‡  
*Cymindis* (*Pinacodera*) *abbreviata* (Casey, 1920)  
*Cymindis* (*Pinacodera*) *ampliata* (Casey, 1920)  
*Cymindis* (*Pinacodera*) *atripennis* (Casey, 1920)  
*Cymindis* (*Pinacodera*) *blanda* Casey, 1913  
*Cymindis* (*Pinacodera*) *complanata* Dejean, 1826  
*Cymindis* (*Pinacodera*) *limbata* Dejean, 1831  
*Cymindis* (*Pinacodera*) *obscura* (Casey, 1920)  
*Cymindis* (*Pinacodera*) *platicollis* (Say, 1823)  
*Cymindis* (*Pinacodera*) *punctifera* (LeConte, 1884)  
*Cymindis* (*Pinacodera*) *punctigera* LeConte, 1851  
*Cymindis* (*Pinacodera*) *subcarinata* (Casey, 1920)  
*Apenes* (*Apenes*) *angustata* Schwarz, 1878  
*Apenes* (*Apenes*) *coriacea* (Chevrolat, 1863)  
*Apenes* (*Apenes*) *hilariola* Bates, 1891  
*Apenes* (*Apenes*) *lucidula lucidula* (Dejean, 1831)  
*Apenes* (*Apenes*) *nebulosa* LeConte, 1867  
*Apenes* (*Apenes*) *opaca* LeConte, 1851  
*Apenes* (*Apenes*) *pallidipes* (Chevrolat, 1836)  
*Apenes* (*Apenes*) *parallela parallela* (Dejean, 1825)  
*Apenes* (*Apenes*) *sinuata* (Say, 1823)  
*Dromius* (*Dromius*) *fenestratus* (Fabricius, 1794)†  
*Dromius* (*Dromius*) *piceus* Dejean, 1831  
*Philorhizus atriceps* (LeConte, 1880)  
*Philorhizus melanocephalus* (Dejean, 1825)†  
*Microlestes brevilobus brevilobus* Lindroth, 1969  
*Microlestes curtipennis* (Casey, 1920)  
*Microlestes lindrothi* Mateu, 1995  
*Microlestes linearis* (LeConte, 1851)  
*Microlestes lucidus lucidus* (LeConte, 1851)  
*Microlestes major* Lindroth, 1969  
*Microlestes nigrinus* (Mannerheim, 1843)  
*Microlestes pusio* (LeConte, 1863)

- Apristus actuosus* Casey, 1920  
*Apristus agitatus* Casey, 1920  
*Apristus cephalus* Casey, 1920  
*Apristus constrictus* Casey, 1920  
*Apristus latens* (LeConte, 1846)  
*Apristus laticollis* LeConte, 1851  
*Apristus liratus* Casey, 1920  
*Apristus nevadensis* Casey, 1920  
*Apristus pugetanus* Casey, 1920  
*Apristus subdeletus* Casey, 1920  
*Apristus subsulcatus* (Dejean, 1826)  
*Apristus thoracicus* Casey, 1920  
*Apristus tuckeri* Casey, 1920  
*Syntomus americanus* (Dejean, 1831)  
*Axinopalpus biplagiatus* (Dejean, 1825)  
*Axinopalpus denticulatus* Hatch, 1949  
*Axinopalpus fusciceps* LeConte, 1851  
*Axinopalpus illectus* Casey, 1920  
*Axinopalpus pratti* Hatch, 1949  
*Axinopalpus utahensis* Tanner, 1928  
*Axinopalpus vittatus* Hatch, 1949  
*Lebia* (*Loxopeza*) *atriceps* LeConte, 1863  
*Lebia* (*Loxopeza*) *atriventris* Say, 1823  
*Lebia* (*Loxopeza*) *deceptrix* Madge, 1967  
*Lebia* (*Loxopeza*) *grandis* Hentz, 1830  
*Lebia* (*Loxopeza*) *pimalis* (Casey, 1920)  
*Lebia* (*Loxopeza*) *subdola* Madge, 1967  
*Lebia* (*Loxopeza*) *subgrandis* Madge, 1967  
*Lebia* (*Loxopeza*) *tricolor* Say, 1823  
*Lebia* (*Polycheloma*) *lecontei* Madge, 1967  
*Lebia* (*Lamprias*) *divisa* LeConte, 1850  
*Lebia* (*Lebia*) *abdita* Madge, 1967  
*Lebia* (*Lebia*) *abdominalis* Chaudoir, 1843  
*Lebia* (*Lebia*)  *analis* Dejean, 1825  
*Lebia* (*Lebia*) *arizonica* Schaeffer, 1910  
*Lebia* (*Lebia*) *bilineata* Motschulsky, 1859  
*Lebia* (*Lebia*) *bitaeniata* Chevrolat, 1834  
*Lebia* (*Lebia*) *bivittata* (Fabricius, 1798)  
*Lebia* (*Lebia*) *bumeliae* Schaeffer, 1910  
*Lebia* (*Lebia*) *calliope* Bates, 1883  
*Lebia* (*Lebia*) *collaris* Dejean, 1826  
*Lebia* (*Lebia*) *cyanipennis* Dejean, 1831  
*Lebia* (*Lebia*) *esurialis* Casey, 1920



- Lebia* (*Lebia*) *fuscata* Dejean, 1825  
*Lebia* (*Lebia*) *guttula* LeConte, 1851  
*Lebia* (*Lebia*) *histrionica* Bates, 1883  
*Lebia* (*Lebia*) *insulata* Madge, 1967  
*Lebia* (*Lebia*) *lecta* Horn, 1885  
*Lebia* (*Lebia*) *lobulata* LeConte, 1863  
*Lebia* (*Lebia*) *marginicollis* Dejean, 1825  
*Lebia* (*Lebia*) *miranda* (Horn, 1872)  
*Lebia* (*Lebia*) *moesta* LeConte, 1850  
*Lebia* (*Lebia*) *nigricapitata* Madge, 1967  
*Lebia* (*Lebia*) *ornata* Say, 1823  
*Lebia* (*Lebia*) *pectita* Horn, 1885  
*Lebia* (*Lebia*) *perita* Casey, 1920  
*Lebia* (*Lebia*) *perpallida* Madge, 1967  
*Lebia* (*Lebia*) *pleuritica* LeConte, 1846  
*Lebia* (*Lebia*) *pulchella* Dejean, 1826  
*Lebia* (*Lebia*) *pumila* Dejean, 1831  
*Lebia* (*Lebia*) *rufopleura* Schaeffer, 1910  
*Lebia* (*Lebia*) *scalpta* Bates, 1883  
*Lebia* (*Lebia*) *scapula* Horn, 1885  
*Lebia* (*Lebia*) *solea* Hentz, 1830  
*Lebia* (*Lebia*) *subrugosa* Chaudoir, 1871  
*Lebia* (*Lebia*) *tuckeri* (Casey, 1920)  
*Lebia* (*Lebia*) *viridipennis* Dejean, 1826  
*Lebia* (*Lebia*) *viridis* Say, 1823  
*Lebia* (*Lebia*) *vittata* (Fabricius, 1777)  
*Hyboptera auxiliadora* Erwin, 2004  
*Plochionus* (*Menidius*) *amandus* Newman, 1840  
*Plochionus* (*Menidius*) *bicolor* Notman, 1919  
*Plochionus* (*Menidius*) *discoideus* LeConte, 1880  
*Plochionus* (*Menidius*) *timidus* Haldeman, 1843  
*Plochionus* (*Plochionus*) *pallens* (Fabricius, 1775)†  
*Tecnophilus croceicollis croceicollis* (Ménétriés, 1843)  
*Tecnophilus croceicollis peigani* Larson, 1969  
*Tecnophilus pilatei* Chaudoir, 1877  
*Calleida* (*Calleida*) *circumcincta* Bates, 1883  
*Calleida* (*Calleida*) *decora* (Fabricius, 1801)  
*Calleida* (*Calleida*) *fimbriata* Bates, 1883  
*Calleida* (*Calleida*) *fulgida* Dejean, 1831  
*Calleida* (*Calleida*) *obrieni* Mateu, 1995  
*Calleida* (*Calleida*) *planulata* LeConte, 1858  
*Calleida* (*Calleida*) *platynoides* Horn, 1882  
*Calleida* (*Calleida*) *punctata* LeConte, 1846

*Calleida (Calleida) punctulata* Chaudoir, 1848  
*Calleida (Calleida) purpurea* (Say, 1823)  
*Calleida (Calleida) viridipennis* (Say, 1823)  
*Philophuga caerulea* Casey, 1913  
*Philophuga viridicollis* (LeConte, 1846)  
*Philophuga viridis amoena* (LeConte, 1846)  
*Philophuga viridis horni* Chaudoir, 1877  
*Philophuga viridis klamathea* Larson, 1969  
*Philophuga viridis viridis* (Dejean, 1831)  
*Infernophilus castaneus* (Horn, 1882)  
*Onota angulicollis* (Reiche, 1842)  
*Onota floridana* Horn, 1881  
*Cylindronotum aeneum* Putzeys, 1845  
*Agra oblongopunctata oblongopunctata* Chevrolat, 1836  
*Euproctinus (Neoeuproctus) abjectus* (Bates, 1883)  
*Euproctinus (Neoeuproctus) balli* Shpeley, 1986  
*Euproctinus (Neoeuproctus) trivittatus* (LeConte, 1878)  
*Nemotarsus elegans* LeConte, 1853  
*Nemotarsus rhombifer* Bates, 1883

#### ZUPHIINI

*Zuphium americanum* Dejean, 1831  
*Zuphium delectum* Liebke, 1933  
*Zuphium longicollis* LeConte, 1879  
*Zuphium magnum* Schaeffer, 1910  
*Zuphium mexicanum* Chaudoir, 1863  
*Zuphium pseudamericanum* Mateu, 1981  
*Pseudaptinus (Pseudaptinus) lecontei* (Dejean, 1831)  
*Pseudaptinus (Pseudaptinus) oviceps* Van Dyke, 1926  
*Pseudaptinus (Pseudaptinus) tenuicollis* (LeConte, 1851)  
*Pseudaptinus (Thalpius) cubanus* (Chaudoir, 1877)  
*Pseudaptinus (Thalpius) deceptor* Darlington, 1934  
*Pseudaptinus (Thalpius) dorsalis* (Brullé, 1834)  
*Pseudaptinus (Thalpius) hoegei* (Bates, 1883)  
*Pseudaptinus (Thalpius) horni* (Chaudoir, 1872)  
*Pseudaptinus (Thalpius) microcephalus* (Van Dyke, 1926)  
*Pseudaptinus (Thalpius) nobilis* Liebke, 1934  
*Pseudaptinus (Thalpius) pygmaeus* (Dejean, 1826)  
*Pseudaptinus (Thalpius) rufulus* (LeConte, 1851)

#### GALERITINI

*Galerita (Progaleritina) atripes* LeConte, 1858  
*Galerita (Progaleritina) bicolor* (Drury, 1773)

- Galerita (Progaleritina) forreri* Bates, 1883  
*Galerita (Progaleritina) janus* (Fabricius, 1792)  
*Galerita (Progaleritina) lecontei lecontei* Dejean, 1831  
*Galerita (Progaleritina) mexicana* Chaudoir, 1872  
*Galerita (Progaleritina) reichardti* Ball & Nimmo, 1983  
*Galerita (Galerita) aequinoctialis* Chaudoir, 1852

#### HELLUONINI

- Helluomorphoides clairvillei* (Dejean, 1831)  
*Helluomorphoides ferrugineus* (LeConte, 1853)  
*Helluomorphoides latitarsis* (Casey, 1913)  
*Helluomorphoides nigripennis* (Dejean, 1831)  
*Helluomorphoides papago* (Casey, 1913)  
*Helluomorphoides praeustus bicolor* (Harris, 1828)  
*Helluomorphoides praeustus floridanus* Ball, 1956  
*Helluomorphoides praeustus praeustus* (Dejean, 1825)  
*Helluomorphoides texanus* (LeConte, 1853)

#### PSEUDOMORPHINI

- Pseudomorpha (Pseudomorpha) alleni* Van Dyke, 1953  
*Pseudomorpha (Pseudomorpha) alutacea* Notman, 1925  
*Pseudomorpha (Pseudomorpha) augustata* Horn, 1883  
*Pseudomorpha (Pseudomorpha) behrensi* Horn, 1870  
*Pseudomorpha (Pseudomorpha) castanea* Casey, 1909  
*Pseudomorpha (Pseudomorpha) champlaini* Notman, 1925  
*Pseudomorpha (Pseudomorpha) consanguinea* Notman, 1925  
*Pseudomorpha (Pseudomorpha) cronkhitei* Horn, 1867  
*Pseudomorpha (Pseudomorpha) cylindrica* Casey, 1889  
*Pseudomorpha (Pseudomorpha) excrucians* Kirby, 1823  
*Pseudomorpha (Pseudomorpha) falli* Notman, 1925  
*Pseudomorpha (Pseudomorpha) hubbardi* Notman, 1925  
*Pseudomorpha (Pseudomorpha) parallela* Van Dyke, 1943  
*Pseudomorpha (Pseudomorpha) schwarzi* Notman, 1925  
*Pseudomorpha (Pseudomorpha) tenebroides* Notman, 1925  
*Pseudomorpha (Pseudomorpha) vandykei* Notman, 1925  
*Pseudomorpha (Pseudomorpha) vicina* Notman, 1925  
*Pseudomorpha (Pseudomorpha) vindicata* Notman, 1925

## Catalogue of North American Geadephaga taxa

### Family TRACHYPACHIDAE Thomson, 1857

Trachypachini C.G. Thomson, 1857: 5. Type genus: *Trachypachus* Motschulsky, 1844.

**Diversity.** Six species in western North America (three species), South America (two species), and northern Eurasia (one species). The species are arrayed in two genera: *Systolosoma* Solier (two South American species) and *Trachypachus* (four species).

### Genus *TRACHYPACHUS* Motschulsky, 1844

*Trachypachus* Motschulsky, 1844: 86. Type species: *Blethisa zetterstedtii* Gyllenhal, 1827 designated by Thomson (1859: 3). Etymology. Uncertain, possibly from the Greek *trachelos* (neck, by extension pronotum) contracted and *pachys* (thick), alluding to the convex pronotum (“*corselet convexe, large*”) or from the Greek *trachys* (uneven, rough) and *pachys* [masculine].

*Trachypachys* Gemminger and Harold, 1868a: 46. Unjustified emendation of *Trachypachus* Motschulsky, 1844.

**Diversity.** Northern Hemisphere, with four species in the Nearctic (three species) and Palearctic (one species) Regions.

**Identification.** Lindroth (1961a: 1-4) reviewed the North American species and discussed the structural differences between the three taxa.

### *Trachypachus gibbsii* LeConte, 1861

*Trachypachys gibbsii* LeConte, 1861b: 339. Type locality: «east of Fort Colville [Washington]» (original citation). Syntype(s) in MCZ [# 85]. Etymology. The specific name honors the American geologist and ethnologist George Gibbs [1815-1873] who gathered zoological specimens for the Smithsonian while working for the Northwest Boundary Commission.

*Trachypachus californicus* Motschulsky, 1864: 194. Type locality: «Calif[ornie]» (original citation). Two syntypes, one listed as “corruptum,” in ZMMU (Keleinikova 1976: 190). Synonymy established by Horn (1870a: 71).

*Trachypachus alticola* Casey, 1920: 144. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 111), in USNM [# 46830]. Synonymy established by Van Dyke (1925: 112), confirmed by Lindroth (1961a: 3).

**Distribution.** This species ranges from southern British Columbia (Lindroth 1961a: 4) to northwestern Montana (Russell 1968: 42; Edwards 1975: 48), south to the southern part of the Sierra Nevada (Lindroth 1961a: 4) and to the Coast Ranges (Fall 1901a: 39) in California.

**Records.** CAN: BC USA: CA, ID, MT, OR, WA



***Trachypachus inermis* Motschulsky, 1850**

*Trachypachus inermis* Motschulsky, 1850a: 16. Type locality: «California?» (original citation), herein restricted to Lake Tahoe, Placer County (see Casey 1920: 146, as *T. specularis*). Four syntypes in ZMMU (Keleinikova 1976: 201).

*Trachypachus holmbergi* Mannerheim, 1853: 119. Type locality: «ad ostia fl[umen] Kaktnu [= Kenai River] peninsulae Kenai [Alaska]» (original citation). Holotype [by monotypy] location unknown (possibly in ZMH). Synonymy established by LeConte (1857c: 31). Etymology. The specific name was proposed for the Finnish naturalist, geologist, and ethnographer Heinrich [Henrik] Johan Holmberg [1818-1864], who visited Russian America in 1850 and 1851 and collected insects.

*Trachypachus oregonus* Casey, 1920: 145. Type locality: «Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 111), in USNM [# 46831]. Synonymy established by Van Dyke (1925: 112), confirmed by Lindroth (1961a: 1).

*Trachypachus specularis* Casey, 1920: 146. Type locality: «Lake Tahoe [Placer County], California» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 111), in USNM [# 46832]. Synonymy established by Van Dyke (1925: 112), confirmed by Lindroth (1961a: 1).

**Distribution.** The range of this species extends from the Kenai Peninsula in Alaska (Lindroth 1961a: 2) to northwestern Saskatchewan (Hooper 1980: 65), south to southern Colorado (Wickham 1902: 230; LeConte 1878a: 464; Bell 1971: 58), southern Utah (Garfield County, Foster F. Purrington pers. comm. 2011), and the Sierra Nevada and Coast Ranges in California (Fall 1901a: 39). One old specimen, simply labeled “Ks” is known (MCZ, collection LeConte).

**Records.** CAN: AB, BC (VCI), NT, SK, YT USA: AK, CA, CO, ID, MT, NV, OR, UT, WA, WY [KS]

***Trachypachus slevini* Van Dyke, 1925**

*Trachypachus slevini* Van Dyke, 1925: 111. Type locality: «Olney [Clatsop County], near Astoria, Oregon» (original citation). Holotype (♀) in CAS [# 1616]. Etymology. The specific name honors Joseph Richard Slevin [1881-1957], curator of herpetology at the California Academy of Sciences from 1928 to 1957.

**Distribution.** This species is known only from the western regions of Washington and Oregon (Lindroth 1961a: 4).

**Records.** USA: OR, WA

**Family RHYSODIDAE Laporte, 1840**

Rhysodites Laporte, 1840: 291. Type genus: *Rhysodes* Germar, 1822.

**Diversity.** Worldwide, with about 355 species arrayed in six tribes: Clinidiini (about 135 species), Dhysorini (ten species), Leoglymmiini (one species), Medisorini (one

species), Omoglymmiini (about 180 species), and Rhysodini (about 25 species). Over 90% of the species are found in the Southern Hemisphere.

**Identification.** Bell (1970) revised the North American, Middle American, and West Indies species and provided keys for their identification.

### Tribe CLINIDIINI Bell and Bell, 1978

Clinidiina R.T. Bell and J.R. Bell, 1978: 59. Type genus: *Clinidium* Kirby, 1830.

**Diversity.** Worldwide, with about 135 species arrayed in three genera: *Clinidium* (about 75 species), *Grouvellina* Bell and Bell (17 Madagascan species), and *Rhyzodastes* Fairmaire (about 45 species). The vast majority of species are found in the Southern Hemisphere, with only 11 species (about 8% of the world fauna) occurring in the Northern Hemisphere.

### Genus *CLINIDIUM* Kirby, 1830

*Clinidium* Kirby, 1830: 6. Type species: *Clinidium guildingii* Kirby, 1830 by monotypy. Etymology (original). From the Greek *clinidion* (small couch), alluding to the body shape of the adult [neuter].

**Diversity.** About 75 species in the Nearctic (six species), Neotropical (about 65 species), and Palaearctic (three species) Regions arrayed in four subgenera: *Arctoclinidium* (nine species), *Clinidium s.str.* (about 50 Neotropical species), *Mexiclinidium* Bell and Bell (11 Middle American species), and *Tainoa* Bell and Bell (four West Indian species).

**Identification.** Bell and Bell (1985) revised the species of the world and provided keys for their identification.

### Subgenus *Arctoclinidium* Bell, 1970

*Arctoclinidium* R.T. Bell, 1970: 308. Type species: *Rhysodes sculptilis* Newman, 1838 by original designation. Etymology. From the Greek *arctos* (north) and the generic name *Clinidium* [q.v.] [neuter].

**Diversity.** Northern Hemisphere, with nine species in North America (six species), Japan (one species), Caucasian region (one species), and southern Europe (one species).

### *Clinidium apertum allegheniense* Bell and Bell, 1975

*Clinidium allegheniense* R.T. Bell and J.R. Bell, 1975: 65. Type locality: «Pittsburgh [Allegheny County], Pennsylvania» (original citation). Holotype (♂) in SMEK.

**Distribution.** This subspecies is known only from southwestern Pennsylvania and the Black Mountains in western North Carolina (Bell and Bell 1985: 91). The record from “Ohio” (Bousquet and Laroche 1993: 42) needs confirmation.

**Records. USA:** NC, PA [OH]

***Clinidium apertum apertum* Reitter, 1880**

*Clinidium apertum* Reitter, 1880: 29. Type locality: «Himalaya» (original citation), which is incorrect (Bell and Bell 1985: 90); Cartersville, Bartow County, Georgia (see Bell and Bell 1975: 66, as *C. allegheniense georgicum*), herein selected. Syntype(s) in NHMW (Bell and Bell 1985: 90).

*Clinidium allegheniense georgicum* R.T. Bell and J.R. Bell, 1975: 66. Type locality: «Cartersville [Bartow County], Georgia» (original citation). Holotype (♂) in USNM [# 73195]. Synonymy established by Bell and Bell (1978: 65).

**Distribution.** This subspecies is known only from the type locality in northern Georgia (Bell and Bell 1985: 90).

**Records. USA:** GA

***Clinidium baldufi* Bell, 1970**

*Clinidium baldufi* R.T. Bell, 1970: 313. Type locality: «Dayton [La Salle County], Ill[inois]» (original citation). Holotype (♂) in MCZ [# 31748]. Etymology. The specific name was proposed for Walter Valentine Balduf [1889-1969], professor of entomology at the University of Illinois.

**Distribution.** This species ranges from New Jersey to central Iowa, including southwestern Wisconsin (Messer 2010: 33), south to southern Mississippi (Bell and Bell 1985: 89) and northern Florida (Bell 1970: 313). Old specimens simply labeled from Nebraska, Kansas, Missouri, and Texas are known (Bell 1970: 313). The records from “Arkansas” and “Louisiana” (Bousquet and Laroche 1993: 43) need confirmation.

**Records. USA:** AL, FL, GA, IA, IL, IN, KY, MD, MS, NC, NJ, OH, PA, SC, TN, VA, WI, WV [AR, KS, LA, MO, NE, TX]

***Clinidium calcaratum* LeConte, 1875**

*Clinidium calcaratum* LeConte, 1875b: 164. Type locality: «Vancouver Island; Oregon» (original citation). Syntype(s) [3 originally cited] in MCZ [# 6831].

**Distribution.** This species ranges from southern British Columbia, including Vancouver Island, south to Mendocino County in the Coast Ranges of California and Tuolumne County in the Sierra Nevada (Bell and Bell 1985: 84).

**Records. CAN:** BC (VCI) **USA:** CA, OR, WA

***Clinidium rosenbergi* Bell, 1970**

*Clinidium rosenbergi* R.T. Bell, 1970: 315. Type locality: «Turkey Run State Park, Parke County, Indiana» (original citation). Holotype (♂) in MCZ [# 31749].

**Distribution.** This species ranges from northwestern Pennsylvania to eastern Missouri, south to east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009) and northern Alabama (Madison County, CMNH).

**Records. USA:** AL, IL, IN, KY, LA, MO, NC, OH, PA, TN, VA

***Clinidium sculptile* (Newman, 1838)**

*Rhysodes sculptilis* Newman, 1838b: 666. Type locality: «Wheeling [Ohio County], [West] Virginia» (lectotype label). Lectotype (♂), designated by Bell and Bell (1985: 92), in BMNH.

*Rhysodes conjungens* Germar, 1840a: 351 [*nomen dubium*]. Type locality: «Staaten Nordamerika's» (original citation). Holotype [by monotypy] location unknown (possibly in ZMHB). Synonymy established by LeConte (1875b: 164).

**Distribution.** The range of this species extends from the Catskills in southern New York to west-central Indiana (Bell and Bell 1985: 92), south to east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009), northern Alabama (Bell and Bell 1985: 92), and the Florida Panhandle (Peck and Thomas 1998: 15). Specimens simply labeled from Texas are known (Bell and Bell 1985: 92). The record from central Illinois (Wolcott 1896: 235) needs confirmation.

**Records. USA:** AL, DC, DE, FL, GA, IN, KY, LA, MD, MO, NC, NJ, NY, OH, PA, SC, TN, VA, WV [IL, TX]

***Clinidium valentinei* Bell, 1970**

*Clinidium valentinei* R.T. Bell, 1970: 313. Type locality: «Gorgas, Walker County, Ala[bama]» (original citation). Holotype (♂) in OSUO.

**Distribution.** This species seems to be confined to the Appalachian Mountains from southwestern Pennsylvania to north-central Alabama and northeastern Georgia (Bell and Bell 1985: 85).

**Records. USA:** AL, GA, NC, PA, SC, TN

**Tribe OMOGLYMMIINI Bell and Bell, 1978**

Omoglymmiina R.T. Bell and J.R. Bell, 1978: 66. Type genus: *Omoglymmius* Ganglbauer, 1891.

**Diversity.** Worldwide, with about 180 species arrayed in eight genera. The tribe is much more diverse, both in term of species and lineages, in Asia than anywhere else.

**Genus OMOGLYMMIUS Ganglbauer, 1891**

*Omoglymmius* Ganglbauer, 1891a: 533. Type species: *Rhysodes germari* Ganglbauer, 1891 by monotypy. Etymology. From the Greek *omos* (rough) and *glymma* (an engraved figure) [masculine].

**Diversity.** About 150 species (Lorenz 2005: 158-159) in the Nearctic (two species), Australian, Oriental, Palaearctic (ten species, only one of them present in Europe), and Afrotropical (one species) Regions arrayed in 11 subgenera. More than 90% of the species are found in Asia.



**Identification.** Bell and Bell (1983) revised the species of the world and provided keys for their identification.

### **Subgenus *Boreoglymmius* Bell and Bell, 1983**

*Boreoglymmius* R.T. Bell and J.R. Bell, 1983: 140. Type species: *Rhysodes americanus* Laporte, 1836 by original designation. Etymology. From the Greek *bore* (north) and the last two syllables of the generic name *Omoglymmius* [masculine].

**Diversity.** Three species in North American (two species) and Japan (one species).

### ***Omoglymmius americanus* (Laporte, 1836)**

*Rhysodes exaratus* Lepeletier and Audinet-Serville [in Latreille et al.], 1825: 308 [primary homonym of *Rhysodes exaratus* Dalman, 1823]. Type locality: «Amérique septentrionale» (original citation), herein restricted to Florence, Florence County, South Carolina (see Bell and Bell 1983: 145). Syntype(s) location unknown (possibly in MHNP).

*Rhysodes americanus* Laporte, 1836: 58. Replacement name for *Rhysodes exaratus* Lepeletier and Audinet-Serville, 1825.

*Rhysodes aratus* Newman, 1838b: 664. Type locality. «Alabama» (original citation). Syntype(s) location unknown (possibly in BMNH). Synonymy established by LeConte (1875b: 162).

**Distribution.** This species ranges from central New York to eastern Minnesota, south to east-central Texas (Bell and Bell 1983: 145) and northern Florida (Peck and Thomas 1998: 15).

**Records.** CAN: ON USA: AL, AR, DE, FL, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, NE, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WI

### ***Omoglymmius hamatus* (LeConte, 1875)**

*Rhysodes hamatus* LeConte, 1875b: 163. Type locality: «California» (original citation), herein restricted to Big Trees, Calaveras County (see Bell and Bell 1983: 144). Syntype(s) in MCZ [# 6830].

**Distribution.** This species ranges from northern Idaho and southeastern Washington south to southern California, including the Sierra Nevada, and southeastern Arizona (Bell and Bell 1983: 143-144). Old specimens without specific localities from British Columbia and Texas (Bell and Bell 1983: 144) are known.

**Records.** USA: AZ, CA, ID, NV, OR, WA [BC, TX]

### **Family CARABIDAE Latreille, 1802**

Carabici Latreille, 1802: 80. Type genus: *Carabus* Linnaeus, 1758.

**Subfamily NEBRIINAE Laporte, 1834**

Nebriidae Laporte, 1834: 90. Type genus: *Nebria* Latreille, 1802.

**Diversity.** About 665 species in the Nearctic (about 75 species), Neotropical (one South American species), and Palaearctic and northern parts of the Oriental (about 595 species) Regions. The species are arrayed in five tribes: Nebriini (about 600 species), Notiokasiini (one South American species), Notiophilini (about 55 species), Opisthiini (five species), and Pelophilini (two species).

**Tribe PELOPHILINI Kavanaugh, 1996**

Pelophilini Kavanaugh, 1996: 35. Type genus: *Pelophila* Dejean, 1821.

**Diversity.** This tribe contains a single genus.

**Genus PELOPHILA Dejean, 1821**

*Pelophila* Dejean, 1821: 7. Type species: *Carabus borealis* Paykull, 1790 by monotypy. Etymology (see Dejean 1826: 263). From the Greek *pelos* (mud) and *philos* (beloved), alluding to the habitat of *P. borealis* [feminine].

**Diversity.** Northern Hemisphere, with one Holarctic species and one species endemic to northern North America.

**Identification.** Lindroth (1961a: 57-60) covered both species and discussed the structural differences between them.

***Pelophila borealis* (Paykull, 1790)**

*Carabus borealis* Paykull, 1790: 51. Type locality: «Karungi Botniae occidentalis [Norr-botten County, Sweden]» (original citation). Syntype(s) probably in NRSS.

*Pelophila gebleri* Mannerheim, 1823: 38. Type locality: «Sibiria ad Barnaul [Altai Kray, Russia]» (original citation). One syntype in ZMH (Silfverberg 1987: 17). Synonymy established by Dejean (1833: 22).

*Pelophila marginata* Mannerheim, 1823: 39. Type locality: «peninsula Kamschatka ad portum St. Petri et Pauli [apparently the town of Petropawlowsk, see Lindroth (1961a: 74)]» (original citation). One syntype in ZMH (Silfverberg 1987: 20). Synonymy established by Dejean (1833: 22).

*Pelophila eschscholtzii* Mannerheim, 1823: 40. Type locality: «insula Unalaschka [Aleutian Islands, Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1961a: 57), in ZMH. Synonymy established by Dejean (1833: 22), confirmed by Lindroth (1961a: 57).

*Pelophila elongata* Mannerheim, 1823: 41. Type locality: «peninsula Kamschatka ad portum St. Petri et Pauli [apparently the town of Petropawlowsk, see Lindroth (1961a: 74)]» (original citation). One syntype in ZMH (Silfverberg 1987: 15). Synonymy established by Dejean (1833: 22).

- Pelophila borealis* var. *arctica* Dejean, 1826: 265. Type locality not stated. Syntype(s) location unknown (possibly in MHNP). Synonymy established by Dejean (1833: 22).
- Pelophila borealis* var. *dejeanii* Dejean, 1826: 265. Type locality: «environs de Barnaoul, Sibérie [Altai Kray, Russia]» (original citation). Syntype(s) probably in MHNP. Synonymy established by Dejean (1833: 22).
- Pelophila laevigata* Motschulsky, 1844: 92. Type locality: «près de la redoute Yamyschevo non loin du fleuve Irtych [Siberia, Russia]» (original citation). Holotype [by monotypy] in ZMMU (Keleinikova 1976: 202). Synonymy established by Bänninger (1930: 101).
- Pelophila californica* Motschulsky, 1844: 93. Type locality: «Californie» (original citation), which is incorrect (Lindroth 1961a: 57). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976). Synonymy established by Bänninger (1930: 101).
- Pelophila ochotica* R.F. Sahlberg, 1844: 17. Type locality: «in monte Morikan [Okhotsk, Khabarovsk Kray, Siberia, Russia]» (original citation). Holotype [by monotypy] location unknown (possibly in ZMUT). Synonymy established by Bänninger (1930: 101).
- Pelophila angusticollis* Motschulsky, 1860: 98. Type locality: «Kamtschatka» (original citation). Five syntypes in ZMMU (Keleinikova 1976: 186). Synonymy established by Shilenkov (1994: 9).
- Pelophila ulkei* G.H. Horn, 1870b: 105. Type locality: «Hudson's Bay Territory» (original citation), restricted to «Gillam, Mani[oba]» by Lindroth (1961a: 58). Holotype [by monotypy] (♂) in MCZ (collection LeConte). Synonymy established by Lindroth (1961a: 57).
- Pelophila shermani* Casey, 1913: 45. Type locality: «West S[ain]t Modest[e], Labrador» (original citation). Five syntypes [5 originally cited] in USNM [# 46844]. Synonymy established, under the name *P. borealis ulkei* Horn, by Bänninger (1930: 102), confirmed by Lindroth (1961a: 57). Etymology. The specific name was proposed for John Dempster Sherman [1872–1960], dealer of entomological and related books and periodicals.

**Distribution.** This species is found from northern Europe to the Bering Sea coast (Farkač 2003: 98) and from Alaska, including the Aleutian and Kodiak Islands, to Newfoundland, south to the Abitibi region in western Quebec (Larochelle 1975: 98) [see Lindroth 1963a: Fig. 59]. Fossil remnants of this species, dated between about 14,000 and 18,100 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96; Schwert 1992: 76) and southern Ontario (Morgan and Morgan 1981: 1107).

**Records.** CAN: AB, BC, LB, MB, NF, NT, NU, ON, QC, SK, YT USA: AK – **Holarctic**

### *Pelophila rudis* (LeConte, 1863)

*Nebria rudis* LeConte, 1863c: 3. Type locality: «Methy [Portage] [= Portage La Loche, northern Saskatchewan]» (original citation). Holotype [by monotypy] (♂) in MCZ

[# 653]. NOTE. In the original description, LeConte indicated that he received “one specimen” from “Mr. Kennicott” collected at “Methy.” Lindroth (1961a: 59) placed the type locality in eastern Alberta. However, I was unable to find any such locality in Alberta, although there is a locality named “Metis” in northwestern Alberta. In the same paper, LeConte (1863c: 1) described his *Cicindela hyperborea* from specimen(s) received from “Mr. R. Kennicott” collected at “Methy Portage, Hudson’s Bay Territory.” I believe LeConte meant “Methy Portage” as the collection site for *Pelophila rudis*. Located in northern Saskatchewan, Methy(e) Portage is currently called Portage La Loche.

**Distribution.** This species is known from scattered localities from western Newfoundland (Lindroth 1955a: 39) to the Fairbanks area in Alaska (David H. Kavanaugh pers. comm. 2009), south to central British Columbia (Lindroth 1961a: 59) [see Lindroth 1963a: Fig. 65]. Fossil remnants, dated between 14,000 and 15,500 years B.P., have been unearthed in central Iowa (Schwert 1992: 76).

**Records.** CAN: AB, BC, MB, NF, NT, ON, SK, YT USA: AK

### Tribe OPISTHIINI Dupuis, 1912

Opisthiinae Dupuis, 1912: 1. Type genus: *Opisthius* Kirby, 1837.

**Diversity.** Northern Hemisphere, with five species in North America (one species) and the Himalayas and China, including Taiwan (four species). The species are arrayed in two genera: *Opisthius* (one species) and *Paropisthius* Casey (four species).

**Identification.** Bousquet and Smetana (1996) reviewed the species and provided a key for their identification.

### Genus OPISTHIUS Kirby, 1837

*Opisthius* Kirby, 1837: 60. Type species: *Opisthius richardsoni* Kirby, 1837 by monotypy. Etymology. Uncertain, possibly from the Greek *opisthen* (behind) or *opisthios* (hinder) [masculine]. Bousquet and Smetana (1996: 218) suggested that the name possibly reflect Kirby’s assignment of *Opisthius* to follow *Elaphrus* in his paper.

**Diversity.** One North American species.

**Identification.** The species was treated in Lindroth’s (1961a: 88-90) monograph on the Carabidae of Canada and Alaska.

### *Opisthius richardsoni* Kirby, 1837

*Opisthius richardsoni* Kirby, 1837: 61. Type locality: «[probably] on an island of Lake Winnipeg» (original citation), which is incorrect (Lindroth 1961a: 89); «Medicine Hat, Al[ber]ta» selected by Lindroth (1961a: 89). Lectotype (♂), designated by Bousquet and Smetana (1996: 220), in BMNH. Etymology. The specific name was proposed for John Richardson [1787-1865], surgeon and naturalist to Sir John Franklin on two Arctic expeditions, 1819-1822 and 1825-1827.



**Distribution.** The range of this species extends from central Saskatchewan to the Arctic Circle in central Alaska (Lindroth 1961a: 89-90), south to Tuolumne County in the Sierra Nevada of California (Dajoz 2007: 17) and north-central New Mexico (Taos County, CNC). The record from “Iowa” (Jaques and Redlinger 1946: 295) is probably based on a mislabeled specimen or a stray. Fossil remnants of this species from the late Wisconsinan age have been found in northeastern Illinois, north-central Iowa, south-central Minnesota, and northwestern Ontario (see Ashworth and Schwert 1991: 511); others from a Plio-Pleistocene sequence have been found in northwestern Greenland and Meighen Island (Böcher 1995: 18).

**Records.** CAN: AB, BC (VCI), NT, SK, YT USA: AK, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY

### Tribe NEBRIINI Laporte, 1834

Nebriidae Laporte, 1834: 90. Type genus: *Nebria* Latreille, 1802.

**Diversity.** About 600 species (Lorenz 2005: 116-124) in the Nearctic (about 60 species), Palaearctic, and northern parts of the Oriental Regions. The species are arrayed in four genera: *Archastes* Jedlička (27 Chinese species), *Leistus* (about 180 species), *Nebria* (including *Oreonebria* Daniel) (about 380 species), and *Nippononebria* (seven species).

### Genus LEISTUS Frölich, 1799

*Leistus* Frölich, 1799: 9. Type species: *Leistus testaceus* Frölich, 1799 (= *Carabus ferrugineus* Linnaeus, 1758) designated by Daniel (1903: 171). Etymology. From the Greek *leistos* (to be carried off as booty, to be won by force) [masculine]. NOTE. Daniel (1903: 171) designated *Carabus ferrugineus* Linnaeus, 1758 as type species of *Leistus* Frölich, 1799, a species not originally included; however, since he listed the name in synonymy with *Leistus testaceus* Frölich, 1799, a species originally included, he is deemed to have designated the latter taxon as type species (ICZN 1999: Article 69.2.2).

**Diversity.** Northern Hemisphere, with about 180 species (Lorenz 2005: 116-118) in the Nearctic (four species, one of them adventive) and Palaearctic (about 180 species) Regions. The species are arrayed in six subgenera: *Evanoleistus* Jedlička (about 95 Asian species), *Leistus s.str.* (about 40 species), *Nebrileistus* Bänninger (two species on Madeira and Canary Islands), *Neoleistus* (three species), *Sardoleistus* Perrault (one Mediterranean species), and *Pogonophorus* Latreille (about 35 Palaearctic species).

### Subgenus *Leistus* Frölich, 1799

*Leistus* Frölich, 1799: 9. Type species: *Leistus testaceus* Frölich, 1799 (= *Carabus ferrugineus* Linnaeus, 1758) designated by Daniel (1903: 171).

**Diversity.** About 40 Palaearctic species of which one is adventive in North America.

**Identification.** Larson (1978: 307-308) discussed the structural differences between the adventive species in North America and the three native species of the subgenus *Neoleistus*.

***Leistus ferrugineus* (Linnaeus, 1758)**

*Carabus ferrugineus* Linnaeus, 1758: 415. Type locality: «Europa» (original citation). One possible syntype in LSL (Lindroth 1957b: 331).

**Distribution.** This European species is adventive in North America where it is known only from near Saint John's, Newfoundland (Larson 1978: 307). The first inventoried specimen collected on this continent was caught in 1977.

**Records.** CAN: NF – Adventive

**Subgenus *Neoleistus* Erwin, 1970**

*Neoleistus* Erwin, 1970b: 112. Type species: *Leistus ferruginosus* Mannerheim, 1843 by original designation. Etymology. From the Greek prefix *neo-* (new) and the generic name *Leistus* [*q.v.*], probably alluding to the fact that these *Leistus* species inhabit the New World [masculine].

**Diversity.** Three western North American species.

**Identification.** Erwin (1970b) revised the species and provided a key for their identification.

**Taxonomic Note.** Perrault (1991a) added three species from the Far East (*L. angulicollis* Fairmaire, *L. niger* Gebler, and *L. shenseensis* Perrault) to this subgenus but Shilenkov (1999: 76) rejected this association and the Asian species are listed in the nominotypical subgenus by Farkač and Janata (2003: 81-82).

***Leistus ferruginosus* Mannerheim, 1843**

*Leistus ferrugineus* Dejean, 1831: 569 [secondary homonym of *Leistus ferrugineus* (Linnaeus, 1758)]. Type locality: «détroit de Norfolk [= Sitka Sound, Baranof Island, Alaska], sur la côte nord-ouest de l'Amérique septentrionale» (original citation). Holotype [by monotypy] (♀) location unknown (possibly lost).

*Leistus ferruginosus* Mannerheim, 1843: 187. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Lectotype, designated by Lindroth (1961a: 56), in ZMH. Synonymy established by Mannerheim (1843: 188).

*Leistus nigropiceus* Casey, 1913: 45. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 111), in USNM [# 46843]. Synonymy established by Hatch (1949b: 115), confirmed by Lindroth (1954b: 121).

**Distribution.** This species ranges from the Gulf of Alaska coast south to west-central Oregon, east to western Montana (Russell 1968: 44) [see Erwin 1970b: Fig. 7]. At least one specimen simply labeled from California is known (Erwin 1970b: 115).

**Records.** CAN: AB, BC (QCI, VCI) USA: AK, MT, OR, WA [CA]

***Leistus longipennis* Casey, 1920**

*Leistus longipennis* Casey, 1920: 148. Type locality: «Humboldt Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 46842].

**Distribution.** The range of this species is restricted to the extreme northwestern tip of Humboldt County in northern California (Erwin 1970b: 117) and southwestern Oregon (Curry County, James R. LaBonte pers. comm. 1992).

**Records.** USA: CA, OR

***Leistus madmeridianus* Erwin, 1970**

*Leistus madmeridianus* Erwin, 1970b: 117. Type locality: «Jacoby Creek, 5.0 miles southeast of Arcata, Humboldt County, California» (original citation). Holotype (♂) in CAS [# 11312].

**Distribution.** This species is known only from a few localities along the Pacific Coast in northern California [see Erwin 1970b: Fig. 7].

**Records.** USA: CA

**Genus *NIPPONONEBRIA* Uéno, 1955**

*Nippononebria* Uéno, 1955: 49. Type species: *Nebria pusilla* Uéno, 1955 by original designation. Etymology. From the English *nippon* (a Japanese name for Japan) and the generic name *Nebria* [*q.v.*], alluding to the country where these *Nebria*-like species known to Uéno lived [feminine].

**Diversity.** Seven species in western North America (three species), Japan (three species), and Jilin Province in China (one species) arrayed in two subgenera: *Nippononebria s.str.* for the Japanese and Chinese species and *Vancouveria* for the Nearctic ones.

**Taxonomic Note.** Kavanaugh (1995, 1996) regarded *Nippononebria* as the sister-group to *Leistus* while Ledoux and Roux (2005) listed *Nippononebria* and *Vancouveria* as subgenera of *Nebria* and suggested they form the sister-group to {*Eonebria* Semenov and Znojko + *Sadonebria* Ledoux and Roux}, a complex of 60 Palearctic species. Because the North American students are used to Kavanaugh's approach, the taxon is retained here as a distinct genus.

**Subgenus *Vancouveria* Kavanaugh, 1995**

*Vancouveria* Kavanaugh, 1995: 159. Type species: *Nebria virescens* Horn, 1870 by original designation. Etymology. From the geographic name Vancouver [feminine].

**Diversity.** Three species in western North America.

**Identification.** Ledoux and Roux (2005: 712) reviewed the species and provided a key for their identification.

***Nippononebria altisierrae* (Kavanaugh, 1984)**

*Nebria altisierrae* Kavanaugh, 1984: 160. Type locality: «Olmsted Point (2560 m), Yosemite National Park [Mariposa County], Sierra Nevada, California» (original citation). Holotype (♂) in CAS [# 14338].

**Distribution.** This species occurs at high elevations in the Sierra Nevada of California, from El Dorado County south to Sequoia National Park [see Kavanaugh 1984: Fig. 31].

**Records. USA:** CA

***Nippononebria campbelli* (Kavanaugh, 1984)**

*Nebria campbelli* Kavanaugh, 1984: 161. Type locality: «Mount Baker (1460-1520 m), Cascade Range, Whatcom County, Washington» (original citation). Holotype (♂) in CAS [# 14339].

**Distribution.** This species ranges from the Three Brothers Mountain in southern British Columbia south to Mount Baker in Washington [see Kavanaugh 1984: Fig. 31].

**Records. CAN:** BC **USA:** WA

***Nippononebria virescens* (Horn, 1870)**

*Nebria virescens* G.H. Horn, 1870b: 100. Type locality: «Vancouver [British Columbia]» (original citation). Holotype [by monotypy] in MCZ [# 652].

*Nebria brevis* Casey, 1913: 55. Type locality: «Corvallis [Benton County], Oregon» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 112), in USNM [# 46862]. Synonymy established with doubt by Bänninger (1925: 261), confirmed by Lindroth (1961a: 76).

**Distribution.** This species ranges from southwestern British Columbia, including Vancouver Island, south to the northern Sierra Nevada of California in Plumas County, east to the western edge of the Rockies in west-central Idaho (Kavanaugh 1978: 349).

**Records. CAN:** BC (VCI) **USA:** CA, ID, OR, WA

**Genus *NEBRIA* Latreille, 1802**

*Nebria* Latreille, 1802: 89. Type species: *Carabus brevicollis* Fabricius, 1792 designated by Latreille (1810: 426). Etymology. According to Ledoux and Roux (2005: 29), the name came from the Greek *nebrios* (fawn), possibly alluding to the coloration of *Nebria complanata*, the first species cited by Latreille in the genus. However Latreille (1804: 275) stated that the name derived from *nebrias* which is part of the list of unknown fishes mentioned by the elders. According to Dalby (2003: 121), *nebrias*, cited in Aristotle and others, is perhaps the dogfish *Scyliorhinus canicula* [feminine].

**Distribution.** About 380 species (535 species-group taxa) in the arctic, subarctic, boreal, and temperate areas of the Nearctic and Palearctic (including northern Africa



and the Canary Islands) Regions arrayed in 25 subgenera (Ledoux and Roux 2005: 76 excluding *Nippononebria* and *Vancouveria*). The North American fauna has 52 species (82 species-group taxa) placed in four subgenera.

**Identification.** Ledoux and Roux (2005) reviewed the species of the world and provided keys for the identification of the species. Lindroth's (1961a) key included all North American species then known but many species-group taxa have been described subsequently by Kavanaugh (1979a, 1981b, 1984, 2008).

**Taxonomic Note.** The species of *Nebria* (including *Nippononebria*) have been segregated in two main lineages by Ledoux and Roux (2005: 71–75), one (named *Vetanebri*) represented in the Palaearctic Region by 90 species and in the Nearctic Region by the three species of *Vancouveria*, the other one (*Notanebri*) containing about 290 species, 52 in the Nearctic and almost 240 in the Palaearctic.

### Subgenus *Boreonebria* Jeannel, 1937

*Boreonebria* Jeannel, 1937b: 2. Type species: *Carabus rufescens* Strøm, 1768 (= *Carabus gyllenhali* Schönherr, 1806) by original designation. Etymology. From the Greek *bore* (north) and the generic name *Nebria* [*q.v.*], probably alluding to the northern ranges of the species of this taxon [feminine].

**Diversity.** Thirty-one species (Ledoux and Roux 2005: 82) in North America (seven species) and Eurasia (26 species). Two species are Holarctic (*N. frigida* and *N. nivalis*).

#### [gyllenhali group]

### *Nebria crassicornis crassicornis* Van Dyke, 1925

*Nebria crassicornis* Van Dyke, 1925: 121. Type locality: «Paradise Park, [Mount] Rainier National Park [Pierce County], Washington» (original citation). Holotype (♂) in CAS [# 1627].

**Distribution.** This subspecies is confined to a small area of the Coast Ranges and Cascade Range in southwestern British Columbia and western Washington [see Kavanaugh 1988: Fig. 15].

**Records.** CAN: BC USA: WA

### *Nebria crassicornis intermedia* Van Dyke, 1949

*Nebria intermedia* Van Dyke, 1949a: 49. Type locality: «Logan Pass, Glacier National Park [Flathead County], Montana» (original citation). Holotype (♂) in CAS [# 6008].

**Distribution.** This subspecies ranges from northern British Columbia south to north-eastern Oregon and southern Utah, east to northwestern Wyoming and central Utah [see Kavanaugh 1988: Fig. 15].

**Records.** CAN: AB, BC USA: ID, MT, OR, UT, WA, WY

***Nebria frigida* Sahlberg, 1844**

*Nebria frigida* R.F. Sahlberg, 1844: 11. Type locality: «monte Morikan cepi [Okhotsk, Khabarovsk Kray, Siberia, Russia]» (original citation). Lectotype (♀), designated by Lindroth (1961a: 81), in ZMUT.

*Nebria viridis* G.H. Horn, 1870b: 101. Type locality: «St. Michaels [= Saint Michael on south coast of Norton Sound], Alaska» (original citation). Lectotype (♂), designated by Kavanaugh (1979a: 116), in MCZ [# 34044]. Synonymy established by Lindroth (1961a: 81).

*Nebria parvula* J.R. Sahlberg, 1885b: 47. Type locality: Port Clarence, Alaska (inferred from title of the paper). Holotype [by monotypy; designated lectotype by Lindroth (1961a: 81)] (♂) in NRSS. Synonymy established, under the name *N. viridis* Horn, by Van Dyke (1924a: 5), confirmed by Lindroth (1961a: 81).

*Nebria reducta* Casey, 1920: 150. Type locality: «S[ain]t Paul Island, Alaska» (original citation), which is incorrect according to Lindroth (1961a: 24, 81). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46866]. Synonymy established, under the name *N. viridis* Horn, by Van Dyke (1924a: 5), confirmed by Lindroth (1961a: 81).

**Distribution.** This Holarctic species is found in eastern Siberia (Farkač and Janata 2003: 88) and from the Alaskan Coast Range to the Anderson River Delta in northern Northwest Territories, south to northern British Columbia (Kavanaugh 1978: 714-715).

**Records.** CAN: BC, NT, YT USA: AK – **Holarctic**

**Note.** This species is placed in its own group by Ledoux and Roux (2005: 82).

***Nebria gyllenhali castanipes* (Kirby, 1837)**

*Helobia castanipes* Kirby, 1837: 20. Type locality: «Lat. 65° [= apparently region of Great Bear Lake, Northwest Territories]» (original citation), restricted to «Nipigon, Ont[ario]» by Lindroth (1961a: 78). Lectotype (♀), designated by Kavanaugh (1979a: 111), in BMNH.

*Nebria moesta* LeConte, 1850: 209. Type locality: Lake Superior (inferred from title of the paper). Lectotype (♂), designated by Kavanaugh (1979a: 114), in MCZ [# 645]. Synonymy established by LeConte (1873b: 322), confirmed by Lindroth (1954b: 121).

*Nebria elias* Motschulsky, 1866: 276 [*nomen dubium*]. Type locality: «Amer[ique] rus[se]» (original citation). Syntype(s) lost (Keleinikova 1976: 196; Kavanaugh 1979a: 112). Synonymy established with doubt by Lindroth (1961a: 78).

*Nebria labradorica* Casey, 1920: 151. Type locality: «West S[ain]t Modest[e], Labrador» (original citation). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46855]. Synonymy established by Lindroth (1954b: 122).

*Nebria prominens* Casey, 1920: 151. Type locality: «M[oun]t Washington [Coos County], New Hampshire» (original citation). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46867]. Synonymy established by Lindroth (1954b: 122).

*Nebria curtulata* Casey, 1924: 20. Type locality: «W[est] S[ain]t Modest[e], Labrador» (original citation). Lectotype (♂), designated by Lindroth (1975: 112), in USNM [# 46856]. Synonymy established by Lindroth (1954b: 122).

**Distribution.** This subspecies ranges from Greenland (Böcher 1988: 5) to Alaska (Lindroth 1961a: 79), south to northeastern Oregon, northeastern Nevada, western South Dakota, and northeastern New York (Kavanaugh 1978: 731-741).

**Records.** DEN: GL CAN: AB, BC (VCI), LB, MB, NE, NT, ON, QC, SK, YT USA: AK, ID, ME, MI, MN, MT, NH, NV, NY, OR, SD, WA, WI, WY

**Note.** The name *Nebria rufescens* (Strøm, 1768) is used by several authors instead of *N. gyllenhali* (Schönherr, 1806). I concur with Kavanaugh (1979a: 111) and Ledoux and Roux (2005: 107) that *Carabus rufescens* Strøm should be considered a *nomen dubium*.

### *Nebria gyllenhali lassenensis* Kavanaugh, 1979

*Nebria gyllenhali lassenensis* Kavanaugh, 1979a: 96. Type locality: «Emerald Lake, Mount Lassen (south slope), Lassen Volcanic National Park [Shasta County], California» (original citation). Holotype (♂) in CAS [# 12511].

**Distribution.** This subspecies is restricted to mountains in the southern part of the Cascade Range, south of the lower Columbia River valley, and the northern part of the Sierra Nevada, south to Sonora Pass [see Kavanaugh 1979a: Fig. 54].

**Records.** USA: CA, OR

### *Nebria gyllenhali lindrothi* Kavanaugh, 1979

*Nebria gyllenhali lindrothi* Kavanaugh, 1979a: 97. Type locality: «Brooklyn Lake (3,200 m), Albany County, Wyoming» (original citation). Holotype (♂) in CAS [# 12512].

**Distribution.** This subspecies is found in the southern Rocky Mountains from the Medicine Bow Mountains and Sierra Madre of southern Wyoming south to northern New Mexico, west to the Uinta Mountains in eastern Utah and the Chuska Mountains in northeastern Arizona (David H. Kavanaugh pers. comm. 2008) [see Kavanaugh 1979a: Fig. 54].

**Records.** USA: AZ, CO, NM, UT, WY

### *Nebria nivalis gaspesiana* Kavanaugh, 1979

*Nebria nivalis gaspesiana* Kavanaugh, 1979a: 96. Type locality: «Ruisseau du Diable (980-1,070 m), Mont Albert, Gaspé-Ouest, Québec» (original citation). Holotype (♂) in CAS [# 12510].

**Distribution.** This subspecies is known from western Newfoundland, coastal Labrador (Lindroth 1961a: 82), and the east edge of the Ungava Bay in northern Quebec; isolated on high mountains in the Gaspé Peninsula in Quebec and on Mount Katahdin in Maine [see Kavanaugh 1979a: Fig. 53].

**Records.** CAN: LB, NF, QC USA: ME

***Nebria nivalis nivalis* (Paykull, 1790)**

*Carabus nivalis* Paykull, 1790: 52. Type locality: «Lapponiae Lulensis [= Luleå, Norrbotten County, Sweden]» (original citation). Lectotype (♂), designated by Kavanaugh (1979a: 111), in NRSS.

*Nebria bifaria* Mannerheim, 1853: 120. Type locality: «insula St. Pauli [Alaska]» (original citation). Lectotype (♂), designated by Kavanaugh (1979a: 112), in ZILR. Synonymy established by Lindroth (1961a: 81).

*Nebria femoralis* Motschulsky, 1859b: 541 [primary homonym of *Nebria femoralis* Chaudoir, 1843]. Type locality: region of Yakutsk, east-central Siberia, Russia (inferred from title of the paper). Lectotype, designated by Shilenkov (1975: 839), in ZILR. Synonymy established by Jeannel (1937b: 4).

*Nebria molbis* Motschulsky, 1866: 274. Type locality: «Amérique russe» (original citation). Lectotype, designated by Kavanaugh (1979a: 114), in ZMMU. Synonymy established by Lindroth (1961a: 82).

*Nebria femorata* Motschulsky, 1866: 275. Type locality: «Sib[eria] bor[eali] Jakutzk [= Yakutsk, Yakutia, Siberia, Russia]» (original citation). Syntype(s) location unknown (possibly in ZILR). Synonymy established by Bänninger (1949: 144). NOTE. The name *N. femorata* Motschulsky has been interpreted as a replacement name for *N. femoralis* Motschulsky, 1859 by some authors (e.g., Ledoux and Roux 2005: 112). However, there is no indication in Motschulsky (1866) that he proposed the name as a replacement name. The footnote on the same page as the description of *femorata* indicates that Motschulsky (1866: 275) considered *N. femoralis* Chaudoir as belonging to a different genus, *Alpaeus*. Moreover in the catalogue of his new genera and species described, Motschulsky (1869: 26) listed his *Nebria femoralis* and *N. femorata* as different taxa.

**Distribution.** This Holarctic subspecies is known from northern Europe to the Bering Sea Coast (Farkač and Janata 2003: 88), and from the Arctic Plains in Alaska to Baffin Island and the western edge of the Ungava Bay in northern Quebec (Kavanaugh 1978: 779-782).

**Records.** CAN: BC, NT, QC, YT USA: AK – **Holarctic**

**Note.** Ledoux and Roux (2005: 112) retained *Nebria bifaria* Mannerheim, 1853 as a valid subspecies of *N. nivalis*.

**[hudsonica group]**

***Nebria bellorum* Kavanaugh, 1979**

*Nebria lacustris bellorum* Kavanaugh, 1979a: 95. Type locality: «West Prong Little Pigeon River (at Chimneys Picnic Area; 3000') [Sevier County], Great Smoky Mountains National Park, Tennessee» (original citation). Holotype (♂) in CAS [# 12506].

**Distribution.** This species is restricted to the Great Smoky Mountains National Park and adjacent mountain ranges in the southern Appalachians [see Kavanaugh 1979a:



Fig. 52]. Two specimens labeled from Jefferson County in Colorado and Saint Tammany Parish in Louisiana seen by Kavanaugh (1979a: 96) are likely mislabeled.

**Records. USA:** NC, TN

**Note.** This taxon, originally described as a subspecies of *N. lacustris* Casey, has been raised to species status by Kavanaugh et al. (2011).

### ***Nebria gouleti* Kavanaugh, 1979**

*Nebria gouleti* Kavanaugh, 1979a: 94. Type locality: «Rattlesnake Creek (3000'), 10 miles s[outh]w[est] of Antone, Asotin County, Washington» (original citation). Holotype (♂) in CAS [# 12504].

**Distribution.** This species is restricted to Washington, northern Oregon, and Idaho [see Kavanaugh 1979a: Fig. 51]. Seven specimens labeled from Longview (Highwood River) in southwestern Alberta seen by Kavanaugh (1979a: 95) are listed as doubtful by him; two specimens simply labeled from California are likely mislabeled.

**Records. USA:** ID, OR, WA [AB]

### ***Nebria hudsonica* LeConte, 1863**

*Nebria hudsonica* LeConte, 1863c: 3. Type locality: «Saskatchewan, Hudson's Bay Territory» (original citation), restricted to «North Saskatchewan River at Rocky Mountain House, Alberta» by Kavanaugh (1979a: 113). Lectotype (♂), designated by Kavanaugh (1979a: 112), in MCZ [# 643].

**Distribution.** This species ranges from the north shore of Lake Superior in western Ontario to southern Yukon Territory and southeastern Alaska (Skagway, David H. Kavanaugh pers. comm. 2008), south to the Columbia River drainage in northern Oregon and to north-central Utah and central Colorado along the Rocky Mountains (Kavanaugh 1978: 745-753). The records from New Mexico (Snow 1885: 66; Fall and Cockerell 1907: 156) are probably in error.

**Records. CAN:** AB, BC, MB, NT, ON, SK, YT **USA:** AK, CO, ID, MT, OR, UT, WA, WY

### ***Nebria lacustris* Casey, 1913**

*Nebria lacustris* Casey, 1913: 56. Type locality: «Bayf[ie]ld [Bayfield County], Wis[consin]» (lectotype label). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46865].

*Nebria expansa* Casey, 1913: 56. Type locality: «Indiana» (original citation for the lectotype), restricted to «Turkey Run State Park, Parke County» by Kavanaugh (1979a: 112). Lectotype (♀), designated by Lindroth (1975: 147), in USNM [# 46864]. Synonymy established by Lindroth (1961a: 77).

**Distribution.** This species is found from northern New Brunswick (Restigouche County, CNC) to northern Minnesota, north to southeastern Manitoba, south to east-

central Iowa, southern Indiana, and western North Carolina along the Appalachians [see Kavanaugh 1979a: Fig. 52]. The record from “Texas” (Casey 1913: 56) is in error (Kavanaugh 1979a: 112).

**Records.** CAN: MB, NB, ON, QC USA: CT, DC, IA, IL, IN, KY, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, TN, VA, VT, WI, WV

### Subgenus *Nakanebria* Ledoux and Roux, 2005

*Nakanebria* Ledoux and Roux, 2005: 183. Type species: *Nebria kurosawai* Nakane, 1960 by original designation. Etymology. From the surname of the Japanese coleopterist Takehiko Nakane [1920-1999] and the generic name *Nebria* [*q.v.*] [feminine].

**Diversity.** Six species in western North America (two species) and the Far East (four species).

**Taxonomic Note.** According to Ledoux and Roux (2005: 75), *Nakanebria* is the sister-group to *Reductonebria* and the two form the sister-group to *Catonebria*.

### *Nebria paradisi* Darlington, 1931

*Nebria vandykei* Darlington, 1930: 104 [primary homonym of *Nebria vandykei* Bänninger, 1928]. Type locality: «near Paradise Valley (about 6000 feet), Mount Rainier [Pierce County], Washington» (original citation). Holotype (♂) in MCZ [# 35405].

*Nebria paradisi* Darlington, 1931: 24. Replacement name for *Nebria vandykei* Darlington, 1930.

**Distribution.** This species ranges in the Cascade Range from northwestern Washington to northwestern Oregon [see Kavanaugh 1988: Fig. 19].

**Records.** USA: OR, WA

### *Nebria turmaduodecima* Kavanaugh, 1981

*Nebria turmaduodecima* Kavanaugh, 1981b: 436. Type locality: «Caribou Basin (2290 m), Trinity Alps, Siskiyou County, California» (original citation). Holotype (♂) in CAS [# 13729].

**Distribution.** This species is endemic to the Trinity Alps in northwestern California [see Kavanaugh 1981b: Fig. 21].

**Records.** USA: CA

### Subgenus *Reductonebria* Shilenkov, 1975

*Reductonebria* Shilenkov, 1975: 834. Type species: *Nebria ochotica* Sahlberg, 1844 by original designation. Etymology. From the Latin *reducto* (bring back, reduce) and the generic name *Nebria* [*q.v.*], possibly alluding to the absence of mid-lateral setae on the pronotum of the species [feminine].

**Diversity.** Twenty-eight species in North America (24 species) and Siberia and the Far East (four species).

**Faunistic Note.** *Nebria carbonaria* Eschscholtz was reported from Alaska by Horn (1870b: 104) and LeConte (1878a: 479) and there is a specimen of this species in the LeConte collection labeled “Ins. S. Pauli,” one of the Pribilof Islands in Alaska. Lindroth (1961a: 74) believes the specimen is probably mislabeled since no other specimens of the species have been found on the island despite extensive search. The species was described from specimens collected “in Kamtschatka, bei St. Peter und Paul” which, according to Lindroth (1961a: 74), refers to the town of Petropavlovsk in Kamtschatka. Until recent specimens are collected on this continent, the species is not listed as a North American resident.

[gregaria group]

***Nebria arkansana arkansana* Casey, 1913**

*Nebria arkansana* Casey, 1913: 52. Type locality: «Indiana» (original citation for the lectotype), which according to Lindroth (1961a: 70) and Kavanaugh (1979a: 112) is incorrect; «Valley [of the] Upper San Juan [River], [Archuleta County], Color[ado]» selected by Lindroth (1961a: 70). Lectotype (♂), designated by Lindroth (1975: 111), in USNM [# 46858].

**Distribution.** This subspecies is found in southern Wyoming, Colorado, northern New Mexico, and southeastern Utah (Kavanaugh 1978: 675–678). One specimen labeled from Nez Perce County in western Idaho is considered doubtful by Kavanaugh (1978: 678).

**Records. USA:** CO, NM, UT, WY [ID]

**Note.** This species is placed with the species of the *lyelli* group by Ledoux and Roux (2005: 195).

***Nebria arkansana edwardsi* Kavanaugh, 1979**

*Nebria arkansana edwardsi* Kavanaugh, 1979a: 100. Type locality: «Logan Pass (7100’), Glacier National Park [Flathead County], Montana» (original citation). Holotype (♂) in CAS [# 12495]. Etymology. The subspecific name was proposed for J. Gordon Edwards [1919–2004], teacher, coleopterist, and mountaineer.

**Distribution.** This subspecies is widely distributed in the Rocky Mountain region from southern Yukon Territory south to northeastern Nevada, southern Idaho, and northern Wyoming [see Kavanaugh 1979a: Fig. 58].

**Records. CAN:** AB, BC, YT **USA:** ID, MT, NV, OR, WA, WY

***Nebria arkansana fragilis* Casey, 1924**

*Nebria fragilis* Casey, 1924: 21. Type locality: «North Fork, Provo Cañon [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 112), in USNM [# 46857].

*Nebria arkansana uinta* Kavanaugh, 1979a: 102. Type locality: «Lost Lake (9800'), Summit County, Utah» (original citation). Holotype (♂) in CAS [# 12497]. Synonymy established by Kavanaugh (1984: 167).

*Nebria fragilis teewinot* Kavanaugh, 1979a: 103. Type locality: «Mount Teewinot (southeast slope; 7100-9000'), Grand Teton National Park [Teton County], Wyoming» (original citation). Holotype (♂) in CAS [# 12500]. Synonymy established by Kavanaugh (1984: 167).

**Distribution.** This subspecies is restricted to mountains in western Wyoming and northern and central Utah (Kavanaugh 1979a: Figs 58–59).

**Records. USA:** UT, WY

***Nebria arkansana oowah* Kavanaugh, 1979**

*Nebria arkansana oowah* Kavanaugh, 1979a: 102. Type locality: «Mill Creek (at Oowah Lake; 8800'), Grand County, Utah» (original citation). Holotype (♂) in CAS [# 12496].

**Distribution.** This subspecies is endemic to the La Sal Mountains in eastern Utah [see Kavanaugh 1979a: Fig. 58].

**Records. USA:** UT

***Nebria charlottae* Lindroth, 1961**

*Nebria charlottae* Lindroth, 1961a: 67. Type locality: «Queen Charlotte Islands [British Columbia]» (original citation), restricted to «Masset, Graham Island» by Kavanaugh (1992: 55). Holotype (♂) in CNC [# 7611].

**Distribution.** This species is restricted to the Queen Charlotte Archipelago (Kavanaugh 1992: 55).

**Records. CAN:** BC (QCI)

***Nebria gregaria* Fischer von Waldheim, 1820**

*Nebria gregaria* Fischer von Waldheim, 1820: plate 6. Type locality: «insula Unalaschka [Alaska]» (Fischer von Waldheim 1822: 73). Lectotype (♂), designated by Kavanaugh (1979a: 113), in ZMMU.

*Nebria cuneata* Casey, 1913: 50. Type locality: «Alaska» (original citation). Lectotype (♂), designated by Lindroth (1975: 111), in USNM [# 46851]. Synonymy established by Lindroth (1961a: 66).

**Distribution.** This species is endemic to the Aleutian Islands [see Kavanaugh 1981a: Fig. 8].

**Records. USA:** AK

**Note.** *Nebria macrocephala* Motschulsky was described from specimens originating «probablement de Sitka ou d'Ounalachka [Alaska]» (Motschulsky 1844: 128). The



name is listed as a junior synonym of *N. gregaria* Fischer von Waldheim, 1820 in Ledoux and Roux (2005: 222) but according to Bänninger (1923: 131) only the specimens reported subsequently by Motschulsky (1860: 97; 1866: 273) as *N. macrocephala* belong to *N. gregaria*. The syntypes are conspecific with specimens of *N. stigmula* Dejean, 1826 (= *N. hellwigii* Panzer, 1803) as noted by Mannerheim (1853: 111). The provenance given by Motschulsky is probably incorrect.

### ***Nebria haida* Kavanaugh, 1984**

*Nebria haida* Kavanaugh, 1984: 162. Type locality: «1.8 km N[orth] of Mount Needham (700-780 m), Graham Island, Queen Charlotte Islands, British Columbia» (original citation). Holotype (♂) in CAS [# 14341]. NOTE. Kavanaugh (1992: 56) pointed out that the peak located 1.8 km south of the collecting site is not Mount Needham as originally reported but is unnamed. The collecting site is located at the summit and surrounding slopes of another unnamed peak which Kavanaugh called «Nebria Peak».

**Distribution.** This species is endemic to high elevations in the Queen Charlotte Islands [see Kavanaugh 1984: Fig. 31] and adjacent mainland on Mount McNeil (Kavanaugh 1992: 56) in British Columbia.

**Records. CAN:** BC (QCI)

**Note.** Clarke et al. (2001: 1416) concluded that this taxon may be more appropriately treated as a subspecies of *N. charlottae* given the minor differences in morphology and biology.

### ***Nebria jeffreyi* Kavanaugh, 1984**

*Nebria jeffreyi* Kavanaugh, 1984: 162. Type locality: «South Fork McCoy Creek (2390-2560 m), Steens Mountains, Harney County, Oregon» (original citation). Holotype (♂) in CAS [# 14342].

**Distribution.** This species is known only from the Steens Mountains in south-central Oregon [see Kavanaugh 1984: Fig. 31].

**Records. USA:** OR

**Note.** This species is placed with the species of the *lyelli* group by Ledoux and Roux (2005: 195).

### ***Nebria lituyae* Kavanaugh, 1979**

*Nebria lituyae* Kavanaugh, 1979a: 100. Type locality: «M[oun]t Blunt (3356'), 2 miles s[outh] of Lituya Bay, Alaska» (original citation). Holotype (♂) in CAS [# 13460].

**Distribution.** This species is known only from a small area in the Alexander Archipelago and northwestern British Columbia [see Kavanaugh 1988: Fig. 24].

**Records. CAN:** BC **USA:** AK

***Nebria louiseae* Kavanaugh, 1984**

*Nebria louiseae* Kavanaugh, 1984: 162. Type locality: «Skedans, Louise Island, Queen Charlotte Islands, British Columbia» (original citation). Holotype (♂) in CAS [# 15005].

**Distribution.** This species is known from several islands in the Queen Charlotte Archipelago, British Columbia (Kavanaugh 1992: 55).

**Records.** CAN: BC (QCI)

**Note.** Based on DNA sequence analyses, Clarke et al. (2001: 1416) concluded that this taxon may not represent a distinct taxonomic unit but rather a variant of *N. charlottae*.

***Nebria sahlbergii modoc* Kavanaugh, 1979**

*Nebria sahlbergii modoc* Kavanaugh, 1979a: 99. Type locality: «Pine Creek (4 miles e[ast] of New Pine Creek; 5700'), Modoc County, California» (original citation). Holotype (♂) in CAS [# 12513].

**Distribution.** This subspecies is known only from the Warner Mountains in north-eastern California [see Kavanaugh 1979a: Fig. 56].

**Records.** USA: CA

***Nebria sahlbergii sahlbergii* Fischer von Waldheim, 1828**

*Nebria sahlbergii* Fischer von Waldheim, 1828: 254. Type locality: «Sitka [= Sitka, Baranof Island, Alaska]» (original citation). Lectotype (♂), designated by Kavanaugh (1979a: 115), in ZMH. Etymology. The specific name honors the Finnish naturalist Carl Reinhold Sahlberg [1779-1860] who worked mainly on beetles. Sahlberg was professor of economic and natural history at the Academy of Åbo and, after the destruction of the city and university by fire, at the University of Helsinki.

*Nebria violacea* Motschulsky, 1850a: 73. Type locality: «Sitka [Baranof Island, Alaska]» (original citation for *N. sahlbergii* var. in Mannerheim, 1843). Lectotype (♂), designated by Kavanaugh (1979a: 115), in ZMH. Synonymy established by Lindroth (1961a: 68). NOTE. *Nebria violacea* was proposed for Mannerheim's (1843: 189) var. b of *Nebria sahlbergii* Fischer von Waldheim; therefore the description is by indication. The lectotype designated by Kavanaugh (1979a: 115) is the same specimen he designated as lectotype of *N. sahlbergii* Fischer von Waldheim, 1828.

*Nebria aleuta* Van Dyke, 1924a: 5. Type locality: «Mount Makushin, Unalaska Island, Alaska» (original citation). Holotype (♂) in CAS [# 3342]. Synonymy established by Lindroth (1961a: 68).

**Distribution.** This subspecies ranges from the Aleutian Islands in Alaska (Lindroth 1961a: 70) to southwestern Northwest Territories (Tungsten, David H. Kavanaugh pers. comm. 2008), south to northwestern Montana (Edwards 1975: 50) and southern



**Figure 4.** *Trachypachus gibbsii* LeConte. This species is a typical western element as are the other two North American trachypachids. Although superficially similar to some large *Bembidion* or small *Amara* and having the same ecological preferences, we now believe that these beetles, along with members of the related genus *Systolosoma* of South America, are not closely related to any groups of carabids.

Oregon [see Kavanaugh 1988: Fig. 20]. The records from New Mexico (Snow 1885: 66; Fall and Cockerell 1907: 156), Colorado (Wickham 1902: 232; Armin 1963: 94), and Wyoming (Lavigne 1977: 46) are probably in error.

**Records.** CAN: AB, BC (QCI, VCI), NT, YT USA: AK, MT, OR, WA

**Note.** This species is placed in the *lyelli* group by Ledoux and Roux (2005: 195).

***Nebria sahlbergii triad* Kavanaugh, 1979**

*Nebria sahlbergii triad* Kavanaugh, 1979a: 99. Type locality: «South Fork Salmon River (at Big Flat Campground; 1490 m), Trinity County, California» (original citation). Holotype (♂) in CAS [# 12514].

**Distribution.** This subspecies is yet recorded only from the Klamath Mountains system in northwestern California [see Kavanaugh 1979a: Fig. 56].

**Records.** USA: CA

***Nebria zioni oasis* Kavanaugh, 1979**

*Nebria zioni oasis* Kavanaugh, 1979a: 103. Type locality: «Leeds Creek at Oak Grove Campground (6300-6500'), Washington County, Utah» (original citation). Holotype (♂) in CAS [# 12518].

**Distribution.** This subspecies is restricted to the Pine Valley Mountains in southwestern Utah [see Kavanaugh 1979a: Fig. 60].

**Records.** USA: UT

***Nebria zioni zioni* Van Dyke, 1943**

*Nebria zioni* Van Dyke, 1943: 20. Type locality: «canyon of Zion National Park, Utah» (original citation). Holotype (♂) in CAS [# 5299].

**Distribution.** This subspecies is known only from mountains in southwestern Utah [see Kavanaugh 1979a: Fig. 60].

**Records.** USA: UT

**Note.** This species is placed in the *lyelli* group by Ledoux and Roux (2005: 195).

**[lyelli group]**

***Nebria acuta acuta* Lindroth, 1961**

*Nebria acuta* Lindroth, 1961a: 71. Type locality: «Snowslide Gulch, 16 mi[les] E[ast] Valdez, Alaska» (original citation). Holotype (♂) in MCZ [# 30428].

**Distribution.** This subspecies ranges from the Kenai Peninsula in Alaska (Kavanaugh 1978: 671) and southwestern Yukon Territory (Kluane Lake, Sydney G. Cannings pers. comm. 2009) south to the southern part of the Cascade Range and the Sierra Nevada in central California (Kavanaugh 1978: 671).

**Records.** CAN: BC, YT USA: AK, CA, OR, WA



***Nebria acuta quileute* Kavanaugh, 1979**

*Nebria acuta quileute* Kavanaugh, 1979a: 98. Type locality: «Boulder Creek (at Olympic Hot Springs; 2000'), Olympic National Park [Clallam County], Washington» (original citation). Holotype (♂) in CAS [# 12494].

**Distribution.** This subspecies is endemic to the Olympic Peninsula in Washington [see Kavanaugh 1979a: Fig. 55].

**Records. USA:** WA

***Nebria acuta sonorae* Kavanaugh, 1981**

*Nebria sonorae* Kavanaugh, 1981b: 438. Type locality: «Chipmunk Flat, Tuolumne County, California» (original citation). Holotype (♂) in CAS [# 13731].

**Distribution.** As far as known, this subspecies is restricted to the Sierra Nevada, between Sonora Pass and Buckeye Pass, in California [see Kavanaugh 1981b: Fig. 21].

**Records. USA:** CA

***Nebria danmanni* Kavanaugh, 1981**

*Nebria danmanni* Kavanaugh, 1981b: 437. Type locality: «Deception Basin (1830 m), Olympic National Park [Clallam County], Washington» (original citation). Holotype (♂) in CAS [# 13730].

**Distribution.** This species is endemic to high elevations in the Olympic Mountains in northwestern Washington [see Kavanaugh 1984: Fig. 21].

**Records. USA:** WA

***Nebria lyelli* Van Dyke, 1925**

*Nebria lyelli* Van Dyke, 1925: 120. Type locality: «M[oun]t Lyell (about 11,000 feet), Yosemite National Park, California» (original citation). Holotype (♂) in CAS [# 1626].

**Distribution.** This species is known only from Mount Lyell at the edge of the Yosemite National Park in the Sierra Nevada, California (Kavanaugh 1978: 766).

**Records. USA:** CA

***Nebria wallowae* Kavanaugh, 1984**

*Nebria wallowae* Kavanaugh, 1984: 161. Type locality: «West Fork Wallowa River (2070-2130 m), Wallowa Mountains, Wallowa County, Oregon» (original citation). Holotype (♂) in CAS [# 14347].

**Distribution.** This species is known only from the Wallowa Mountains in northeastern Oregon [see Kavanaugh 1984: Fig. 31].

**Records. USA:** OR

## [mannerheimii group]

***Nebria darlingtoni* Kavanaugh, 1979**

*Nebria darlingtoni* Kavanaugh, 1979a: 104. Type locality: «South Fork American River, (3 miles w[est] of Riverton; 910 m), El Dorado County, California» (original citation). Holotype (♂) in CAS [# 12499].

**Distribution.** This species is known only from the canyon of the South Fork of the American River in the Sierra Nevada, California [see Kavanaugh 1979a: Fig. 62].

**Records. USA:** CA

***Nebria desolata* Kavanaugh, 1971**

*Nebria desolata* Kavanaugh, 1971: 41. Type locality: «The Gulch (5600'), 11 mi[les] S[outh] W[est] Boulder, Garfield Co[unty], Utah» (original citation). Holotype (♂) in CAS [# 11388].

**Distribution.** This species is known only from the type locality in south-central Utah.

**Records. USA:** UT

***Nebria diversa* LeConte, 1863**

*Nebria livida* LeConte, 1859a: 84 [secondary homonym of *Nebria livida* (Linnaeus, 1758)]. Type locality: «Cape Flattery [Clallam County, Washington]» (original citation). Lectotype (♂), designated by Kavanaugh (1979a: 113), in MCZ [# 642].

*Nebria diversa* LeConte, 1863b: 2. Replacement name for *Nebria livida* LeConte, 1859.

*Nebria townsendi* Casey, 1924: 19. Type locality: «Port Townsend [Jefferson County], Washington» (original citation). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46846]. Synonymy established by Hatch (1953: 59), confirmed by Lindroth (1961a: 75).

**Distribution.** This species ranges along the Pacific Coast from the Queen Charlotte Islands to northern California (Kavanaugh 1992: 57).

**Records. CAN:** BC (QCI, VCI) **USA:** CA, OR, WA

**Note.** This species is placed in a separate group (*pallipes* group) along with *N. appalachia* and *N. pallipes* by Ledoux and Roux (2005: 195).

***Nebria eschscholtzii* Ménétriés, 1843**

*Nebria eschscholtzii* Ménétriés, 1843: 55. Type locality: «Californie» (original citation), restricted to «South Fork of American River, 3 miles w[est] of Riverton, El Dorado County» by Kavanaugh (1979a: 112). Lectotype (♀), designated by Kavanaugh (1979a: 112), in ZILR. Etymology. The specific name honors the Estonian natu-

ralist and explorer Johann Friedrich Gustav von Eschscholtz [1793-1831], physician and naturalist on the two Russian circumnavigational expeditions under the command of Otto Evstaf'evich von Kotzebue in 1815-1818 on the *Rurik* and in 1823-1826 on the *Predpriatie*. Eschscholtz made substantial collections of insects in Alaska and California during these trips. He was professor of medicine and zoology and director of the Zoological Museum of the University of Dorpat in the last years of his life. Eschscholtz Bay on Kotzebue Sound, a large inlet in northwestern Alaska near Bering Strait, was named in his honor.

*Nebria tenuipes* Casey, 1913: 51. Type locality: «Alameda [Alameda County], California» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46852]. Synonymy established by Hatch (1939a: 121), confirmed by Lindroth (1961a: 75).

*Nebria transversa* Casey, 1920: 152. Type locality: «Corvallis [Benton County], Oregon» (original citation). Holotype [by monotypy] (♀) in USNM [# 46869]. Synonymy established by Hatch (1953: 58), confirmed by Lindroth (1961a: 75).

*Nebria formalis* Casey, 1920: 153. Type locality: «Wawawai [Whitman County], Washington» (original citation). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46870]. Synonymy established by Hatch (1953: 58), confirmed by Lindroth (1961a: 75).

*Nebria pallidissima* Casey, 1924: 19. Type locality: «Wawawai [Whitman County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 112), in USNM [# 46845]. Synonymy established (as aberration) by Hatch (1953: 58), confirmed by Lindroth (1961a: 75).

*Nebria pugetana* Casey, 1924: 19. Type locality: «Wawawai [Whitman County], Washington» (original citation). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46847]. Synonymy established by Hatch (1953: 58), confirmed by Lindroth (1961a: 75).

**Distribution.** The range of this species extends from northwestern Washington to northeastern Idaho, south to southern California [see Kavanaugh 1979b: Fig. 2]. The records from Colorado (Wickham 1902: 232; Armin 1963: 89) and Montana (Hatch 1933a: 7) must be in error.

**Records. USA:** CA, ID, NV, OR, WA

### *Nebria georgei* Kavanaugh, 2008

*Nebria georgei* Kavanaugh, 2008: 2. Type locality: «Colorado River, Grand Canyon National Park, Coconino County, Arizona» (original citation). Holotype (♂) in MSB.

**Distribution.** This species is known only from the original two specimens collected 141 kilometers apart in the Grand Canyon National Park (Kavanaugh 2008: 5).

**Records. USA:** AZ

***Nebria mannerheimii* Fischer von Waldheim, 1828**

*Nebria mannerheimii* Fischer von Waldheim, 1828: 253. Type locality: «Sitcha sur l'île de Norfolk [= Sitka, Baranof Island, Alaska]» (original citation). Lectotype (♂), designated by Kavanaugh (1979a: 114), in ZMMU. Etymology. The specific name honors Gustav Graf von Mannerheim [1797-1854], a Finnish politician who rose from clerk to Governor of Läne Vaasa and Viipuri regions of Finland and president of the Imperial *Hofgericht* in Wiborg (currently Wyborg in Russia). Early in his life Mannerheim became interested in natural history and particularly entomology.

*Nebria oregona* Casey, 1913: 52. Type locality: «Clackamas Co[unty], Oregon» (original citation), restricted to «Zigzag River at Rhododendron» by Kavanaugh (1979a: 115). Lectotype (♂), designated by Lindroth (1975: 112), in USNM [# 46853]. Synonymy established by Hatch (1953: 58), confirmed by Lindroth (1961a: 74).

*Nebria corvallis* Casey, 1924: 20. Type locality: «Corvallis [Benton County], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 112), in USNM [# 46854]. Synonymy established by Hatch (1953: 58), confirmed by Lindroth (1961a: 74).

*Nebria hippisleyi* Casey, 1924: 21. Type locality: «Terrace, British Columbia» (original citation). Holotype [by monotypy] (♂) in USNM [# 46868]. Synonymy established by Hatch (1953: 58), confirmed by Lindroth (1961a: 74). Etymology. The specific name was proposed for Mrs. W.W. Hippisley [1880-1962] who collected beetles at or near Terrace in British Columbia. Born Marianne E. Parker, she was interested also in shells, minerals, and mosses but after a gun accident in 1911 where she lost her right arm completely she confined herself into collecting beetles. She eventually became Mrs. M.E. Clark and left her collection to the University of British Columbia.

**Distribution.** This species ranges from the Kenai Peninsula in southern Alaska (Lindroth 1961a: 75) south to western Idaho and central Oregon (Kavanaugh 1978: 766-772). According to Kavanaugh (1978: 772), a number of specimens labeled from "California," Nevada, and Yukon Territory are doubtful. The records from the Absaroka Range in south-central Montana (Hatch 1933a: 7) and western San Juan Mountains in Colorado (Wickham 1902: 232) are also doubtful.

**Records.** CAN: BC (QCI, VCI) USA: AK, ID, OR, WA [CA, CO, MT, NV, YT]

***Nebria navajo* Kavanaugh, 1979**

*Nebria navajo* Kavanaugh, 1979a: 104. Type locality: «19 miles s[outh]w[est] Kayenta (6500'), Navajo County, Arizona» (original citation). Holotype (♂) in CAS [# 12509].

**Distribution.** This species is known only from the vicinity of the type locality in northeastern Arizona [see Kavanaugh 1979a: Fig. 63].

**Records.** USA: AZ



## [obliqua group]

***Nebria appalachia* Darlington, 1932**

*Nebria appalachia* Darlington, 1932: 153. Type locality: «below Newfound Gap (near 5,000 feet), Smoky Mountains, Tennessee» (original citation). Holotype (♂) in MCZ [# 16433].

**Distribution.** This species is known from the southern Appalachian Mountains in western North Carolina and eastern Tennessee (Kavanaugh 1978: 674).

**Records. USA:** NC, TN

**Note.** This species is placed in a distinct group (*pallipes* group) along with *N. diversa* and *N. pallipes* by Ledoux and Roux (2005: 195).

***Nebria obliqua chuskae* Kavanaugh, 1979**

*Nebria obliqua chuskae* Kavanaugh, 1979a: 104. Type locality: «Lukachukai Creek (at Wagon Wheel Campground; 2260 m), Apache County, Arizona» (original citation). Holotype (♂) in CAS [# 13461].

**Distribution.** This subspecies, as far as known, is endemic to the Chuska Mountains in northeastern Arizona [see Kavanaugh 1979a: Fig. 61].

**Records. USA:** AZ

***Nebria obliqua obliqua* LeConte, 1867**

*Nebria obliqua* LeConte, 1867b: 363. Type locality: «Colorado» (original citation), restricted to «North Fork of South Platte Canyon at Santa Maria, Park County» by Kavanaugh (1979a: 114). Lectotype (♂), designated by Kavanaugh (1979a: 114), in MCZ [# 646].

*Nebria obtusa* LeConte, 1878a: 478. Type locality: «Green River City (6,000–7,000 feet) [Sweetwater County], Wyo[ming]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 647]. Synonymy established by Kavanaugh (1979a: 114). NOTE. I concur with Kavanaugh (1979a: 114) that LeConte's statement "Last ventral segment rufo-piceous (from the immaturity of the specimen)" in the description is a clear indication that LeConte had but a single specimen.

*Nebria incerta* Casey, 1913: 53. Type locality: «Colorado» (original citation), restricted to «North Fork of South Platte Canyon at Santa Maria, Park County» by Kavanaugh (1979a: 113). Lectotype, designated by Lindroth (1975: 112), in USNM [# 46859]. Synonymy established by Lindroth (1961a: 73).

*Nebria testaceipes* Casey, 1913: 54. Type locality: «Glenora, British Columbia» (original citation). Holotype [by monotypy] (♂) in USNM [# 46861]. Synonymy established, under the name *N. obtusa* LeConte, by Hatch (1953: 59), confirmed by Lindroth (1961a: 73).

*Nebria texana* Casey, 1913: 54. Type locality: «Texas» (original citation), which according to Kavanaugh (1979a: 116) is highly improbable. Holotype [by monotypy] (♂) in USNM [# 46863]. Synonymy established by Lindroth (1961a: 73).

**Distribution.** This subspecies ranges from the west edge of the Wrangell-St. Elias National Park in southeastern Alaska to the Great Slave Lake in Northwest Territories, south to northern New Mexico, northern Arizona, central Nevada, and the lower eastern slope of the Sierra Nevada in California, east to western South Dakota and western Nebraska [see Kavanaugh 1979b: Fig. 4].

**Records.** CAN: AB, BC, NT, SK, YT USA: AK, AZ, CA, CO, ID, MT, NE, NM, NV, OR, SD, UT, WA, WY

### *Nebria pallipes* Say, 1823

*Nebria pallipes* Say, 1823a: 78. Type locality: «Monterey [Berkshire County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 333), in MCZ [# 33082].

**Distribution.** This species is found east of the Mississippi River from Nova Scotia (Lindroth 1961a: 77) to north-central Illinois (Kavanaugh 1978: 800), south to northern Alabama (Löding 1945: 12), northeastern Georgia (Leng 1910: 73; Fattig 1949: 12), and east-central South Carolina (Ciegler 2000: 20) along the Appalachian Mountains. The record from east-central Missouri (Summers 1873: 133) needs confirmation; that from Colorado (Elias 1987: 632) is likely based on a mislabeled specimen; that from northern Wisconsin along Lake Superior (Wickham 1896c: 131) probably refers to *N. lacustris*.

**Records.** CAN: NB, NS, ON, PE, QC USA: AL, CT, DC, DE, GA, IL, IN, KY, MA, MD, ME, MI, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WV [MO]

**Note.** This species is placed in a special group (*pallipes* group) along with *N. appalachia* and *N. diversa* by Ledoux and Roux (2005: 195).

### *Nebria suturalis* LeConte, 1850

*Nebria suturalis* LeConte, 1850: 209. Type locality: «islands at the mouth of Black Bay [Minnesota]» (original citation). Lectotype (♂), designated by Kavanaugh (1979a: 115), in MCZ [# 650]. NOTE. Lindroth (1961a: 73) placed the type locality in Ontario but it seems more likely that it is located in northern Minnesota near the International Border.

*Nebria longula* LeConte, 1878a: 478. Type locality: «Colorado» (original citation), restricted to «Longs Peak, Rocky Mountain National Park» by Kavanaugh (1979a: 113). Holotype [by monotypy] (♂) in MCZ [# 644]. Synonymy established by Kavanaugh (1979a: 113).

*Nebria nimbosea* Casey, 1920: 150. Type locality: «Lake of the Clouds, M[oun]t Washington [Coos County], New Hampshire» (original citation). Holotype [by monotypy] (♀) in USNM [# 46860]. Synonymy established by Bänninger (1925: 259), confirmed by Lindroth (1954b: 122).

**Distribution.** This species ranges from the coast of Labrador and the Ungava Bay region in northern Quebec to the Rocky Mountains in western Alberta, south to central Colorado, the Adirondack Mountains in northeastern New York, and New England [see Kavanaugh 1979b: Fig. 3].

**Records.** CAN: AB, LB, ON, QC USA: CO, ME, NH, NY, VT, WY

### **Subgenus *Catonebria* Shilenkov, 1975**

*Catonebria* Shilenkov, 1975: 836. Type species: *Carabus nitidulus* Fabricius, 1787 (= *Nebria banksii* Crotch, 1871) by original designation. Etymology. From the Latin *catena* (chain), shortened to *cato*, and the generic name *Nebria* [*q.v.*], alluding to the chain-like row of tubercles on certain elytral striae in most species (David H. Kavanaugh pers. comm. 2012) [feminine].

**Diversity.** Thirty-one species (Ledoux and Roux 2005: 240) in North America (20 species) and Siberia and the Far East (11 species).

#### **[metallica group]**

### ***Nebria labonteii* Kavanaugh, 1984**

*Nebria labonteii* Kavanaugh, 1984: 163. Type locality: «West Fork Wallowa River (2040-2190 m), Wallowa Mountains, Wallowa County, Oregon» (original citation). Holotype (♂) in CAS [# 14343].

**Distribution.** As far as known, this species is endemic to the Wallowa Mountains in northeastern Oregon [see Kavanaugh 1984: Fig. 31].

**Records.** USA: OR

### ***Nebria meanyi giulianii* Kavanaugh, 1981**

*Nebria meanyi giulianii* Kavanaugh, 1981b: 441. Type locality: «Montgomery Creek (2380 m), Mono County, California» (original citation). Holotype (♂) in CAS [# 13732].

**Distribution.** This subspecies is known only from the western slope of the White Mountains in eastern California [see Kavanaugh 1984: Fig. 21].

**Records.** USA: CA

### ***Nebria meanyi lamarckensis* Kavanaugh, 1979**

*Nebria meanyi lamarckensis* Kavanaugh, 1979a: 109. Type locality: «Lamarck Creek (above Upper Lamarck Lake; 10700-11000'), Inyo County, California» (original citation). Holotype (♂) in CAS [# 12507].

**Distribution.** This subspecies has been found only on the eastern slope of the southern Sierra Nevada in California [see Kavanaugh 1979a: Fig. 67].

**Records. USA:** CA

***Nebria meanyi meanyi* Van Dyke, 1925**

*Nebria meanyi* Van Dyke, 1925: 118. Type locality: «close to the Nesqually River, M[oun]t Rainier National Park [Pierce County], Washington» (original citation). Holotype (♂) in CAS [# 1623]. Etymology. The specific name was proposed for Professor Edmond S. Meany [1862-1935], mountaineer, state legislator, and teacher of botany and history at the University of Washington. Mount Meany in the Olympic Mountains is named after him.

**Distribution.** This subspecies is known from the Skagway area in southeastern Alaska and northwestern British Columbia south along the Cascade Range to Mount Shasta in north-central California [see Kavanaugh 1979a: Fig. 67]. The record from “Whitehorse Pass,” Yukon Territory (Kavanaugh 1978: 773), refers to the Skagway area in Alaska (Sydney G. Cannings pers. comm. 2009).

**Records. CAN:** BC **USA:** AK, CA, OR, WA

***Nebria meanyi sylvatica* Kavanaugh, 1979**

*Nebria meanyi sylvatica* Kavanaugh, 1979a: 109. Type locality: «Boulder Creek (at Olympic Hot Springs; 610 m), Olympic National Park [Clallam County], Washington» (original citation). Holotype (♂) in CAS [# 12508].

**Distribution.** This subspecies is known from Vancouver Island and the Olympic Peninsula in northwestern Washington [see Kavanaugh 1979a: Fig. 67].

**Records. CAN:** BC (VCI) **USA:** WA

***Nebria metallica* Fischer von Waldheim, 1820**

*Nebria metallica* Fischer von Waldheim, 1820: plate 6. Type locality: «insula Unalashka [Alaska]» (Fischer von Waldheim 1822: 72). Lectotype (♂), designated by Kavanaugh (1979a: 112), in ZMMU.

*Nebria pacifica* Chaudoir, 1850a: 424. Type locality: «Otahiti [= Tahiti]» (original citation), which is incorrect. Lectotype [as holotype], designated by Perrault (1980: 29), in MHNP. Synonymy established by Bänninger (1932: 178).

**Distribution.** This species ranges from the Aleutian Islands south to western Montana (Hatch 1939a: 118) and southern Washington (Kavanaugh 1978: 775-778). A few specimens labeled from Arizona, California, and Oregon are known (Kavanaugh 1978: 778) but considered doubtful. The record from Colorado (Elias 1987: 632) is in error (David H. Kavanaugh pers. comm. 2012).

**Records. CAN:** AB, BC (VCI) **USA:** AK, ID, MT, WA [AZ, CA, OR]



## [ovipennis group]

***Nebria carri* Kavanaugh, 1979**

*Nebria carri* Kavanaugh, 1979a: 107. Type locality: «Dollarhide Summit (7700-7900'), Blaine County, Idaho» (original citation). Holotype (♂) in CAS [# 22918].

**Distribution.** This species is found in the mountains of south-central and western Idaho [see Kavanaugh 1979a: Fig. 65] from the Seven Devils Mountains in the north to the Sawtooth Range in the south.

**Records. USA:** ID

***Nebria gebleri albimontis* Kavanaugh, 1984**

*Nebria gebleri albimontis* Kavanaugh, 1984: 163. Type locality: «Birch Creek (3290-3410 m), White Mountains, Mono County, California» (original citation). Holotype (♂) in CAS [# 14340].

**Distribution.** This subspecies is known only from the type locality in the White Mountains of eastern California.

**Records. USA:** CA

***Nebria gebleri cascadiensis* Kavanaugh, 1979**

*Nebria gebleri cascadiensis* Kavanaugh, 1979a: 105. Type locality: «Paradise Rive (above Narada Falls; 4580-4800'), Mount Rainier National Park [Pierce County], Washington» (original citation). Holotype (♂) in CAS [# 12502].

**Distribution.** This subspecies is found from southern British Columbia, including southern Vancouver Island, south along the Cascade Range to central Oregon [see Kavanaugh 1979a: Fig. 64]. One specimen labeled from Leavenworth Valley in Colorado seen by Kavanaugh (1979a: 106) is likely mislabeled.

**Records. CAN:** BC (VCI) **USA:** OR, WA

***Nebria gebleri fragariae* Kavanaugh, 1979**

*Nebria gebleri fragariae* Kavanaugh, 1979a: 106. Type locality: «Strawberry Creek (1,770 m), Grant County, Oregon» (original citation). Holotype (♂) in CAS [# 12501].

**Distribution.** This subspecies is yet recorded only from the type locality in the Strawberry Mountains of eastern Oregon [see Kavanaugh 1979a: Fig. 64].

**Records. USA:** OR

***Nebria gebleri gebleri* Dejean, 1831**

*Nebria gebleri* Dejean, 1831: 573. Type locality: «détroit de Norfolk [= Sitka Sound, Baranof Island, Alaska], sur la côte nord-ouest de l'Amérique septentrionale»

(original citation). Holotype [by monotypy] (♀) in MHNP (Ledoux and Roux 1992: 37). Etymology. The specific name honors Frédéric Auguste Gebler [1782-1850], physician and amateur coleopterist. Born in Germany, Gebler settled in Barnaul in Siberia at the age of 27. As physician of the vast district of Kolywano-Woskresensk, he had the opportunity to collect in several places in Siberia. After his death, Gebler's collection was sold to Count Georges de Mniszech [1824-1881] for 1,057 silver roubles. Mniszech's collection was bought by René Oberthür in 1885.

*Nebria melanaria* Hatch, 1949b: 115. Type locality: «Going-to-the-Sun Chalet, Glacier National Park [Flathead County], Montana» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1961a: 83).

**Distribution.** This subspecies occurs along the Cordilleras from the Alexander Archipelago to southernmost Yukon Territory (Lindroth 1961a: 84), south to southwestern Montana, south-central Idaho, and northeastern Oregon [see Kavanaugh 1979a: Fig. 64]. The record from northern Colorado (Armin 1963: 89) is probably in error.

**Records.** CAN: AB, BC, YT USA: AK, ID, MT, OR, WA

**Note.** This species is placed in its own group by Ledoux and Roux (2005: 240).

### *Nebria gebleri rathvoni* LeConte, 1853

*Nebria rathvoni* LeConte, 1853c: 400. Type locality: «Sacramento [Sacramento County], California» (original citation). Holotype [by monotypy] location unknown. Etymology. The specific name honors Simon Snyder Rathvon [1812-1891], an entomologist interested chiefly in the economic aspect of insects who resided most of his life in Lancaster County, Pennsylvania. Rathvon bought Haldeman's collection which included that of Hentz. NOTE. The specimen in MCZ labeled as holotype [# 7403] is not the specimen upon which LeConte (1853c: 400) based his description since it is also labeled "6465 ft. Lake Tahoe, Cal. May 24, 1879."

**Distribution.** This subspecies is endemic to the Sierra Nevada and adjacent mountains in western Nevada [see Kavanaugh 1979a: Fig. 64].

**Records.** USA: CA, NV

### *Nebria gebleri siskiyouensis* Kavanaugh, 1979

*Nebria gebleri siskiyouensis* Kavanaugh, 1979a: 107. Type locality: «South Fork Salmon River (at Big Flat Campground; 1490 m), Trinity County, California» (original citation). Holotype (♂) in CAS [# 12503].

**Distribution.** This subspecies is restricted to the Klamath Mountains system of the Coast Ranges in southwestern Oregon and northwestern California [see Kavanaugh 1979a: Fig. 64].

**Records.** USA: CA, OR

***Nebria kincaidi balli* Kavanaugh, 1979**

*Nebria kincaidi balli* Kavanaugh, 1979a: 107. Type locality: «Paradise River (above Narada Falls; 4580-4800'), Mount Rainier National Park [Pierce County], Washington» (original citation). Holotype (♂) in CAS [# 12505].

**Distribution.** This subspecies is restricted to the Cascade Range of central Washington and northern Oregon [see Kavanaugh 1979a: Fig. 65].

**Records. USA:** OR, WA

***Nebria kincaidi kincaidi* Schwarz, 1900**

*Nebria kincaidi* Schwarz, 1900: 525. Type locality: «Farragut Bay [Alaska]» (original citation). Holotype (♂) in USNM [# 5258]. Etymology. The species name honors Trevor Kincaid [1872-1968], naturalist and professor at the University of Washington. Early in his career Kincaid worked mainly on insects and taxonomy but later became involved with oysters and was largely responsible for bringing the Japanese oyster to Washington. He served as entomologist on the Harriman Alaska Expedition in 1899 and was selected by L.O. Howard in 1908 and 1909 to go to Japan and then to southwestern Russia in search of parasites of the gypsy moth.

*Nebria columbiana* Casey, 1913: 48. Type locality: «Inverness [probably Inverness Passage], British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 113), in USNM [# 46848]. Synonymy established by Darlington (1930: 104), confirmed by Lindroth (1961a: 88).

**Distribution.** This subspecies ranges along the mountains of the Pacific Coast from the Alexander Archipelago to northern Washington [see Kavanaugh 1979a: Fig. 65].

**Records. CAN:** BC (VCI) **USA:** AK, WA

***Nebria ovipennis* LeConte, 1878**

*Nebria ovipennis* LeConte, 1878a: 477. Type locality: «Sierra Nevada, Cal[ifornia]» (original citation), restricted to «Chipmunk Flat, Tuolumne County» by Erwin and Ball (1972: 81). Holotype [by monotypy] (♂) in MCZ [# 648].

**Distribution.** This species is known from the Sierra Nevada in California (Erwin and Ball 1972: 81) and adjacent mountains in Washoe County, western Nevada (Kavanaugh 1978: 798).

**Records. USA:** CA, NV

***Nebria spatulata sierrae* Kavanaugh, 1979**

*Nebria spatulata sierrae* Kavanaugh, 1979a: 108. Type locality: «White Mountain (east slope, above Big Horn Lake; 3290-3480 m), Mono County, California» (original citation). Holotype (♂) in CAS [# 12516].

**Distribution.** This subspecies is restricted to the main chain and Eastern Divide of the Sierra Nevada of California [see Kavanaugh 1979a: Fig. 66; David H. Kavanaugh pers. comm. 2012].

**Records. USA:** CA

***Nebria spatulata spatulata* Van Dyke, 1925**

*Nebria spatulata* Van Dyke, 1925: 119. Type locality: «Franklin Lake, Tulare County, California» (original citation). Holotype (♀) in CAS [# 1625].

**Distribution.** This subspecies is endemic to the Western Divide of the southern Sierra Nevada of California [see Kavanaugh 1979a: Fig. 66; David H. Kavanaugh pers. comm. 2012].

**Records. USA:** CA

[trifaria group]

***Nebria calva* Kavanaugh, 1984**

*Nebria calva* Kavanaugh, 1984: 164. Type locality: «Mount Baldy (3050-3350 m), s[outh]w[est] of Springerville, Apache County, Arizona» (original citation). Holotype (♂) in CNC [# 22917].

**Distribution.** This species is yet known only from the type locality in northeastern Arizona [see Kavanaugh 1984: Fig. 32].

**Records. USA:** AZ

***Nebria catenata* Casey, 1913**

*Nebria catenata* Casey, 1913: 49. Type locality: «Colorado» (original citation), restricted to «San Juan Mountains» by Erwin and Ball (1972: 97), further to «Wolf Creek Pass, Mineral County» by Kavanaugh (1979a: 112). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46849].

**Distribution.** This species is restricted to the San Juan Mountains in southwestern Colorado and the Abajo Mountains in southeastern Utah (Erwin and Ball 1972: 97).

**Records. USA:** CO, UT

***Nebria coloradensis* Van Dyke, 1943**

*Nebria coloradensis* Van Dyke, 1943: 19. Type locality: «near the Twin Lakes, Lake County, Colorado» (original citation). Holotype (♂) in CAS [# 5298].

**Distribution.** This species is found in the Rocky Mountains in southern Wyoming and Colorado (Erwin and Ball 1972: 97).

**Records. USA:** CO, WY



**Note.** This taxon has been considered a synonym of *N. catenata* by Lindroth (1961a: 84), a subspecies of *N. trifaria* by Erwin and Ball (1972: 96) and Ledoux and Roux (2005: 285), and a distinct species by Kavanaugh (1985: 421, 423).

***Nebria ingens ingens* Horn, 1870**

*Nebria ingens* G.H. Horn, 1870b: 98. Type locality: «high Sierra Nevada Mountains east of Visalia, California» (original citation), restricted to «Franklin Lakes, Tulare County» by Kavanaugh (1979a: 113). Lectotype (♀), designated by Kavanaugh (1979a: 113), in MCZ [# 8127].

*Nebria raveni* Van Dyke, 1953b: 102. Type locality: «slopes of M[oun]t Darwin (13,600 feet), Fresno County, California» (original citation). Holotype (♀) in CAS [# 8163]. Synonymy established by Lindroth (1961a: 87).

**Distribution.** This subspecies is restricted to the Sierra Nevada in Fresno, Inyo, and Tulare Counties, California (Kavanaugh 1978: 753-754).

**Records. USA:** CA

***Nebria ingens riversi* Van Dyke, 1925**

*Nebria riversi* Van Dyke, 1925: 115. Type locality: «base of Lyell Glacier (about 11,500 feet), M[oun]t Lyell, California» (original citation). Holotype (♂) in CAS [# 1619]. Etymology. The species name honors James John Rivers [1824-1913], a naturalist born in England who studied medicine at the University of London and came under the influence of Thomas Henry Huxley. In his 40s he moved to the United States and eventually settled in California. Curator of Organic Natural History at the University of California (Berkeley), Rivers published on many subjects, including Coleoptera, Lepidoptera, spiders, and reptiles.

**Distribution.** This subspecies is known only from Mono and Tuolumne Counties in the Sierra Nevada of California (Kavanaugh 1978: 754; David H. Kavanaugh pers. comm. 2012).

**Records. USA:** CA

***Nebria piperi* Van Dyke, 1925**

*Nebria piperi* Van Dyke, 1925: 117. Type locality: «along the margins of the Nesqually River, just below the foot of the Nesqually Glacier, M[oun]t Rainier National Park [Pierce County], Washington» (original citation). Holotype (♂) in CAS [# 1621]. Etymology. The specific name honors the American botanist Charles Vancouver Piper [1867-1926].

**Distribution.** This species ranges along the mountains paralleling the Pacific Coast from southeastern Alaska along the British Columbia border (Lindroth 1961a: 86) and Kluane National Park in southwestern Yukon Territory (David H. Kavanaugh pers. comm. 2010) to west-central Oregon (Kavanaugh 1978: 811).

**Records. CAN:** BC, YT **USA:** AK, OR, WA

**Note.** This species is placed in the *metallica* group by Ledoux and Roux (2005: 240).

***Nebria piute piute* Erwin and Ball, 1972**

*Nebria trifaria piute* Erwin and Ball, 1972: 95. Type locality: «La Baron Lake (9,700'), Circleville Mountain, 15.9 miles west of Junction, Beaver County, Utah» (original citation). Holotype (♂) in USNM [# 71976].

**Distribution.** This subspecies is known only from Beaver and Piute Counties in southern Utah (Kavanaugh 1978: 813).

**Records. USA:** UT

***Nebria piute sevieri* Kavanaugh, 1984**

*Nebria piute sevieri* Kavanaugh, 1984: 164. Type locality: «Parowan Creek (2800 m), 13.5 miles S[outh] of Parowan, Markagunt Plateau, Iron County, Utah» (original citation). Holotype (♂) in CAS [# 14344].

**Distribution.** This subspecies is known only from southern Utah [see Kavanaugh 1984: Fig. 32]. One specimen labeled from Navajo County in Arizona seen by Kavanaugh (1984: 165) is likely mislabeled.

**Records. USA:** UT

***Nebria piute utahensis* Kavanaugh, 1979**

*Nebria trifaria utahensis* Kavanaugh, 1979a: 110. Type locality: «Lonesome Beaver (7500'), Henry Mountains, Garfield County, Utah» (original citation). Holotype (♂) in CNC [# 20758].

**Distribution.** This subspecies is restricted to the Henry Mountains in south-central Utah [see Kavanaugh 1979a: Fig. 70].

**Records. USA:** UT

***Nebria praedicta* Kavanaugh and Schoville, 2009**

*Nebria praedicta* Kavanaugh and Schoville, 2009: 74. Type locality: «north by northwest slope of Thompson Peak in upper Grizzly Lake Basin (2411-2470 m), Trinity Alps, Trinity County, California» (original citation). Holotype (♂) in CAS [# 18447].

**Distribution.** This species is endemic to the Trinity Alps of northwestern California.

**Records. USA:** CA

***Nebria purpurata* LeConte, 1878**

*Nebria purpurata* LeConte, 1878a: 477. Type locality: «Laevenworth Valley (9,000 to 10,000 feet), above Georgetown [Clear Creek County], Colo[rado]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 649].

*Nebria mobilis* Casey, 1913: 50. Type locality: «Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 112), in USNM [# 46850]. Synonymy established by Lindroth (1961a: 86).

**Distribution.** This species is found along the Rocky Mountains in Colorado and New Mexico (Kavanaugh 1978: 813–815). The record from Idaho (LeConte 1879d: 500) is probably in error.

**Records. USA:** CO, NM

***Nebria schwarzi beverlianna* Kavanaugh, 1979**

*Nebria schwarzi beverlianna* Kavanaugh, 1979a: 110. Type locality: «Hoback River (8 miles n[orth]w[est] of Bondurant; 6900'), Sublette County, Wyoming» (original citation). Holotype (♂) in CAS [# 12515].

**Distribution.** This beautiful subspecies is recorded only from the type locality in Gros Ventre Mountains, western Wyoming [see Kavanaugh 1979a: Fig. 69].

**Records. USA:** WY

***Nebria schwarzi schwarzi* Van Dyke, 1925**

*Nebria schwarzi* Van Dyke, 1925: 116. Type locality: «Banff, Alberta» (original citation). Holotype (♂) in USNM [# 28174].

**Distribution.** This subspecies is restricted to the Rocky Mountains in western Alberta and southeastern British Columbia [see Kavanaugh 1979a: Fig. 69].

**Records. CAN:** AB, BC

**Note.** This species is placed in the *metallica* group by Ledoux and Roux (2005: 240).

***Nebria sierrablancae* Kavanaugh, 1984**

*Nebria sierrablancae* Kavanaugh, 1984: 164. Type locality: «Sierra Blanca (3200 m), Lincoln County, New Mexico» (original citation). Holotype (♂) in CNC [# 22919].

**Distribution.** This species is known only from the Sierra Blanca and Capitan Mountains in central New Mexico [see Kavanaugh 1984: Fig. 32].

**Records. USA:** NM

***Nebria steensensis* Kavanaugh, 1984**

*Nebria steensensis* Kavanaugh, 1984: 165. Type locality: «South Fork McCoy Creek (2390–2560 m), Steens Mountains, Harney County, Oregon» (original citation). Holotype (♂) in CAS [# 14345].

**Distribution.** This species is endemic to the Steens Mountains in south-central Oregon [see Kavanaugh 1984: Fig. 32].

**Records. USA:** OR

***Nebria trifaria pasquinelii* Kavanaugh, 1984**

*Nebria trifaria pasquinelii* Kavanaugh, 1984: 165. Type locality: «Lefthand Creek, 5 miles E[ast] of Ward, Front Range, Boulder County, Colorado» (original citation). Holotype (♂) in CAS [# 14346].

**Distribution.** This subspecies ranges from Medicine Bow and Sierra Madre Ranges in southern Wyoming south to the Rampart Range in central Colorado [see Kavanaugh 1984: Fig. 32].

**Records. USA:** CO, WY

***Nebria trifaria trifaria* LeConte, 1878**

*Nebria trifaria* LeConte, 1878a: 478. Type locality: «American Fork Cañon (9,500 feet) [Utah County], Utah» (original citation). Lectotype (♀), designated by Kavanaugh (1979a: 116), in MCZ [# 651].

*Nebria trifaria tetonensis* Erwin and Ball, 1972: 95. Type locality: «South Fork of Cascade Canyon (10,000'), Teton National Park [Teton County], Wyoming» (original citation). Holotype (♂) in USNM [# 71975]. Synonymy established by Kavanaugh (1984: 167).

**Distribution.** This subspecies ranges along the Rocky Mountains from southern Montana and southeastern Idaho south to northeastern Nevada, southern Utah, and west-central Wyoming [see Erwin and Ball 1972: Fig. 42].

**Records. USA:** ID, MT, NV, UT, WY

**Note.** The form *tetonensis* is retained as a valid subspecies by Ledoux and Roux (2005: 285).

***Nebria vandykei vandykei* Bänninger, 1928**

*Nebria vandykei* Bänninger, 1928: 5. Type locality: «Paradise Val[ley], M[oun]t Rainier [Pierce County], Wash[ington]» (lectotype label). Lectotype (♂), designated by Kavanaugh (1979a: 116), in ETHZ. Etymology. The species name was proposed for Edwin Cooper Van Dyke [1869-1952], an outstanding coleopterist and professor of entomology at the University of California in Berkeley.

**Distribution.** This subspecies is known only from the Olympic Mountains and the Cascade Range of Washington [see Kavanaugh and Schoville 2009: Fig. 13].

**Records. USA:** WA

***Nebria vandykei wyeast* Kavanaugh, 1979**

*Nebria vandykei wyeast* Kavanaugh, 1979a: 109. Type locality: «Salmon River headwaters (1830-1950 m), Mount Hood, Clackamas County, Oregon» (original citation). Holotype (♂) in CAS [# 12517].



**Distribution.** This subspecies is restricted to the Cascade Range in Oregon from Mount Hood south to the Three Sisters area [see Kavanaugh and Schoville 2009: Fig. 13].

**Records. USA:** OR

### Subgenus *Nebria* Latreille, 1802

*Nebria* Latreille, 1802: 89. Type species: *Carabus brevicollis* Fabricius, 1792 designated by Latreille (1810: 426).

*Helobia* Curtis, 1826: plate 103. Type species: *Carabus brevicollis* Fabricius, 1792 by original designation. Etymology. From the Greek *helos* (marsh, meadow) and *bios* (life) [feminine].

*Harpazobia* Gistel, 1856: 356. Type species: *Carabus brevicollis* Fabricius, 1792 by monotypy.

**Diversity.** Sixty-five species in the Palaearctic Region, one of them adventive in North America.

### *Nebria brevicollis* (Fabricius, 1792)

*Carabus cursor* O.F. Müller, 1776: 78 [potential *nomen oblitum*]. Type locality: environs de Paris (title of Geoffroy's book). Syntype(s) probably in MHNP. NOTE. This taxon was first described by Geoffroy (1762: 146) under the name "*Bupreste noir à pattes rougeâtres*" as mentioned by Müller (1776: 78). Müller (1776: 78) reproduced Geoffroy's original description in Latin and provided a scientific name. I consider that Müller's name was made available by a bibliographic reference to a description and as such the type series consists of Geoffroy's specimens (ICZN 1999: Article 72.4.4).

*Carabus rufipes* Goeze, 1777: 662 [primary homonym of *Carabus rufipes* DeGeer, 1774]. Type locality: environs de Paris (title of Geoffroy's book). Syntype(s) possibly in MHNP. Synonymy established with the name *Carabus cursor* Müller by Goeze (1777: 662). NOTE. This taxon was first described by Geoffroy (1762: 146) under the name "*Bupreste noir à pattes rougeâtres*" as mentioned by Goeze (1777: 662) and the comment made under *Carabus cursor* also applies here. Goeze (1777: 662) also listed *Carabus ruficornis* Fabricius, 1775, currently considered a synonym of *Harpalus rufipes* (DeGeer, 1774), and *Carabus cursor* Müller, 1776 as synonyms of this taxon.

*Carabus brevicollis* Fabricius, 1792 [22 December]: 150 [potential *nomen protectum*]. Type locality: «Germania» (original citation). Lectotype (♂), designated by Lindroth (1961a: 78), in ZMUC. Synonymy established by Bedel (1880: 133). NOTE. Bedel (1881: vii) reported that he had access to the collection of Geoffroy, at the time in the hands of Maurice de Laplanche, which still contained many "authentic types." Therefore it is likely that the synonymy proposed by Bedel (1880: 133) was based upon an examination of the type specimen(s) of the "*Bupreste noir à pattes rougeâtres*" of Geoffroy (1762) upon which *Carabus cursor* Müller, 1776 and *Carabus rufipes* Goeze, 1777 were based.

*Carabus infidus* Rossi, 1792 [“31 December”]: 88. Type locality: Etruria, Italy (inferred from title of the book). Syntype(s) location unknown (possibly in ZMHB). Synonymy established by Illiger (1798: 190).

**Distribution.** This Palaearctic species is adventive in North America where it is known from the Willamette Valley in northwestern Oregon and southwestern Washington [see LaBonte 2011: Fig. 4]. Since over 3,000 specimens have been collected, the species is clearly established in the region. The first inventoried specimen found in the area was caught in late 2007 (Kavanaugh and LaBonte 2008: 482). The species has also been collected twice in eastern North America, in Quebec in 1930 and Saint Pierre and Miquelon in 1937 (Lindroth 1961a: 78) but it did not become established in this part of the continent.

**Records. USA:** OR, WA – **Adventive**

### Tribe NOTIOPHILINI Motschulsky, 1850

Notiophili Motschulsky, 1850a: iv, 16. Type genus: *Notiophilus* Duméril, 1805.

**Diversity.** This tribe includes a single genus.

### Genus NOTIOPHILUS Duméril, 1805

*Notiophilus* Duméril, 1805: 194 (as *Nothiophilus*). Type species: *Cicindela aquatica* Linnaeus, 1758 designated by Curtis (1829: plate 254). Etymology. From the Greek adjective *notios* (wet, moist, damp) and *philos* (beloved), alluding, incorrectly though, to the habitat requirements of the species known to Duméril at the time [masculine]. NOTE. *Notiophilus* is an incorrect subsequent spelling of *Nothiophilus* in prevailing usage and so deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Latviophilus* Barševskis, 1994: 1. Type species: *Elaphrus biguttatus* Fabricius, 1779 by original designation. Etymology. From the geographic name Latvia and the Greek *philos* (beloved) [masculine].

*Makarovius* Barševskis, 1994: 1. Type species: *Notiophilus rufipes* Curtis, 1829 by original designation.

**Diversity.** About 55 species in the arctic, subarctic, boreal, and temperate areas of the Nearctic (15 species, of which two are adventive), Neotropical (two species in mountains of Middle America), and Palaearctic (about 40 species) Regions, including northern Africa (see Barševskis 2007). Two species, *N. aquaticus* and *N. borealis*, are Holarctic.

**Identification.** Lindroth (1961a) reviewed the North American species and provided a key for their identification. One adventive species (*N. palustris*) has been discovered subsequently in eastern Canada.

**Faunistic Note.** *Notiophilus rufipes* Curtis is known in North America from one specimen collected in Ware County, Georgia (Barševskis 2004). In my opinion, the specimen could be mislabeled and therefore the species is not considered as a North American entity.



**Figure 5.** *Omoglymmius americanus* (Laporte). This species is one of the seven rhyssodid species-group taxa found in eastern North America. These species live in decaying wood, such as logs, stumps or roots, where they feed on slime molds and fungi. The carabids, on the other hand, are carnivorous, herbivorous, or omnivorous feeding on both animal and plant matters.

***Notiophilus aeneus* (Herbst, 1806)**

*Elaphrus aeneus* Herbst, 1806: 235. Type locality: «Nordamerica» (original citation), restricted to «Boston [Suffolk County], Mass[achusetts]» by Lindroth (1961a: 93). Syntype(s) location unknown (possibly in ZMHB).

*Notiophilus porrectus* Say, 1830b: (3) [3]. Type locality: «Penn[sylvania]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 332), in MCZ [#33084]. Synonymy established with doubt by Melsheimer (1853: 12).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1961a: 94) to southeastern Minnesota (Donald P. Schwert pers. comm. 1989), south at least to southeastern Nebraska (Richardson County, Foster F. Purrington pers. comm. 2009), central Missouri (Boone County, CMNH), northeastern Georgia (Leng 1910: 73; Fattig 1949: 11), and southwestern South Carolina (Ciegler 2000: 20). Two specimens labeled from the Santa Catalina Mountains in Arizona (MCZ, collection Fall) are known and so the species probably ranges farther west in southern United States.

**Records.** CAN: NB, NS, ON, PE, QC USA: AZ, CT, DC, DE, GA, IA, IL, IN, MA, MD, ME, MI, MN, MO, NC, NE, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV

***Notiophilus aquaticus* (Linnaeus, 1758)**

*Cicindela aquatica* Linnaeus, 1758: 408. Type locality: «Europa» (original citation), restricted to «Sweden» by Lindroth (1961a: 95). Syntype(s) location unknown. NOTE. Three Linnean specimens are present in LSL under this name, but none belong to the present species (Lindroth 1957b: 336).

*Cicindela pusilla* Schreber, 1759: 10. Type locality: «prope Halam [= Halle, Germany]» (original citation). Syntype(s) probably lost. Synonymy established by Fabricius (1775: 227).

*Elaphrus semipunctatus* Fabricius, 1775: 227. Type locality: «Halae Saxonum [= Halle, Germany]» (original citation). Three syntypes in ZMUC (Zimsen 1964: 66). Synonymy established by Fauvel (1883: 90).

*Notiophilus metallicus* G.R. Waterhouse, 1833: 203. Type locality: England (inferred from title of the paper). Holotype [by monotypy] location unknown (possibly in BMNH). Synonymy established by Dawson (1854: 54).

*Notiophilus newmanni* G.R. Waterhouse, 1833: 205. Type locality: «Snowdon [Great Britain]» (original citation). Syntype(s) [3 originally cited] location unknown (possibly in BMNH). Synonymy established by Dawson (1854: 54). Etymology. The specific name was proposed for Edward Newman [1801-1876], British naturalist and printer. Newman co-founded *The Entomological Magazine* and founded *The Entomologist*. His publications dealt mainly with entomology but he also wrote on several other natural history subjects including botany, especially ferns.

*Notiophilus dauricus* Chaudoir, 1850b: 164. Type locality not stated. Syntype(s) probably in MHNP (collection Chaudoir). Synonymy re-established by Reitter (1897:



361). NOTE. Motschulsky (1859b: 539) first described this taxon under the name *N. aquaticus* var. *dauricus* in a paper about the beetles of the government of Yakutsk, Siberia, and the name has been attributed to him since. However, Chaudoir (1850b: 164) published the name earlier as a junior synonym of *N. aquaticus* (“M. de Motschoulski m’a envoyé l’*Aquaticus* sous le nom de *Dauricus*”) and therefore the name is available from its first publication as a synonym (ICZN 1999: Article 11.6.1).

*Notiophilus hardyi* Putzeys, 1866a: 165. Type locality: «Terre-Neuve» (original citation). Syntype(s) in MHNP (collection Chaudoir). Synonymy established by Fall (1906: 84), confirmed by Lindroth (1954b: 121).

**Distribution.** The range of this circumpolar species extends from Iceland to the Bering Sea Coast (Bousquet and Barševskis 2003: 96) and from Alaska (Lindroth 1961a: 95) to Newfoundland (Lindroth 1955a: 34), south to Pennsylvania (Capogreco 1989b: 4) and to New Mexico and Arizona (Fall 1906: 85; Lindroth 1961a: 95) along the Rocky Mountains. Fossil remnants from a Plio-Pleistocene sequence have been found in northwestern Greenland (Böcher 1995: 18).

**Records.** FRA: PM CAN: AB, BC, LB, MB, NB, NF, NS (CBI), ON, QC, SK, YT USA: AK, AZ, CO, ID, IL, MA, ME, MI, MN, MT, NH, NM, NY, OH, PA, UT, VT, WI, WY – **Holarctic**

### *Notiophilus biguttatus* (Fabricius, 1779)

*Elaphrus biguttatus* Fabricius, 1779: 231. Type locality: «Bye [Norway]» (original citation) which according to Lindroth (1961a: 100) is located in Guldal (= Gauldal), a valley of the Gaula River, south of Trondheim. Syntype(s) destroyed (Lindroth 1961a: 100).

**Distribution.** This Palaearctic species is adventive in North America where it is known from Newfoundland and Saint Pierre and Miquelon (Lindroth 1955a: 37) to the Gaspé Peninsula in Quebec (LeSage 1996: 23), south to Connecticut (Krinsky and Oliver 2004: 396) and “Rhode Island” (Sikes 2003: 7), and from southwestern British Columbia (Lindroth 1961a: 101). The first inventoried specimen found on the east side of this continent was caught in Newfoundland in 1923 (Brown 1950b: 197) and on the west coast in Vancouver in 1957 (Lindroth 1961a: 101). Dejean’s (1831: 589) record of this species from «Amérique septentrionale» almost certainly refers to *N. novemstriatus* LeConte.

**Records.** FRA: PM CAN: BC, NB, NF, NS, PE, QC USA: CT, ME, NH, RI – **Adventive**

### *Notiophilus borealis* Harris, 1869

*Notiophilus borealis* T.W. Harris [in Scudder], 1869: 213. Type locality: «White Mountains [Coos County, New Hampshire]» (original citation). One syntype in MCZ [# 26409].

**Distribution.** This species is known from the Far East (Bousquet and Barševskis 2003: 96) and from Alaska (Lindroth 1961a: 97) to Newfoundland (Lindroth 1955a: 36); isolated on some mountains of New England (Lindroth 1961a: 96-97) and New York (Essex County, CNC, MCZ), and also known from northern Wyoming (Johnson County, CMNH). Fossil remnants of this species, dated between about 16,700 and 18,100 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96).

**Records.** CAN: AB, BC, LB, MB, NF, NT, NU, ON, QC, SK, YT USA: AK, ME, NH, NY, VT, WY – **Holarctic**

### *Notiophilus directus* Casey, 1920

*Notiophilus directus* Casey, 1920: 142. Type locality: «Indiana; Keokuk, Iowa» (original citation), which according to Lindroth (1961a: 98) are unlikely; «Jasper, Al[ber]ta» selected by Lindroth (1961a: 98). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46841].

*Notiophilus lanei* Hatch, 1949b: 114. Type locality: «Pierce [Clearwater County], Idaho» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1954b: 121).

**Distribution.** This species occurs in the western mountain ranges, from southwestern Alberta and southern British Columbia, south to northeastern California (Lindroth 1961a: 98), northeastern Arizona, and northern New Mexico [see Morgan and Morgan 1979: Fig. 5]. Fossil remnants, dated about 11,800 years B.P., have been unearthed in northeastern Wisconsin (Morgan and Morgan 1979: 232).

**Records.** CAN: AB, BC USA: AZ, CA, CO, ID, MT, NM, OR, UT, WA, WY

### *Notiophilus intermedius* Lindroth, 1955

*Notiophilus intermedius* Lindroth, 1955a: 36. Type locality: «Pinware River, Labrador» (original citation). Holotype (♂) in CNC [# 6569]. NOTE. Lindroth (1954b: 157) proposed the name earlier but he did not meet the requirements of availability (ICZN, Article 13.1) at the time.

**Distribution.** This species is known from scattered localities from Newfoundland (Lindroth 1955a: 37) to the Gulf of Alaska coast (Lindroth 1961a: 98); also known from northwestern Minnesota (Clearwater County, CNC).

**Records.** CAN: BC, LB, MB, NF, QC USA: AK, MN

### *Notiophilus nemoralis* Fall, 1906

*Notiophilus nemoralis* Fall, 1906: 88. Type locality: «White M[oun]t[ain]s, N[ew] H[ampshire]; Moosilauke, N[ew] H[ampshire]; Rangely, M[ain]e; Camels Hump, V[ermon]t» (original citation). Syntype(s) in MCZ [# 23845].

**Distribution.** This species is restricted to some mountains in New England (Lindroth 1961a: 100) and the Adirondacks in northeastern New York (Notman 1928: 211).

**Records. USA:** MA, ME, NH, NY, VT

***Notiophilus nitens* LeConte, 1857**

*Notiophilus nitens* LeConte, 1857c: 31. Type locality: «Prairie Paso [= possibly Bear Prairie Pass, Lewis County, Washington], Oregon [Territory]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5454].

**Distribution.** This species is found from Vancouver Island (Lindroth 1961a: 99) to northwestern Montana (Russell 1968: 46), south to southern Oregon (Harney County, CMNH). The record from Texas (Fall 1906: 90) is probably in error.

**Records. CAN:** BC (VCI) **USA:** ID, MT, OR, WA

***Notiophilus novemstriatus* LeConte, 1847**

*Notiophilus 9-striatus* LeConte, 1847: 450. Type locality: «provinciis australibus, et mediis» (original citation), restricted to «Boston [Suffolk County], Mass[achusetts]» by Lindroth (1961a: 101). Syntype(s) in MCZ [# 655].

*Notiophilus cribrilaterus* Motschulsky, 1864: 193. Type locality: «Am[érique] bor[éale]» (original citation). Three syntypes in ZMMU, one labeled “Am. bor. Atlanta” (Keleinikova 1976: 193). Synonymy established by Bousquet and Larochelle (1993: 16).

*Notiophilus quadrifoveatus* T.W. Harris [in Scudder], 1869: 213. Type locality: «New Hampshire, Vermont, Massachusetts, New York, Pennsylvania, North Carolina, and Alabama» (original citation). One probable syntype, labeled “quadrifoveatus Harris. [handwritten] / 709 [handwritten] / 50,” in MCZ (collection Harris). Synonymy established by Fall (1906: 92), herein confirmed.

*Notiophilus parvus* Casey, 1920: 142. Type locality: «Catskill M[oun]t[ain]s, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46840]. Synonymy established by Lindroth (1954b: 121).

**Distribution.** The range of this species extends from western Maine (Oxford County, André Larochelle pers. comm. 1990) to “South Dakota” (Kirk and Balsbaugh 1975: 15), south to east-central Texas (Riley 2011) and northern Florida (Peck and Thomas 1998: 15), west along the southwest to “Arizona” (Lindroth 1961a: 101) including northwestern Colorado (Barševskis 2009: 138). The record from Cape Breton Island in Nova Scotia (McCorquodale 2000: 339) is based on a misidentified specimen of *N. palustris*.

**Records. USA:** AL, AR, AZ, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT

***Notiophilus palustris* (Duftschmid, 1812)**

*Elaphrus palustris* Duftschmid, 1812: 192. Type locality: «Um Linz [Austria]» (original citation). Syntype(s) probably lost. NOTE. Ledoux and Roux (2005: 682) report-

ed that Duftschmid's collection, supposedly located at the Oberösterreichisches Landesmuseum in Linz (Horn et al. 1990a: 101), is non-existent.

**Distribution.** This Palearctic species is adventive in North America where it is known only from Nova Scotia, including Cape Breton Island (McCorquodale 2000: 339, as *N. novemstriatus*), and Prince Edward Island (Larochelle and Larivière 1990b: 211). The first inventoried specimen found on this continent was caught in Halifax, Nova Scotia in 1968 (CNC).

**Records.** CAN: NS (CBI), PE – **Adventive**

### *Notiophilus semiopacus* Eschscholtz, 1833

*Notiophilus semiopacus* Eschscholtz, 1833: 25. Type locality: «bei St. Franzisco [San Francisco County], Californien» (original citation). Syntype(s) location unknown (possibly in ZMMU).

**Distribution.** This species is known from California (Fall 1906: 91; Lindroth 1961a: 99), as far north as the San Francisco Bay area (Alameda County, MCZ), Arizona (Wickham 1898: 300; Lindroth 1961a: 99), and the states of Sonora and Chihuahua in Mexico (Erwin 2007a: 59). The record from “Oregon” (Fall 1906: 91) needs confirmation.

**Records.** USA: AZ, CA [OR] – Mexico

### *Notiophilus semistriatus* Say, 1823

*Notiophilus semistriatus* Say, 1823a: 81. Type locality: «Fairfax Co[unty], V[irgini]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 332), in MCZ [# 33083].

*Notiophilus confusus* LeConte, 1847: 449. Type locality: United States east of the Rocky Mountains (inferred from title of the paper). Syntype(s) in MCZ [# 654]. Synonymy established by LeConte (1850: 210), confirmed by Lindroth (1961a: 94).

*Notiophilus punctatus* LeConte, 1850: 210. Type locality: Lake Superior (inferred from title of the paper). Four syntypes in MCZ [# 656]. Synonymy established by Lindroth (1961a: 94).

*Notiophilus americanus* T.W. Harris [in Scudder], 1869: 213. Type locality not stated. Syntype(s) probably lost. Synonymy established by Fall (1906: 91).

*Notiophilus coloradensis* Casey, 1920: 141. Type locality: «Boulder Co[unty], Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 46837]. Synonymy established by Lindroth (1954b: 121).

*Notiophilus solodovnikovi* Barševskis, 2001: 38. Type locality: «Chehova M[ou]nt[ain], Sahalin isl[and], S[outh], Far East, Russia» (original citation). Holotype (♂) in Baltic Institute of Coleopterology (Daugavpils, Latvia). Synonymy established by Barševskis (2006: 66).

**Distribution.** This species is found from Labrador to central Alaska, south to northern British Columbia (Lindroth 1961a: 94-95), New Mexico (Fall 1906: 84; Lin-



droth 1961a: 94) along the Rocky Mountains, Oklahoma (Latimer County, UASM), southwestern Arkansas (Columbia County, INHS), east-central Alabama (Lee County, CNC), central Georgia (Fattig 1949: 11), and southern South Carolina (Ciegler 2000: 20); also recorded from Sakhalin Island (Barševskis 2001: 38).

**Records.** CAN: AB, BC, LB, MB, NB, NS (CBI), ON, QC, YT USA: AK, AL, AR, CO, CT, DC, DE, GA, IA, IL, IN, KS, KY, MA, MD, MI, MN, MO, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, SC, SD, TN, VA, WI, WV – **Holarctic**

### *Notiophilus sierranus* Casey, 1920

*Notiophilus obscurus* Fall, 1901a: 207 [primary homonym of *Notiophilus aquaticus obscurus* Dalla Torre, 1877]. Type locality: «San Bernardino Mountains (6,000 to 7,000 feet) [California]» (original citation). Syntype(s) in MCZ [# 23846].

*Notiophilus sierranus* Casey, 1920: 140. Type locality: «Lake Tahoe [Placer County], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 46838]. Synonymy established by Lindroth (1961a: 98).

*Notiophilus obscuratus* Fall, 1926b: 125. Replacement name for *Notiophilus obscurus* Fall, 1901.

**Distribution.** As far as known, this species is restricted to the Sierra Nevada in California (Fall 1906: 90; Lindroth 1961a: 99).

**Records.** USA: CA

### *Notiophilus simulator* Fall, 1906

*Notiophilus simulator* Fall, 1906: 86. Type locality: «Mullan, Montana; Leavenworth Valley and Silver Plume, 9000-11000 feet, Colorado; Houston, Texas; Coeur d'Alene, Idaho» (original citation), restricted to «Silver Plume [Clear Creek County], Color[ado]» by Lindroth (1961a: 97). Syntype(s) [5 ♀ originally cited] in MCZ [# 23847].

*Notiophilus evanescens* Casey, 1913: 47. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46836]. Synonymy established by Casey (1914: 356), confirmed by Lindroth (1954b: 121).

**Distribution.** This species is found in the western mountain ranges from western Alberta and British Columbia (Lindroth 1961a: 97) south at least to central Oregon (Crook County, CNC) and southwestern Colorado (Elias 1987: 632). The record from Houston, Texas (Fall 1906: 87) needs confirmation; that from Alaska (Fall 1926a: 129) refers to *N. intermedius* (Lindroth 1961a: 97).

**Records.** CAN: AB, BC USA: CO, ID, MT, OR, UT, WA, WY [TX]

### *Notiophilus sylvaticus* Dejean, 1831

*Notiophilus sylvaticus* Dejean, 1831: 589. Type locality: «détroit de Norfolk [= Sitka Sound, Baranof Island, Alaska], sur la côte nord-ouest de l'Amérique septentrion-

nale» (original citation). Holotype [by monotypy] probably in MHNP. NOTE. Eschscholtz (1833: 24) first described this species and the name has been attributed to him since. However, Dejean (1831: 589) published the name earlier as a junior synonym of *N. biguttatus* and the name therefore is available from its first publication as a synonym (ICZN 1999: Article 11.6.1). The date of 1829 attributed by Lindroth (1961a: 99) to this name, under the authorship of Eschscholtz, is in error.

**Distribution.** This species ranges from southern Alaska (Lindroth 1961a: 100) to northern California, at least as far south as Mendocino County (Fall 1906: 89), east to northern Idaho (Hatch 1953: 61). Fossil remnants, dated from the Late Pleistocene, have been unearthed in northeastern Siberia (Kiselev 1981: 12).

**Records.** CAN: BC (QCI, VCI) USA: AK, CA, ID, OR, WA

### Subfamily CARABINAE Latreille, 1802

Carabici Latreille, 1802: 80. Type genus: *Carabus* Linnaeus, 1758.

**Diversity.** Worldwide, with about 1,300 species (Lorenz 2005: [i]) arrayed in four tribes: Carabini (about 1,080 species), Ceroglossini (eight South American species), Cychnini (about 200 species), and Pamborini (13 species).

### Tribe CYCHRINI Perty, 1830

Cychridae Perty, 1830: 6. Type genus: *Cychrus* Fabricius, 1794.

**Diversity.** Northern Hemisphere and mountains in Mexico, with about 200 species arrayed by most authors in four genera: *Cychropsis* Boileau (about 25 Asian species), *Cychrus* (about 115 species), *Scaphinotus* (55 species), and *Sphaeroderus* (six species).

### Genus SPHAERODERUS Dejean, 1826

*Sphaeroderus* Dejean, 1826: 14. Type species: *Sphaeroderus lecontei* Dejean, 1826 designated by Hope (1838: 65). Etymology (original). From the Greek *sphaera* (sphere) and *dere* (neck, by extension pronotum), alluding to the round or oval shape of the pronota (“*corselet ... arrondi, ovale ou orbiculé*”) of the species then known to Dejean [masculine].

**Diversity.** Six species restricted to the boreal and temperate regions of eastern North America.

**Identification.** Lindroth's (1961a) key covers four of the species currently recognized; *S. indianae* was not included and *S. schaumii* was considered a junior synonym of *S. nitidicollis*. A taxonomic revision of the genus is needed.

### *Sphaeroderus bicarinatus* (LeConte, 1853)

*Cychrus bicarinatus* LeConte, 1853c: 399. Type locality: «Habersham Co[unty], Georgia» (original citation). Holotype [by monotypy] (♂) in MCZ [# 616].

*Sphaeroderus multicarinatus* Darlington, 1932: 151. Type locality: «Newfound Gap (near 5,200 feet), Smoky Mountains, on the North Carolina-Tennessee state line» (original citation). Holotype (♂) in MCZ [# 16432]. Synonymy established by Bousquet and Laroche (1993: 78) based on Barr (1974a) unpublished manuscript.

**Distribution.** This species is found along the southern parts of the Appalachians from North Carolina and Tennessee (Darlington 1932: 152) to northern Alabama (Löding 1945: 11) and northeastern Georgia (LeConte 1853c: 399; Leng 1910: 73).

**Records. USA:** AL, GA, NC, SC, TN

**Note.** Roeschke (1907a: 263) and Lindroth (1961a: 29) regarded this form as a subspecies of *S. stenostomus* (Weber).

### *Sphaeroderus canadensis canadensis* Chaudoir, 1861

*Sphaeroderus canadensis* Chaudoir, 1861b: 498. Type locality: «environs de la rivière Ottawa, Canada» (original citation). Syntype(s) in MHNP.

*Sphaeroderus palpalis* Motschulsky, 1866: 312. Type locality: «Hudson-Bay» (original citation), which is incorrect. Lectotype [as holotype] (♂), designated by Kryzhanovskij (1968: 186), in ZMMU. Synonymy established by Roeschke (1907a: 262), confirmed by Kryzhanovskij (1968: 186).

*Sphaeroderus canadensis blanchardi* Leng, 1916: 41. Type locality: «Randolph [Coos County], N[ew] H[ampshire]» (original citation). Holotype (♂) in CAS [# 4375]. Synonymy established by Darlington (1933a: 62).

**Distribution.** The range of this subspecies extends from Cape Breton Island to southern Ontario (Lindroth 1961a: 28), south to the Black Mountains in North Carolina (Darlington 1933a: 64). The record from “South Carolina” (Bousquet and Laroche 1993: 78) refers to *S. canadensis lengi*; that from “Michigan” (Bousquet and Laroche 1993: 78) needs confirmation.

**Records. CAN:** NB, NS (CBI), ON, QC **USA:** CT, KY, MA, MD, ME, NC, NH, NY, OH, PA, TN, VA, VT, WV [MI]

### *Sphaeroderus canadensis lengi* Darlington, 1933

*Sphaeroderus canadensis lengi* Darlington, 1933a: 63. Type locality: «between Newfound Gap and Clingman’s Dome (5,000-6,600 ft.), on the North Carolina-Tennessee state line» (original citation). Holotype (♂) in MCZ [# 17238].

**Distribution.** This subspecies occurs in the mountains south of the French Broad River (Barr 1969: 76) from southwestern North Carolina and adjacent parts of Tennessee (Darlington 1933a: 64) to northeastern Georgia (Fattig 1949: 9) and northwestern South Carolina (Ciegler 2000: 30).

**Records. USA:** GA, NC, SC, TN

***Sphaeroderus indianae* (Blatchley, 1910)**

*Cychrus stenostomus indianae* Blatchley, 1910: 42. Type locality: «Crawford County [Indiana]» (original citation for the lectotype). Lectotype (♀), designated by Blatchley (1930: 33), in PURC.

**Distribution.** This species ranges from northwestern Ohio (Barr 1974a) to central Indiana (Blatchley 1910: 42), south to north-central Mississippi (Grenada County, Drew A. Hildebrandt pers. comm. 2009) and southwestern Virginia (Barr 1974a).

**Records. USA:** IN, KY, MS, OH, TN, VA, WV

***Sphaeroderus nitidicollis* Guérin-Ménéville, 1829**

*Sphaeroderus nitidicollis* Guérin-Ménéville, 1829: plate 7. Type locality: «Terre-Neuve» (Guérin-Ménéville 1844a: 24). Holotype [by monotypy] in UMO (Lindroth 1969a: 1108). NOTE. This name has been credited to Chevrolat by almost all authors. The validation of the specific name is by association with an illustration drawn by Guérin-Ménéville and published in Guérin-Ménéville's *Iconographie du Règne Animal* under the name "*Sphaeroderus nitidicollis* Chevr." The nomenclature act was done by Guérin-Ménéville and he is to be credited with the species name.

*Sphaeroderus brevoorti* LeConte, 1847: 443. Type locality: «Maine» (original citation). Syntype(s) in MCZ [# 617]. Synonymy established by Roeschke (1907a: 266).

*Sphaeroderus granulatus* Chaudoir, 1861b: 497. Type locality: «Terre Rupert, près de la baie d'Hudson» (original citation). Syntype(s) [2 ♂ originally cited] in MHNP. Synonymy established by LeConte (1866: 78).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 23) to east-central Saskatchewan (Hooper 1978: 19), south to northeastern Minnesota (Gandhi et al. 2005: 923), northern Wisconsin along Lake Superior (Wickham 1896c: 131), the Adirondack Mountains in northeastern New York (Notman 1928: 208), and New England [see Lindroth 1963a: Fig. 68]. The record from southwestern Ohio (Dury 1906: 257) is probably in error. Roeschke (1907a: 268) statement that this species is found "Küstengebiet von Maine bis Washington D.C." is in error. Fossil remnants, dated between 22,200 and 25,200 years B.P., have been unearthed in central Illinois (Schwert 1992: 76).

**Records. CAN:** MB, NB, NF, NS (CBI), ON, QC, SK **USA:** ME, MN, NH, NY, VT, WI

**Note.** Lindroth (1961a: 29) retained *brevoorti* as "a weak subspecies, at most." I studied several specimens from Newfoundland, the Maritimes, and Quebec, including Anticosti Island, and found no structural differences between populations of the forms *nitidicollis* and *brevoorti* except for the fact that adults of the *nitidicollis* form are on average slightly larger than those of the *brevoorti* form.



***Sphaeroderus schaumii* Chaudoir, 1861**

*Sphaeroderus schaumii* Chaudoir, 1861b: 500. Type locality: «Ohio» (original citation), herein restricted to South Bass Island in western Lake Erie (see Will et al. 1995: 68). Holotype [by monotypy] (♂) in MHNP.

**Distribution.** This species is known from a small area from Michigan to northern Virginia (Barr 1974a) and western Maryland (Bailey et al. 1994: 320). The record from “Illinois” (Bousquet and Larochelle 1993: 78) is probably in error.

**Records. USA:** DC, MD, MI, OH, VA, WV

**Note.** Roeschke (1907a: 266), Lindroth (1961a: 29), Lorenz (2005: 64), and Erwin (2007a: 170) listed this taxon as a subspecies of *Sphaeroderus nitidicollis* Guérin-Méneville. Thomas C. Barr, Jr. (pers. comm. 1977) believes it represents a distinct species, though closely related to *S. nitidicollis*.

***Sphaeroderus stenostomus lecontei* Dejean, 1826**

*Cychnus stenostomus* Say, 1823a: 72 [primary homonym of *Cychnus stenostomus* Weber, 1801]. Type locality: North America (inferred from title of the work). Syntype(s) lost. NOTE. Say (1823a: 72) described this taxon as a new species as indicated by the presence of an asterisk preceding the specific epithet. Say did not originally indicate the area where his specimen(s) came from but later (Say 1828: [101]) noted that the species “is not uncommon in Pennsylvania” and that he received a specimen “taken in Massachusetts.”

*Sphaeroderus lecontei* Dejean, 1826: 15. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], New Hampsh[ire]» by Lindroth (1961a: 29). One possible syntype in MHNP (Lindroth 1955b: 12). Synonymy established by Roeschke (1907a: 263).

*Sphaeroderus niagarensis* Laporte, 1833: 390. Type locality: «île que forme la chute du Niagara» (original citation). Syntype(s) location unknown. Synonymy established by Chaudoir (1861b: 496).

*Sphaeroderus lecontei diffractus* Casey, 1914: 25. Type locality: «New Brunswick» (original citation). One syntype in USNM [# 46002]. Synonymy established by Lapouge (1933: 706), confirmed by Lindroth (1961a: 29).

**Distribution.** This subspecies is found from Newfoundland (Lindroth 1955a: 21) to southeastern Manitoba (Lindroth 1961a: 29), south to east-central Iowa (Wickham 1888: 81, as *Cychnus stenostomus*; Lindroth 1961a: 29), northeastern Mississippi (Tishomingo County, CNC), northern Alabama (Löding 1945: 11; Madison County, CNC), northern Georgia (Fattig 1949: 9), and southern South Carolina (Ciegler 2000: 30). The records from east-central Missouri (Summers 1873: 133) and southeastern Louisiana (Summers 1874a: 79) need confirmation; that from “Saskatchewan” (Bousquet and Larochelle 1993: 78) is in error.

**Records.** **CAN:** MB, NB, NF, NS (CBI), ON, PE, QC **USA:** AL, CT, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, MS, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV [LA, MO]

***Sphaeroderus stenostomus stenostomus* (Weber, 1801)**

*Cychrus stenostomus* Weber, 1801: 43. Type locality: «America» (original citation), herein restricted to Chestertown, Kent County, Maryland (CMNH). Syntype(s) location unknown. NOTE. This species was described the same year under the same name by Knoch (1801: 190). I have not found a date of publication other than the year for Knoch's book. According to Evenhuis (1997b: 809), Weber's book was published before March 1801. Weber is in "prevailing usage" as the author of this taxon.

*Sphaeroderus stenostomus aequalis* Casey, 1920: 172. Type locality: «Pennsylvania» (original citation). One syntype in USNM [# 46003]. Synonymy established by Erwin (2007a: 171).

**Distribution.** This mainly coastal subspecies ranges from southeastern New York (Barr 1974a) and southeastern Pennsylvania (York County, CMNH) south to Wake County in east-central North Carolina (Brimley 1938: 115). The record from northern Georgia (Fattig 1949: 9) probably refers to *S. stenostomus lecontei*.

**Records.** **USA:** DC, DE, MD, NC, NJ, NY, PA, VA, WV

**Genus *CYCHRUS* Fabricius, 1794**

*Cychrus* Fabricius, 1794a: 440. Type species: *Carabus rostratus* Linnaeus *sensu* Fabricius, 1775 (= *Tenebrio caraboides* Linnaeus, 1758) designated by Latreille (1810: 426). Etymology. Uncertain, possibly from *Cyehreus*, son of Poseidon and Salamis, or from *Cyehros*, a city in Thrace near a lake whose water was unhealthy [masculine]. Duméril (1823: 167) stated that *Cyehros* was the name of a bird (probably in Pliny the Elder) but I have not been able to confirm this. NOTE. Fabricius (1794b: 70) used the spelling *Cyehrys* for this genus in another publication issued the same year. Dates of publication of both works are unknown besides the year. Bousquet (2002b: 16) acted as First Reviser and opted for *Cychrus* as the valid name.

**Diversity.** Northern Hemisphere, with about 115 species (Lorenz 2005: 64-66) in the Nearctic (two western species) and Palaearctic Regions.

**Identification.** Gidaspow (1973) revised the North American species. Lindroth (1961a: 25-26) covered the species in his monograph of the Canadian and Alaskan Carabidae.

***Cychrus hemphillii hemphillii* Horn, 1879**

*Cychrus hemphillii* G.H. Horn, 1879: 184. Type locality: «near Ogden [Weber County], Wahsatch M[oun]t[ain]s, Utah» (original citation). Syntype(s) in MCZ [#

35315]. Etymology. This species was named after Henry Hemphill [1830-1914], mason, bricklayer, and amateur malacologist in San Diego, California. Hemphill collected extensively in western United States.

**Distribution.** This subspecies is known from southwestern Idaho, western Wyoming, and northern Utah [see Gidaspow 1973: Fig. 7].

**Records. USA:** ID, UT, WY

### *Cychrus hemphillii rickseckeri* LeConte, 1884

*Cychrus rickseckeri* LeConte, 1884: 2. Type locality: «Montana» (original citation). Holotype [by monotypy] in MCZ [# 606].

**Distribution.** This subspecies is found from southeastern British Columbia south to northeastern Oregon (LaBonte 1988: 264), northern Idaho, and the Bitter Root Mountains in western Montana (Roeschke 1907a: 227) [see Gidaspow 1973: Fig. 7]. One specimen labeled from Logan Canyon in northern Utah is also known (Gidaspow 1973: 98).

**Records. CAN:** BC **USA:** ID, MT, OR, WA [UT]

**Note.** Lindroth (1961a: 26) treated this form as a valid species but both Roeschke (1907a: 227) and Gidaspow (1973: 96) regarded it as a subspecies of *Cychrus hemphillii* Horn.

### *Cychrus tuberculatus* Harris, 1839

*Cychrus tuberculatus* T.W. Harris, 1839: 200. Type locality: «Oregon» (original citation, see page 199), restricted to «Portland [Multnomah County]» by Lindroth (1961a: 25). Syntype(s) apparently lost (Lindroth 1969a: 1108).

*Cychrus pustulosus* Casey, 1905: 160. Type locality: «Washington State» (original citation). Holotype [by monotypy] (♀) in USNM [# 46001]. Synonymy established by Roeschke (1907a: 228), confirmed by Lindroth (1961a: 25).

**Distribution.** This species ranges from British Columbia, including the Queen Charlotte Islands and Vancouver Island, south at least to southern Oregon [see Gidaspow 1973: Fig. 7], possibly even Mendocino County in northern California (Roeschke 1907a: 229). The record from “Alaska” (Roeschke 1907a: 229) is likely in error.

**Records. CAN:** BC (QCI, VCI) **USA:** OR, WA [CA]

### Genus *SCAPHINOTUS* Dejean, 1826

*Scaphinotus* Dejean, 1826: 17. Type species: *Carabus elevatus* Fabricius, 1787 by monotypy. Etymology. From the Greek *scaphos* (barque, nacelle, skiff) and *notos* (back, upper surface), presumably alluding to the shape of the pronotum of the sole species known to Dejean which has the sides of the pronotum markedly turned out (“*bords latéraux du corselet très-déprimés, relevés*”) giving the impression of a small boat [masculine].

*Scaphonotus* Agassiz, 1846: 332. Unjustified emendation of *Scaphinotus* Dejean, 1826.

**Diversity.** Fifty-five species in the boreal and temperate regions of North America and the Sierra Madre Occidental in Mexico.

**Identification.** Roeschke (1907a) reviewed the species known at the time.

### **Subgenus *Scaphinotus* Dejean, 1826**

*Scaphinotus* Dejean, 1826: 17. Type species: *Carabus elevatus* Fabricius, 1787 by monotypy.

**Diversity.** Nine species in North America (seven species) and the Sierra Madre Occidental of Mexico (two species).

**Identification.** Van Dyke (1938) reviewed the species and provided a key for their identification. One new species was described subsequently by Allen and Carlton in 1988.

#### **[*elevatus* group]**

### ***Scaphinotus elevatus coloradensis* Van Dyke, 1907**

*Scaphinotus elevatus coloradensis* Van Dyke [in Roeschke], 1907a: 141. Type locality: Colorado (inferred from name of the species), «eastern Colorado» reported by Van Dyke (1938: 123). Holotype (♂) in AMNH [# 402] (Van Dyke 1938: 123).

**Distribution.** The range of this subspecies extends from southern Manitoba south to “Iowa” (Lindroth 1961a: 18; Esau and Peters 1975: 510), northwestern Nebraska, and north-central New Mexico (Van Dyke 1938: 123-124). The record from Wisconsin (Rauterberg 1885: 12, as *Cychrus elevatus*) needs confirmation.

**Records.** CAN: MB USA: CO, IA, MN, ND, NE, NM, SD [WI]

### ***Scaphinotus elevatus elevatus* (Fabricius, 1787)**

*Carabus elevatus* Fabricius, 1787: 198. Type locality: «America meridionali» (original citation), which is incorrect; «Asheville [Buncombe County], North Carolina» selected by Lindroth (1961a: 17). Lectotype [as co-type], designated by Staig (1931: 14), in HMUG.

**Distribution.** This subspecies ranges from southern New Hampshire (Merrimack and Strafford Counties, Donald S. Chandler pers. comm. 2008) south to the Florida Panhandle (Peck and Thomas 1998: 16), west to eastern Texas (Lamar and Fort Bend Counties, Brian Raber pers. comm. 2010; Riley 2011). The records from Maine (Bousquet and Laroche 1993: 79) and Lawrence in Kansas (Van Dyke 1938: 120) need confirmation.

**Records.** USA: AL, CT, DC, DE, FL, LA, MA, MD, MS, NC, NH, NJ, NY, PA, RI, SC, TX [KS, ME]

### ***Scaphinotus elevatus flammeus* Haldeman, 1844**

*Scaphinotus flammeus* Haldeman, 1844: 54. Type locality: «Marietta [Washington County], Ohio» (original citation). Holotype [by monotypy] presumably lost.



*Cychnus dilatatus* LeConte, 1853c: 398. Type locality: «S[ain]t Louis [Missouri]» (original citation for *C. flammeus* (Haldeman) *sensu* LeConte, 1847). Syntype(s) in MCZ [# 615]. Synonymy established by Roeschke (1907a: 140). NOTE. This name was proposed for *Scaphinotus flammeus* Haldeman, 1844 *sensu* LeConte (1847: 440).

**Distribution.** This subspecies ranges from Nebraska to Ohio, south to Tennessee, Arkansas (Van Dyke 1938: 121), and southwestern Oklahoma (Kondratieff et al. 2005: 173). The record from “Louisiana” (Roeschke 1907a: 142) needs confirmation.

**Records. USA:** AR, IA, IL, IN, KS, MO, NE, OH, OK, TN [LA]

**Note.** Van Dyke (1938: 121) noted that “the subspecies grades gradually into typical *elevatus* along its eastern boundary and into *coloradensis* along its western boundary.”

### *Scaphinotus elevatus lengi* Van Dyke, 1938

*Scaphinotus elevatus lengi* Van Dyke, 1938: 122. Type locality: «Dismal Swamp of Virginia» (original citation). Holotype (♂) in CAS [# 4681].

**Distribution.** This subspecies is known so far only from the holotype collected in southeastern Virginia.

**Records. USA:** VA

### *Scaphinotus elevatus neomexicanus* Van Dyke, 1924

*Scaphinotus elevatus neomexicanus* Van Dyke, 1924b: 1. Type locality: «Cloudcroft (8000 feet) [Otero County], Sacramento Mountains, New Mexico» (original citation). Holotype (♀) in CAS [# 3016].

**Distribution.** This subspecies is known so far only from the holotype and several specimens collected at the type locality (Eric van den Berghe and Robert L. Davidson pers. comm.) in southern New Mexico.

**Records. USA:** NM

### *Scaphinotus elevatus tenebricosus* Roeschke, 1907

*Scaphinotus elevatus tenebricosus* Roeschke, 1907a: 141. Type locality: «Eigentliche Küstenzone von New-Yersey bis Süd-Carolina» (original citation). Three syntypes [4 originally cited] in ZMUA (Boer 2002: 113, 114).

**Distribution.** According to Roeschke (1907a: 141), this subspecies is found along the coast from New Jersey to South Carolina. Van Dyke (1938: 122) saw specimens from Virginia and North Carolina and noted that “it is apparently confined to the more maritime or coastal portion of the South Atlantic states, replacing almost entirely the [nomino]typical phase in its area of distribution.”

**Records. USA:** NJ, NC, SC, VA

***Scaphinotus kelloggi* (Dury, 1912)**

*Cychrus kelloggi* Dury, 1912: 104. Type locality: «Box Canyon [Grant County], on the Upper Gila, New Mexico» (original citation). Holotype (♂) in CMC (Vulinec and Davis 1984: 233). Etymology. The specific name was proposed for Ralph Todd Kellogg [1876-1940], an excellent collector of natural history objects, particularly birds and insects.

**Distribution.** This species is known only from mountains in southwestern New Mexico in Grant County and other places in the neighborhood of Silver City (Van Dyke 1938: 104).

**Records. USA:** NM

***Scaphinotus petersi biedermanni* Roeschke, 1907**

*Scaphinotus biedermanni* Roeschke, 1907b: 571. Type locality: «Cochise Co[unty], Süd-Arizona» (original citation). Two syntypes [2 originally cited] in ZMUA (Boer 2002: 33).

**Distribution.** This subspecies is confined to the Rincon and Huachuca Mountains of southern Arizona (Ball 1966c: 711-712).

**Records. USA:** AZ

***Scaphinotus petersi catalinae* Van Dyke, 1924**

*Scaphinotus catalinae* Van Dyke, 1924b: 2. Type locality: «near the top of M[oun]t Lemon [Pima County], Catalina Mountains, Arizona» (original citation). Holotype (♂) in CAS [# 3334].

**Distribution.** This subspecies is known from the Santa Catalina Mountains in Pima County (Ball 1966c: 711) and Aravaipa Canyon in Pinal County (McCleve 1979: 452), southern Arizona.

**Records. USA:** AZ

***Scaphinotus petersi corvus* (Fall, 1910)**

*Cychrus corvus* Fall, 1910: 89. Type locality: «Chiricahua Mountains [Cochise County], Arizona» (original citation). Holotype [by monotypy] (♂) in MCZ [# 23841].

**Distribution.** This subspecies is confined to the Chiricahua Mountains in Cochise County, southeastern Arizona (Ball 1966c: 714).

**Records. USA:** AZ

***Scaphinotus petersi grahami* Van Dyke, 1938**

*Scaphinotus grahami* Van Dyke, 1938: 107. Type locality: «Graham M[oun]t[ain] [Graham County], Arizona» (original citation). Holotype (♂) in CAS [# 4680].

**Distribution.** This subspecies is found in the Pinaleno and White Mountains of south-eastern Arizona (Ball 1966c: 713-714).

**Records. USA:** AZ

***Scaphinotus petersi kathleenae* Ball, 1966**

*Scaphinotus petersi kathleenae* Ball, 1966c: 714. Type locality: «east slope M[oun]t Wrightson, to west of trail between Baldy and Florida Spring, about one mile north of Baldy Spring (8400-8600'), Santa Rita Mountains, Santa Cruz County, Arizona» (original citation). Holotype (♂) in MCZ [# 31183].

**Distribution.** This subspecies is known only from Mount Wrightson in the Santa Rita Mountains, southern Arizona (Ball 1966c: 715).

**Records. USA:** AZ

***Scaphinotus petersi petersi* Roeschke, 1907**

*Scaphinotus petersi* Roeschke, 1907a: 137. Type locality: «Pinal M[oun]t[ain]s [Gila County], circa 8 englische Meilen von Tucson, Arizona» (original citation). Holotype (♂) in ZMUA (Boer 2002: 90).

**Distribution.** This subspecies is confined to the Pinal and Sierra Ancha Mountains in Gila County, eastern Arizona (Ball 1966c: 709).

**Records. USA:** AZ

***Scaphinotus snowi roeschkei* Van Dyke, 1907**

*Scaphinotus roeschkei* Van Dyke [in Roeschke], 1907a: 135. Type locality: «Humphrey's Peak [Coconino County], Arizonas in 9500' Höhe» (original citation). Holotype (♂) in ZMUA (Boer 2002: 100). Etymology. The specific name was proposed for Hans Friedrich Roeschke [1867-1934], a German physician by profession and carabidologist by avocation. Roeschke left his carabid collection (mostly members of the subfamily Carabinae) to the German neurologist, brain researcher, and entomologist Oskar Vogt [1870-1959]. Vogt's collection was acquired by the Zoölogisch Museum of Amsterdam.

**Distribution.** This subspecies is restricted to high mountains in Coconino County, northern Arizona (Van Dyke 1938: 103).

**Records. USA:** AZ

**Note.** Van Dyke (1938: 102) treated this form as a species but Ball (1966c: 693) retained it as a subspecies of *S. snowi*.

***Scaphinotus snowi snowi* (LeConte, 1881)**

*Cychrus snowi* LeConte [in LeConte and Horn], 1881: 74. Type locality: «Santa Fe cañon (7,000 feet), New Mexico» (original citation). Holotype [by monotypy] (♂)

in MCZ [# 613]. Etymology. The species name was proposed for Francis Huntington Snow [1840-1908], a teacher, minister, field naturalist, mineralogist, and eventually chancellor of the University of Kansas. In one expedition to Wallace County in Kansas, Snow collected several hundred specimens of *Amblycheila cylindriformis*, which at the time was extremely rare in collections, and sold many of them for as much as \$25.00 each.

*Scaphinotus snowi* var. *parkeri* Van Dyke, 1938: 101. Type locality: «White M[oun]t[ain]s [Navajo County], Arizona» (original citation). Holotype (♂) in CAS [# 4679]. Synonymy established by Erwin et al. (1977: 4.6). Etymology. The subspecific name was proposed for Frank Henry Parker [1910-1984], an enthusiastic beetle collector, particularly of meloids and buprestids, in Arizona. NOTE. This taxon was listed as a junior synonym of the nominotypical subspecies of *S. snowi* by Erwin et al. (1977: 4.6) and as a valid subspecies by Erwin (2007a: 162). Two of the three original specimens of this taxon were taken “in company with numerous more typical specimens” (Van Dyke 1938: 101) suggesting that they are probably simply aberrant specimens.

**Distribution.** This subspecies is found in western New Mexico, eastern Arizona, southwestern Colorado, and southeastern Utah (Van Dyke 1938: 100).

**Records. USA:** AZ, CO, NM, UT

### *Scaphinotus vandykei* Roeschke, 1907

*Scaphinotus van dykei* Roeschke, 1907a: 136. Type locality: «S[an]t[a] Maria River und Oak Creek Cañon, Arizona» (original citation). Two syntypes [2 originally cited] in ZMUA (Boer 2002: 118).

*Scaphinotus fuchsi* Roeschke, 1907b: 570. Type locality: «Cash Mine, M[oun]t Union [Yavapai County], Arizona» (original citation). Syntype(s) [2 originally cited] location unknown (possibly in ZMUA in collection Vogt though not listed by Boer 2002). Synonymy established by Erwin et al. (1977: 4.6).

**Distribution.** This species is confined to southern Coconino, Yavapai, and Gila Counties in Arizona (Van Dyke 1938: 106).

**Records. USA:** AZ

**Note.** Van Dyke (1938: 106) retained *S. fuchsi* Roeschke as a valid subspecies of *S. vandykei* Roeschke.

### [unicolor group]

### *Scaphinotus parisiana* Allen and Carlton, 1988

*Scaphinotus parisiana* Allen and Carlton, 1988: 130. Type locality: «northwest slope of Magazine Mountain, 13 mi[les] southwest of Paris, Logan Co[unty], Arkansas» (original citation). Holotype (♂) in UAIC.

**Distribution.** This species is known only from the type locality in western Arkansas.

**Records. USA:** AR



***Scaphinotus unicolor* (Fabricius, 1787)**

*Carabus unicolor* Fabricius, 1787: 198 [primary homonym of *Carabus unicolor* Herbst, 1784]. Type locality: «America meridionali» (original citation), which is incorrect; Calvert, Mobile County, Alabama herein selected (see Löding 1945: 10). Lectotype [as type], designated by Staig (1931: 16), in HMUG. NOTE. Fabricius' name should be permanently invalid because it is a primary homonym. However, to my knowledge *Carabus unicolor* Herbst has never been interpreted since its original description and the name is a *nomen dubium*.

*Scaphinotus heros* T.W. Harris, 1839: 196. Type locality: «Ohio and Indiana» (original citation). Syntype(s) lost (Van Dyke 1938: 128). Synonymy established by Erwin (2007a: 164).

*Scaphinotus grandis* Gistel, 1857: 52 [*nomen dubium*]. Type locality not stated. Syntype(s) lost. Synonymy established with doubt by Bousquet and Laroche (1993: 17).

*Scaphonotus hunteri* Crotch, 1871: 5. Replacement name for *Scaphinotus unicolor* (Fabricius, 1787).

*Scaphinotus shoemakeri* Leng, 1914: 143. Type locality: «Washington, D.C. and its vicinity in Virginia and Maryland» (original citation). Holotype in CAS [# 4374]. Synonymy established by Erwin (2007a: 164).

*Scaphinotus elevatus* var. *floridanus* Leng, 1915: 564. Type locality: Florida (inferred from title of the paper). Holotype [by monotypy] in CAS [# 4372]. Synonymy established by Erwin (2007a: 164).

**Distribution.** This species ranges from New Jersey (Smith 1910: 199) and Maryland (Van Dyke 1938: 128) to southwestern Illinois (Jackson County, Robert L. Davidson pers. comm. 2012), south to east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009), northeastern Mississippi (Snodgrass and Cross 1983: 15), and the Florida Panhandle (Peck and Thomas 1998: 16).

**Records. USA:** AL, AR, DC, FL, GA, IL, IN, KY, LA, MD, MO, MS, NC, NJ, OH, SC, TN, VA

**Subgenus *Irichroa* Newman, 1838**

*Irichroa* Newman, 1838a: 385. Type species: *Cychnus viduus* Dejean, 1826 by monotypy. Etymology. From the Latin *iris* (rainbow) and the Greek *chroa* (surface of the body), probably alluding to the lustre present on the dorsal surface of adults of the sole species in the hands of Newman [feminine].

*Anabolus* Gistel, 1857: 90. Type species: *Cychnus viduus* Dejean, 1826 by original designation.

*Megaliridia* Casey, 1920: 175. Type species: *Cychnus viduus* Dejean, 1826 designated by Bousquet and Laroche (1993: 79). Etymology. From the Greek *mega* (large) and *iridos* (rainbow) [feminine].

**Diversity.** Three eastern North American species.

**Identification.** There is no published key for the identification of these species.

***Scaphinotus irregularis* (Beutenmüller, 1903)**

*Cychrus viduus* var. *irregularis* Beutenmüller, 1903: 513. Type locality: «summit of Black Mountains, North Carolina» (original citation). Three syntypes [7 originally cited] in AMNH [# 3] (Grossbeck 1912: 360).

**Distribution.** This species ranges along the Appalachian Mountains from southwestern Virginia (Hoffman et al. 2006: 18) to northern Georgia (Towns County, CMNH).

**Records. USA:** GA, NC, TN, VA

**Note.** This taxon has been treated as an aberration of *S. viduus* (Dejean) by Roeschke (1907a: 144) but according to Barr (1969: 73) and Hoffman et al. (2006: 18) it represents a distinct species.

***Scaphinotus viduus* (Dejean, 1826)**

*Cychrus viduus* Dejean, 1826: 12. Type locality: «Amérique septentrionale» (original citation), restricted to «Susquahanna [= Susquehanna] R[iver], Penns[ylvania]» by Lindroth (1961a: 18). One syntype in MHNP (Lindroth 1955b: 11).

*Cychrus leonardii* T.W. Harris, 1839: 193. Type locality «northern and western parts of Massachusetts and New Hampshire [page 193] and Vermont [page 194]» (original citation). One syntype [5 originally cited] in MCZ [# 26410]. Synonymy established by Darlington (1932: 146). Etymology. The specific name was proposed for Levi Washburn Leonard [1790?-1864], a Unitarian minister who settled in Dublin, New Hampshire. Leonard, a close friend and classmate of Thaddeus Harris, was an enthusiastic collector of insects and provided Harris with many specimens, including at one occasion 600 beetles, probably over 200 species, caught in the shadow of Mount Monadnock (Dow 1913: 109). Leonard is credited with opening the first library in the United States that was free to all the inhabitants of a town or city.

**Distribution.** This species ranges from Nova Scotia (CNC) to northern Indiana (Barr 1969: 74), south to northeastern Georgia (Fattig 1949: 8) along the Appalachian Mountains. The records from northern Florida (Harris 1839: 192) and “Louisiana” (Roeschke 1907a: 145) are probably in error.

**Records. CAN:** NB, NS, QC **USA:** CT, DC, DE, GA, IN, MA, ME, MD, NC, NH, NJ, NY, OH, PA, VA, VT, WV

***Scaphinotus webbi* Bell, 1959**

*Scaphinotus webbi* R.T. Bell, 1959: 11. Type locality: «ten miles southwest of Lynchburg, Campbell County, Virginia» (original citation). Holotype (♂) in USNM [# 73630].

**Distribution.** This species is known from a few localities in Virginia (Bell 1959: 11), northeastern West Virginia (Hampshire and Randolph Counties, CMNH), the Allegheny Plateau in southwestern Pennsylvania (Allegheny and Fayette Counties, Robert L. Davidson pers. comm. 2008), and the Big Black Mountain in southeastern Kentucky (Davis and Barbour 1978: 139).

**Records. USA:** KY, PA, VA, WV

**Note.** Hoffman et al. (2006: 18) reported that distinction between this taxon and *S. viduus* is controversial at best and that adults of the two may be conspecific.

### **Subgenus *Nomaretus* LeConte, 1853**

*Nomaretus* LeConte, 1853c: 399. Type species: *Cychnus bilobus* Say, 1823 designated by Géhin (1876b: 114). Etymology. Probably from the Greek *nomas* (roving) and *aretos* (pleasing) [masculine].

**Diversity.** Five eastern North American species.

**Identification.** Van Dyke (1936) reviewed the species. Gidaspow (1973: 78-89) revised the species and provided a key for their identification. One new species was subsequently described by Allen and Carlton in 1988.

#### ***Scaphinotus bilobus* (Say, 1823)**

*Cychnus bilobus* Say, 1823a: 73. Type locality: «Nipigon, W[estern] Ont[ario]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 330), in MCZ [# 33093]. **NOTE.** Say (1823a) did not indicate the area where his specimen(s) came from but later (Say 1828: [102]) noted that his “first specimen was obtained in Missouri, and I caught another in the North-Western Territory.”

**Distribution.** This species ranges from Cape Breton Island to southeastern Manitoba, south to eastern Kansas (Popenoe 1877: 22), southeastern Missouri, and Massachusetts [see Gidaspow 1973: Fig. 6]. The record from southeastern Pennsylvania (Rathvon 1869: 524) is likely in error.

**Records. CAN:** MB, NB, NS (CBI), ON, QC **USA:** IA, IL, KS, MA, ME, MI, MN, MO, NE, NH, NY, OH, VT, WI

#### ***Scaphinotus cavicollis* (LeConte, 1859)**

*Nomaretus cavicollis* LeConte, 1859c: 3. Type locality: «Fort Riley [junction of Republican and Smoky Hill Rivers, Kansas]» (original citation). Holotype [by monotypy] in MCZ [# 602].

**Distribution.** This species is known from eastern Kansas, western Missouri, western Arkansas (Allen and Thompson 1977: 32; Allen and Carlton 1988: 136), and central Oklahoma [see Gidaspow 1973: Fig. 6]. The records from “Iowa” and “Texas” (Leng and Beutenmüller 1894: 138) are likely in error; that from Buffalo, New York (Leng and Beutenmüller 1894: 138), is in error.

**Records. USA:** AR, KS, MO, OK

#### ***Scaphinotus fissicollis* (LeConte, 1853)**

*Nomaretus fissicollis* LeConte, 1853c: 399. Type locality: «Illinois» (original citation). Holotype [by monotypy] (♀) in MCZ [# 603].





**Figure 6.** *Pelophila borealis* (Paykull). This pelophiline is one of the 97 species-group taxa which are Holarctic and found naturally in both the Palaearctic and Nearctic Regions. Most of these species are confined to the arctic, subarctic or boreal regions but a few are found mainly in the temperate regions such as *Dyschirius politus*. Most biogeographers agree that these species have spread between the two continents through Beringia during the Quaternary period.



**Distribution.** This species ranges from southeastern Minnesota (Gandhi et al. 2005: 923) south to northern Arkansas (Allen and Thompson 1977: 32; Allen and Carlton 1988: 136), west to eastern Kansas [see Gidaspow 1973: Fig. 6]. The record from “Texas” (Schwarz 1895: 270) is probably in error.

**Records. USA:** AR, IA, IL, KS, MN, MO

### ***Scaphinotus infletus* Allen and Carlton, 1988**

*Scaphinotus infletus* Allen and Carlton, 1988: 132. Type locality: «Alum Cove Scenic Area, Newton Co[unty], Arkansas» (original citation). Holotype (♂) in UAIC.

**Distribution.** This species is known only from Newton County in northwestern Arkansas.

**Records. USA:** AR

### ***Scaphinotus liebecki* Van Dyke, 1936**

*Scaphinotus liebecki* Van Dyke, 1936: 40. Type locality: «Tex[as]» (original citation), herein restricted to New Braunfels, Comal County (see Gidaspow 1973: 82). Holotype (♂) in CAS [# 4110]. Etymology. The species name was proposed for Charles Liebeck [1863-1947], a paper scorer in Philadelphia by profession and a beetle collector in his spare time. Over the years Liebeck built up a fine collection of North American beetles, represented by more than 100,000 specimens, which he gave to Henry C. Fall with whom he had been in correspondence for more than 40 years.

**Distribution.** This species, as far as known, is restricted to Arkansas (Stone County, CNC), western Louisiana, and eastern Texas [see Gidaspow 1973: Fig. 6].

**Records. USA:** AR, LA, TX

### **Subgenus *Maronetus* Casey, 1914**

*Maronetus* Casey, 1914: 30. Type species: *Maronetus tenuis* Casey, 1914 by original designation. Etymology. Anagram of the generic name *Nomaretus* [*q.v.*] [masculine].

**Diversity.** This subgenus includes ten species-group taxa found along the Appalachians. Several undescribed taxa are known (Thomas C. Barr, Jr. pers. comm. 2009).

**Identification.** There is no recent systematic treatment of the species of *Maronetus* and such work is much needed. A key to the species of the *debilis* group has been published (Barr 2009).

#### **[*debilis* group]**

### ***Scaphinotus debilis alpinus* (Beutenmüller, 1903)**

*Nomaretus debilis* var. *alpinus* Beutenmüller, 1903: 512. Type locality: «in the valley and on the summit of the Black Mountains» (original citation). Three syntypes [5 originally cited] in AMNH [# 453] (Grossbeck 1912: 360).

**Distribution.** This subspecies has been recorded so far only from the Black Mountains in southwestern North Carolina. Roeschke (1907a: 160) reported that this form occurs above 5000 feet of altitude.

**Records. USA:** NC

***Scaphinotus debilis debilis* (LeConte, 1853)**

*Nomaretus debilis* LeConte, 1853c: 399. Type locality: «Habersham Co[unty], Georgia» (original citation). Holotype [by monotypy] in MCZ [# 604].

**Distribution.** This subspecies is known along the Appalachian Mountains from western North Carolina (Leng and Beutenmüller 1894: 138), northeastern Georgia (Fattig 1949: 9), and northwestern South Carolina (Ciegler 2000: 32). It is found from 1800 to 5000 feet (Roeschke 1907a: 160).

**Records. USA:** GA, NC, SC

***Scaphinotus hoffmani* (Barr, 2009), new combination**

*Maronetus hoffmani* Barr, 2009: 316. Type locality: «5 km N[orth]E[ast] Dungannon, Scott County, Virginia» (original citation). Holotype (♂) in CMNH.

**Distribution.** This species is known only from the holotype collected in southwestern Virginia.

**Records. USA:** VA

***Scaphinotus incompletus* (Schwarz, 1895)**

*Nomaretus incompletus* Schwarz, 1895: 271. Type locality: «Stone Creek, Cumberland M[oun]t[ain]s, Lee Co[unty], V[irgini]a» (original citation). Holotype [by monotypy] (♀) in USNM [# 4571].

**Distribution.** This species is known from the Cumberland Plateau in southeastern Kentucky and the Appalachian Valley in southwestern Virginia (Barr 1969: 76; Barr 2009: 314).

**Records. USA:** KY, VA

***Scaphinotus reichlei* (Barr, 2009), new combination**

*Maronetus reichlei* Barr, 2009: 315. Type locality: «“Cesium Forest” in the Oak Ridge National Laboratory ecology study area, Anderson County, Tennessee» (original citation). Holotype (♂) in CMNH.

**Distribution.** This species is known from two specimens collected in Cumberland and Anderson Counties, eastern Tennessee (Barr 2009: 315).

**Records. USA:** TN

**[hubbardi group]*****Scaphinotus hubbardi* (Schwarz, 1895)**

*Nomaretus hubbardi* Schwarz, 1895: 272. Type locality: «near Retreat (about 3000'), Haywood Co[unty], N[orth] C[arolina]» (original citation). One syntype in USNM [# 4572]. Etymology. The species name was proposed for Henry Guernsey Hubbard [1850-1899], a field and applied entomologist of great ability. Despite being afflicted with tuberculosis for a long time Hubbard made extensive collecting trips with his lifelong friend Eugene Schwarz.

**Distribution.** This species is known along the Appalachian Mountains in eastern Tennessee and western North Carolina (Barr 1969: 76).

**Records. USA:** NC, TN

***Scaphinotus schwarzi* (Beutenmüller, 1913)**

*Nomaretus schwarzi* Beutenmüller, 1913: 139. Type locality: «Mount Mitchell (6,710 feet) [Yancey County], North Carolina» (original citation). Holotype [by monotypy] (♀) location unknown.

**Distribution.** This species is known from southwestern Virginia (Hoffman et al. 2006: 18) and the Black Mountains in western North Carolina (Beutenmüller, 1913: 139).

**Records. USA:** NC, VA

**[imperfectus group]*****Scaphinotus imperfectus* (Horn, 1861)**

*Nomaretus imperfectus* G.H. Horn, 1861: 569. Type locality: «Hampshire County, Virginia» (original citation). Syntype(s) in MCZ [# 35317].

**Distribution.** This species ranges from southeastern Ohio and Pennsylvania (Barr 1969: 76) south to western North Carolina (Thomas C. Barr, Jr. pers. comm. 2009; Leng and Beutenmüller 1894: 138).

**Records. USA:** MD, NC, OH, PA, VA, WV

***Scaphinotus tenuis* (Casey, 1914)**

*Maronetus tenuis* Casey, 1914: 31. Type locality: «Black M[oun]t[ain]s, North Carolina» (original citation). One syntype in USNM [# 46049].

**Distribution.** This species is endemic, as far as known, to the Black Mountains (Barr 1969: 75) in southwestern North Carolina.

**Records. USA:** NC

**Note.** Barr (1969: 75) listed this taxon as a subspecies of *S. imperfectus*.

***Scaphinotus unistriatus* (Darlington, 1932)**

*Nomaretus unistriatus* Darlington, 1932: 149. Type locality: «Highlands [Macon County], N[orth] C[arolina]» (original citation). Holotype (♀) in MCZ [# 16431].

**Distribution.** This species is found in the Blue Ridge Mountains (Great Balsams and Highlands Plateau) and the Nantahala Mountains (Barr 1969: 75) in southwestern North Carolina and northeastern Georgia.

**Records. USA:** GA, NC

**Subgenus *Steniridia* Casey, 1924**

*Steniridia* Casey, 1924: 336. Type species: *Cychrus andrewsii* Harris, 1839 by monotypy. Etymology. From the Greek *stenos* (narrow) and *iridos* (rainbow) [feminine].

**Diversity.** Seven species restricted to the Appalachian region.

**Identification.** Valentine (1935) reviewed the species and provided a key for their identification.

***Scaphinotus aeneicollis* (Beutenmüller, 1903)**

*Cychrus aeneicollis* Beutenmüller, 1903: 515. Type locality: «summit of the Black Mountains» (original citation), restricted to «M[oun]t Mitchell, North Carolina» by Valentine (1935: 359). Syntype(s) [70 originally cited] in AMNH (Grossbeck 1912: 360), MCZ [# 1793], CUIC, and FMNH.

*Cychrus aeneicollis* form *purpuratus* Beutenmüller, 1918: 89. Type locality: «Black Mountains in western North Carolina» (original citation). Syntype(s) in AMNH [# 1068] and ANSP. Synonymy established by Lapouge (1933: 690).

**Distribution.** This species is endemic to the Black Mountains in western North Carolina (Barr 1969: 74). The record from the mountains of Tennessee (Roeschke 1907a: 147) needs confirmation.

**Records. USA:** NC [TN]

***Scaphinotus andrewsii amplicollis* (Casey, 1920)**

*Irichroa violacea amplicollis* Casey, 1920: 174. Type locality: «Black M[oun]t[ain]s, North Carolina» (original citation). Two syntypes in USNM [# 46008].

*Irichroa andrewsi reflexa* Casey, 1924: 22. Type locality: «Black M[oun]t[ain]s, North Carolina» (original citation). One syntype in USNM [# 46009]. Synonymy established by Valentine (1935: 352).

*Steniridia andrewsi montana* Valentine, 1935: 350. Type locality: «Beech Mountain, Avery Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 56128]. **New synonymy** (Robert L. Davidson pers. comm. 2008).



**Distribution.** This subspecies is found in the mountains of southwestern Virginia, western North Carolina (Valentine 1936: 227), and northeastern Tennessee (Carter County, CMNH).

**Records. USA:** NC, TN, VA

***Scaphinotus andrewsii andrewsii* (Harris, 1839)**

*Cychrus andrewsii* T.W. Harris, 1839: 195. Type locality: Chapel Hill, Orange County, North Carolina (neotype label). Neotype (♀), designated by Valentine (1935: 349), in USNM [# 56127]. Etymology. The specific name was proposed for the son of the American educator Ethan Allen Andrews [1787-1858] who taught ancient languages at the University of North Carolina and later taught at New Haven and Boston. NOTE. «North Carolina» was the area originally cited by Harris (1839: 195).

**Distribution.** This subspecies is known only from Orange and Guilford Counties in northern North Carolina (Valentine 1936: 226). The record from “Tennessee” (Roeschke 1907a: 147) needs confirmation.

**Records. USA:** NC [TN]

***Scaphinotus andrewsii darlingtoni* (Valentine, 1935)**

*Steniridia andrewsi darlingtoni* Valentine, 1935: 356. Type locality: «Newfound Gap, Sevier Co[unty], Tenn[essee]» (original citation). Holotype (♂) in MCZ [# 22987].

*Steniridia andrewsi nantahalae* Valentine, 1936: 228. Type locality: «Cashier’s (3500 ft.), Jackson Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 56130]. **New synonymy** (Robert L. Davidson pers. comm. 2008; see Barr 1970: 4).

*Steniridia andrewsi saludae* Valentine, 1936: 229. Type locality: «Melrose, Polk Co[unty], North Carolina» (original citation). Holotype (♀) in USNM [# 56132].

**New synonymy** (Robert L. Davidson pers. comm. 2008; see Barr 1970: 4).

*Steniridia andrewsi barksdalei* Valentine, 1936: 230. Type locality: «M[oun]t Guyot (about 3500 ft.), Swain and Haywood Co[untie]s, North Carolina» (original citation). Holotype (♂) in USNM [# 56131]. **New synonymy** (Robert L. Davidson pers. comm. 2008; see Barr 1970: 4).

**Distribution.** This subspecies ranges along the Appalachian Mountains from the Great Smokies in eastern Tennessee and western North Carolina eastwards to the Saluda Mountains (Barr 1970: 4) in northwestern South Carolina.

**Records. USA:** NC, SC, TN

***Scaphinotus andrewsii germari* (Chaudoir, 1861)**

*Cychrus germari* Chaudoir, 1861b: 495. Type locality: «Tennessee» (original citation). Holotype [by monotypy] (♀) in MHNP. Etymology. The specific name honors the

German entomologist, paleontologist, and mineralogist Ernst Friedrich Germar [1786-1853].

**Distribution.** This subspecies is found along the Appalachians in southern West Virginia (Fayette and Webster Counties, CMNH), eastern Kentucky, southwestern Virginia, and northeastern and southeastern Tennessee (Valentine 1936: 231; Davis and Barbour 1978: 139). The records from Pennsylvania (Roeschke 1907a: 148), southwestern Ohio (Wright and Whitehouse 1941: 70), and southern Indiana (Blatchley 1910: 43) probably refer to other subspecies of the species.

**Records. USA:** KY, TN, VA, WV

***Scaphinotus andrewsii mutabilis* (Casey, 1920)**

*Irichroa mutabilis* Casey, 1920: 173. Type locality: «Uniontown [Fayette County], Pennsylvania» (original citation). Five syntypes in USNM [# 46005].

*Irichroa mutabilis longicollis* Casey, 1920: 173. Type locality: «Pennsylvania» (original citation). Nine syntypes in USNM [# 46006]. Synonymy established by Valentine (1935: 354).

*Irichroa mutabilis modulata* Casey, 1920: 174. Type locality: «Pennsylvania» (original citation). One syntype in USNM [# 46007]. Synonymy established by Valentine (1935: 354).

**Distribution.** This subspecies ranges from southwestern Pennsylvania and southern Ohio to north-central Kentucky (Valentine 1936: 232) and northwestern Maryland (Glaser 1996: 4).

**Records. USA:** KY, MD, OH, PA, WV

***Scaphinotus andrewsii parvitorsalis* (Valentine, 1935)**

*Steniridia andrewsi parvitorsalis* Valentine, 1935: 354. Type locality: «Clayton, Rabun Co[unty], Georgia» (original citation). Holotype (♂) in USNM [# 56129].

**Distribution.** This subspecies is known in the Appalachians from the Nantahala Mountains, adjacent Blue Ridge, and the Unicoi Mountains in southwestern North Carolina, southeastern Tennessee, and northeastern Georgia (Valentine 1936: 227; Barr 1970: 4).

**Records. USA:** GA, NC, TN

***Scaphinotus andrewsii waldensius* (Valentine, 1935)**

*Steniridia andrewsi waldensia* Valentine, 1935: 357. Type locality: «Sawyer's Springs [Hamilton County], Tennessee» (original citation). Holotype (♂) in ANSP [# 8191].

**Distribution.** This subspecies is known only from southeastern Kentucky (Pulaski County, CMNH) and the Walden Ridge in southeastern Tennessee (Valentine 1935: 357).

**Records. USA:** KY, TN

***Scaphinotus guyotii* (LeConte, 1863)**

*Cychrus guyotii* LeConte, 1863b: 50. Type locality: «North Carolina, near M[oun]t Le Conte» (original citation). Holotype [by monotypy] (♀) in MCZ [# 612]. Etymology. The specific name was proposed for Arnold Henri Guyot [1807-1884], geologist involved mainly with hypsometric measurements of eastern mountains, meteorology, and the reform of geographic teaching in colleges and secondary schools. Born in Neuchatel in Switzerland, Guyot emigrated to the United States at the suggestion of his friend Louis Agassiz. In 1856, he founded what is now the Princeton Museum of Natural History. Three mountains are named after him in the White Mountains, the Great Smoky Mountains, and Colorado Rockies as well as a glacier in southeastern Alaska and a crater on the moon. NOTE. 1. Mount LeConte is located in Sevier County, Tennessee, so LeConte (1863b: 50) probably made an error in the name of the state. 2. This species was redescribed by LeConte (1867b: 363).

*Cychrus guyoti* form *angelli* Beutenmüller, 1918: 89. Type locality: «Black Mountains in western North Carolina» (original citation). Syntype(s) in AMNH [# 1069] and ANSP. Synonymy established by Darlington (1932: 149).

*Scaphinotus confusus* Darlington, 1932: 146. Type locality: «M[oun]t Mitchell (about 6,000'), Black Mountains, North Carolina» (original citation). Holotype (♂) in MCZ [# 16430]. Synonymy established, under the name *S. guyoti* var. *angelli* (Beutenmüller), by Valentine (1935: 363).

**Distribution.** This species is found along the Appalachians from south-central West Virginia (Fayette County, CMNH) and Virginia (Valentine 1935: 363) to northern Georgia (Rabun, Towns, and Union Counties, CMNH) and northwestern South Carolina (Ciegler 2000: 31).

**Records. USA:** GA, NC, SC, TN, VA, WV

***Scaphinotus lodingi lodingi* (Valentine, 1935)**

*Steniridia lodingi* Valentine, 1935: 364. Type locality: «Monte Sano, Madison Co[unty], Alabama» (original citation). Holotype (♂) in USNM [# 56134].

**Distribution.** This subspecies is found from central Tennessee (Barr 1969: 74) to west-central Alabama (Löding 1945: 11).

**Records. USA:** AL, TN

***Scaphinotus lodingi obscurus* (Valentine, 1935)**

*Steniridia lodingi obscura* Valentine, 1935: 366. Type locality: «Wadley, Randolph Co[unty], Alabama» (original citation). Holotype (♂) in USNM [# 56135].

**Distribution.** This subspecies is known only from eastern Alabama (Löding 1945: 11).

**Records. USA:** AL

***Scaphinotus ridingsii monongahelae* Leng, 1917**

*Scaphinotus ridingsii monongahelae* Leng, 1917: 36. Type locality: «Uniontown [Fayette County], P[ennsylvania]» (original citation). Holotype (♂) in CAS [# 4373].

*Irichroa tenuiceps* Casey, 1920: 172. Type locality: «Uniontown [Fayette County], Pennsylvania» (original citation). Four syntypes in USNM [# 46010]. Synonymy established by Lapouge (1933: 690).

**Distribution.** This subspecies is known from the Appalachian Plateau in southwestern Pennsylvania and the Allegheny Mountains in West Virginia (Barr 1969: 75), western Virginia (CMNH), and northwestern Maryland (Bailey et al. 1994: 320).

**Records. USA:** MD, PA, VA, WV

***Scaphinotus ridingsii ridingsii* (Bland, 1863)**

*Cychrus ridingsii* Bland, 1863: 353. Type locality: «Hampshire Co[unty], [West] Virginia» (original citation). One syntype in ANSP [# 1017]. Etymology. The specific name was proposed for James Ridings [1803-1880]. Born in England, Ridings moved to Philadelphia in his 20s and became associated with the Entomological Society of Philadelphia, now the American Entomological Society. He collected intensively in the Philadelphia region and in Virginia but also made trips to Georgia, Kansas, and Colorado.

*Steniridia ridingsi intermedia* Valentine, 1935: 368. Type locality: «Natural Bridge, Rockbridge Co[unty], Virginia» (original citation). Holotype (♂) in MCZ [# 22989]. **New synonymy.** NOTE. Based on the information provided by Valentine (1935: 369), I do not believe that the form *intermedia*, which was based on a single specimen, is subspecifically distinct from the nominotypical form.

**Distribution.** This subspecies is known from northwestern West Virginia and a few counties in northern and western Virginia (Valentine 1935: 367). The record from “Tennessee” (Roeschke 1907a: 150) needs confirmation.

**Records. USA:** VA, WV [TN]

***Scaphinotus tricarinatus* (Casey, 1914)**

*Irichroa aeneicollis tricarinata* Casey, 1914: 25. Type locality: «Blue Ridge M[oun]t[ain]s, North Carolina» (original citation), restricted to the «[Great] Smoky Mountains» by Valentine (1935: 362). One syntype in USNM [# 46004].

**Distribution.** This species is found at high altitudes in the Great Balsam, Plott Balsam, Great Smoky (Barr 1969: 74), and Nantahala Mountains (Barr 1970: 5) in eastern Tennessee, western North Carolina, and northeastern South Carolina.

**Records. USA:** NC, SC, TN



***Scaphinotus violaceus* (LeConte, 1863)**

*Cychrus violaceus* LeConte, 1863c: 4. Type locality: «Mountains of Georgia» (original citation), herein restricted to Tray Mountain (4400 feet), Towns County (see Valentine 1935: 358). Syntype(s) in MCZ [# 614].

*Steniridia violacea carolinae* Valentine, 1935: 358. Type locality: «Blue Ridge M[oun]-t[ain]s, N[orth] C[arolina]» (original citation). Holotype (♂) in USNM [# 56133].

**New synonymy** (Robert L. Davidson pers. comm. 2008; see Barr 1970: 3).

**Distribution.** This species has been reported from the Appalachians in western North Carolina, northern Georgia (Valentine 1935: 358), and northwestern South Carolina (Ciegler 2000: 32).

**Records. USA:** GA, NC, SC

**Subgenus *Pseudonomaretus* Roeschke, 1907**

*Pseudonomaretus* Roeschke, 1907a: 154. Type species: *Cychrus relictus* Horn, 1881 designated by Casey (1914: 30). Etymology. From Greek *pseudos* (fallacy, lie) and the generic name *Nomaretus* [*q.v.*] [masculine].

**Diversity.** Four western North American species.

**Identification.** Gidaspow (1973: 73-78) revised the species and provided a key for their identification.

***Scaphinotus mannii* Wickham, 1919**

*Scaphinotus mannii* Wickham, 1919a: 170. Type locality: «Wawawai [Whitman County], Wash[ington]» (original citation). Holotype (♂) in USNM [# 22545]. Etymology. This species was proposed for William M. Mann [1886-1960] who worked for the United States Bureau of Entomology early in his career and then became director of the National Zoological Park in Washington DC. Mann worked mainly on ants and termites but also with myrmecophilous insects, such as staphylinids.

**Distribution.** This species is restricted to southeastern Washington (Gidaspow 1973: Fig. 4) and northeastern Oregon (Hatch 1953: 46; Westcott et al. 2006: 9).

**Records. USA:** OR, WA

***Scaphinotus merkelii* (Horn, 1890)**

*Cychrus merkelii* G.H. Horn, 1890: 71. Type locality: «northern Idaho» (original citation), restricted to «Coeur d'Alene [Kootenai County]» by Lindroth (1961a: 20). Holotype [by monotypy] (♀) in MCZ [# 34934]. Etymology. The specific name honors August Merkel [1837-1897], a collector of beetles. Merkel was born in Einbeck, near Hanover, Germany.

*Cychrus idahoensis* Webb, 1901: 133. Type locality: «Cedar Mountain, Latah County and Collins, [both] Idaho» (original citation). Syntype(s) [14 originally cited] in WSU and ZMUA (Boer 2002: 57). Synonymy established by Gidaspow (1973: 74).

**Distribution.** This species is known from western Montana (Russell 1968: 42), northern Idaho, Whitman County in southeastern Washington (CMNH), and the Creston area (Lindroth 1961a: 20) in southeastern British Columbia [see Gidaspow 1973: Fig. 4].

**Records.** CAN: BC USA: ID, MT, WA

### *Scaphinotus regularis* (LeConte, 1884)

*Cychrus regularis* LeConte, 1884: 2. Type locality: «Coeur d'Aléne Mountains [Sanders County], Idaho» (original citation). Syntype(s) [2 originally cited] in MCZ [# 611].

**Distribution.** This species is known from southeastern British Columbia, Idaho, and eastern Washington [see Gidaspow 1973: Fig. 5].

**Records.** CAN: BC USA: ID, WA

**Note.** This form was listed as a synonym of *Scaphinotus relictus* (Horn) by Lindroth (1961a: 20), regarded as a variety of *S. relictus* by Roeschke (1907a: 163) and Hatch (1953: 45), and treated as a valid species by Gidaspow (1973: 77).

### *Scaphinotus relictus* (Horn, 1881)

*Cychrus relictus* G.H. Horn, 1881: 188. Type locality: «Spokane [Spokane County], Wash[ington] Terr[itory]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 33480].

**Distribution.** This species is found in southern British Columbia, western Alberta, western Montana (Russell 1968: 42), northern Idaho, eastern Washington, and from one isolated locality in southwestern Oregon [see Gidaspow 1973: Fig. 5]. Old specimens simply labeled from California are also known (Gidaspow 1973: 77).

**Records.** CAN: AB, BC USA: ID, MT, OR, WA [CA]

### Subgenus *Stenocantharus* Gistel, 1834

*Stenocantharus* Gistel, 1834: 1. Type species: *Cychrus angusticollis* Mannerheim, 1823 by monotypy. Etymology (see Gistel 1829: 1068). From the Greek *stenos* (narrow) and *cantharos* (scarab) [masculine]. NOTE. The name *Stenocantharus* was first introduced by Gistel (1829: 1068) for "*Cychrus debilis* Dejean," a species not available at the time.

*Pemphus* Motschulsky, 1866: 312. Type species: *Cychrus velutinus* Ménétriés, 1843 designated by Géhin (1876b: 114). Synonymy established by Csiki (1927: 322).

**Diversity.** Four species restricted to the Pacific coastal and western montane regions of North America.

**Identification.** Van Dyke (1944) and Gidaspow (1973) revised the species then placed in this subgenus. Gidaspow (1973) provided a key for their identification.

### *Scaphinotus angusticollis* (Mannerheim, 1823)

*Cychrus angusticollis* Mannerheim [in Fischer von Waldheim], 1823: plate 46. Type locality: «insula Unalaschka [Alaska]» (Fischer von Waldheim 1824: 47), which according to Van Dyke (1944: 4) and Lindroth (1961a: 21) is likely incorrect; «Sitka [Baranof Island, Alaska]» selected by Van Dyke (1944: 4). Syntype(s) in ZILR, ZMH (Lindroth 1961a: 21), and SMTD (Grämer 1960: 101). NOTE. This name is credited to Fischer von Waldheim by some authors (e.g., Bousquet and Laroche 1993: 83). However, Fischer von Waldheim's statement (1824: 47) “le Cychrus d'Ounalaschka [i.e. *Cychrus angusticollis*] dont je dois la description exacte et un dessin élégant et fidèle à Mr. Le Comte Mannerheim” clearly points to Mannerheim as the author.

*Pemphus angusticollis* var. *nigripennis* Roeschke, 1907a: 167. Type locality: «Gualala, Mendocino Co[unty], Cal[ifornien]» (holotype label). Holotype (♂) in ZMUA (Boer 2002: 84). Synonymy established by Gidaspow (1973: 66).

*Scaphinotus angusticollis olympiae* Van Dyke, 1944: 5. Type locality: «Sol Duc Hot Springs [Clallam County], Olympic Peninsula, Wash[ington]» (original citation). Holotype (♂) in CAS [# 5343]. Synonymy established by Lindroth (1961a: 21).

**Distribution.** This species ranges from Kodiak Island in the Gulf of Alaska to northwestern California, east at least to eastern British Columbia [see Gidaspow 1973: Fig. 2]. The record from Torrington, Alberta (Gidaspow 1973: 68) is probably based on a mislabeled specimen.

**Records.** CAN: BC (QCI, VCI) USA: AK, CA, OR, WA

### *Scaphinotus hatchi* Beer, 1971

*Scaphinotus hatchi* Beer, 1971: 257. Type locality: «two miles east of Islet Campground at Waldo Lake, Lane County, Oregon» (original citation). Holotype (♂) in CAS [# 11605]. Etymology. The species name honors Melville Harrison Hatch [1898–1988], coleopterist and professor at the University of Washington for more than 40 years. Hatch is best known for the five-volume series “Beetles of the Pacific Northwest” published from 1953 to 1971. His collection was transferred in 1978 to the Oregon State University and his types were subsequently moved to the USNM.

**Distribution.** This species is known only from Waldo Lake area in western Oregon (Gidaspow 1973: 66; CNC, CMNH).

**Records.** USA: OR

### *Scaphinotus johnsoni* Van Dyke, 1924

*Scaphinotus johnsoni* Van Dyke, 1924b: 3. Type locality: «Olympic Mountains, Washington» (original citation). Holotype (♀) in CAS [# 3335]. Etymology. This specific name

was proposed for Orson Bennett Johnson [1849-1917], a pioneer Pacific Northwest entomologist and first professor of natural science at the University of Washington.

*Scaphinotus klahowya* Perrault, 1973b: 47. Type locality: «Klahowya, near Sappho, Clallam Co[unty], Olympic Peninsula, Washington» (original citation). Holotype (♂) location unknown (probably in MHNP). Synonymy established by Greene (1976: 326).

**Distribution.** This rarely collected species is restricted to the southern part of Vancouver Island (Lindroth 1961a: 22) and the Olympic Mountains in northwestern Washington (Van Dyke 1924b: 3).

**Records.** CAN: BC (VCI) USA: WA

**Note.** This species has been placed in the subgenus *Brennus* by Lindroth (1961a: 22) and Gidaspow (1968: 155) but van den Berghe and Davidson (Robert L. Davidson pers. comm. 2008) agreed that this small species is a member of the subgenus *Stenocantharus*.

### *Scaphinotus velutinus* (Ménétriés, 1843)

*Cychrus velutinus* Ménétriés, 1843: 53. Type locality: «Californie» (original citation), herein restricted to Fort Ross, Sonoma County (see Gidaspow 1973: 72). Syntype(s) in ZILR.

*Pemphus longipes* Casey, 1897: 339. Type locality: «Humboldt Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 46012]. Synonymy established by Gidaspow (1973: 70).

*Pemphus opacus* Casey, 1899: 97. Type locality: «Sonoma Co[unty], California» (original citation). Two syntypes [2 originally cited] in USNM [# 46011]. Synonymy established by Roeschke (1907a: 169).

**Distribution.** This species ranges from northwestern Oregon to the San Francisco Bay area in California [see Gidaspow 1973: Fig. 3]. The record from Vancouver Island (LeConte 1869c: 370) is probably in error.

**Records.** USA: CA, OR

### Subgenus *Brennus* Motschulsky, 1866

*Brennus* Motschulsky, 1866: 311. Type species: *Cychrus ventricosus* Dejean, 1831 designated by Géhin (1876b: 114). Etymology. Unknown [masculine].

**Diversity.** Fifteen western North American species of which two extend into the Baja California Peninsula.

**Identification.** Gidaspow (1968) revised the species and provided a key for their identification.

### *Scaphinotus bullatus* Van Dyke, 1924

*Scaphinotus subtilis bullatus* Van Dyke, 1924b: 3. Type locality: «at the mouth of Roaring River (5000 feet), South Fork of Kings River Cañon, Fresno County, California» (original citation). Holotype (♂) in CAS [# 3336].



*Scaphinotus subtilis grandis* Van Dyke, 1924b: 4. Type locality: «Cedar Creek, Tulare County, California» (original citation). Holotype (♂) in CAS [# 3338]. Synonymy established by Gidaspow (1968: 163).

**Distribution.** This species is found within the Sierra Nevada in central California, from El Dorado County to Sequoia National Park [see Gidaspow 1968: Fig. 9].

**Records. USA:** CA

### *Scaphinotus cordatus* (LeConte, 1853)

*Cychrus cordatus* LeConte, 1853c: 399. Type locality: «San Jose [Santa Clara County], California» (original citation). Holotype [by monotypy] (♂) in MCZ [# 610].

*Brennus cordatus vernicatus* Casey, 1920: 183. Type locality: «near San Francisco Bay, California» (original citation). One syntype in USNM [# 46047]. Synonymy established by Gidaspow (1968: 160).

*Brennus cordatus rufitarsis* Casey, 1920: 184. Type locality: «S[an]ta Cruz M[oun]t[ain]s, California» (original citation). One syntype in USNM [# 46048]. Synonymy established by Gidaspow (1968: 161).

**Distribution.** This species is restricted to central California [see Gidaspow 1968: Fig. 7].

**Records. USA:** CA

### *Scaphinotus crenatus* (Motschulsky, 1859)

*Cychrus crenatus* Motschulsky, 1859a: 161. Type locality: «Californie» (original citation), herein restricted to Fort Tejon, Kern County (see LeConte 1859a: 69, as *Cychrus striatus*). Lectotype [as holotype] (♂), designated by Kryzhanovskij (1968: 186), in ZMMU.

*Cychrus striatus* LeConte, 1859a: 69. Type locality: «Fort Tejon [Kern County, California]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 607]. Synonymy established by LeConte (1863b: 3).

*Brennus gentilis* Casey, 1897: 322. Type locality: «near Monterey [Monterey County], California» (original citation). Seven syntypes [10 originally cited] in USNM [# 46021]. Synonymy established by Roeschke (1907a: 184), confirmed by Gidaspow (1968: 173).

*Brennus productus* Casey, 1914: 29. Type locality: «California» (original citation). One syntype in USNM [# 46023]. Synonymy established, under the name *S. ventricosus* var. *striatus* (LeConte), by Lapouge (1933: 696), confirmed by Gidaspow (1968: 173).

*Brennus montereyensis* Casey, 1920: 177. Type locality: «Monterey [Monterey County], California» (original citation). One syntype in USNM [# 46022]. Synonymy established by Gidaspow (1968: 173).

**Distribution.** This species ranges from Sonoma County in California to the Pacific Coast of Baja California Norte, east to the San Bernardino Mountains [see Gidaspow

1968: Fig. 10]. One specimen from Hidalgo state in Mexico is probably mislabeled, as pointed out by Gidaspow (1968: 176).

**Records. USA:** CA – Mexico

### *Scaphinotus cristatus* (Harris, 1839)

*Cychrus cristatus* T.W. Harris, 1839: 200. Type locality: «Oregon» (original citation, see page 199), herein restricted to Pistol River, Curry County (see Gidaspow 1968: 144). Syntype(s) lost (Roeschke 1907a: 194).

*Cychrus reticulatus* Motschulsky, 1850a: 90. Type locality: «California?; Unalaschka?» (original citation), listed from «Calif[ornie]» by Motschulsky (1869: 29). Lectotype [as holotype] (♂), designated by Kryzhanovskij (1968: 187), in ZMMU. Synonymy established with doubt by LeConte (1857c: 10), confirmed by Kryzhanovskij (1968: 187).

*Brennus basalis* Casey, 1897: 311. Type locality: «S[an]ta Cruz Co[unty], California» (original citation). Five syntypes in USNM [# 46013] and at least one in AMNH [# 441]. Synonymy established, under the name *S. cristatus reticulatus* (Motschulsky), by Roeschke (1907a: 194).

*Brennus duplicatus* Casey, 1897: 312. Type locality: «Lake Co[unty], California» (original citation). Three syntypes [3 originally cited] in USNM [# 46014]. Synonymy established, under the name *S. cristatus reticulatus* (Motschulsky), by Roeschke (1907a: 194).

**Distribution.** This species ranges from southwestern Oregon south to the Los Angeles region in southern California, east to the northern part of the Sierra Nevada [see Gidaspow 1968: Fig. 2].

**Records. USA:** CA, OR

### *Scaphinotus interruptus* (Ménétriés, 1843)

*Cychrus interruptus* Ménétriés, 1843: 54. Type locality: «Californie» (original citation), herein restricted to Hoopa Valley, Humboldt County (see Gidaspow 1968: 159). Two syntypes in ZILR (Roeschke 1907a: 175).

*Cychrus constrictus* LeConte, 1853c: 398. Type locality: «San Jose [Santa Clara County], California» (original citation). Syntype(s) [2 originally cited] in MCZ [# 609]. Synonymy established by LeConte (1873b: 322).

*Cychrus dissolutus* Schaum, 1863: 72. Type locality: «Sacramento [Sacramento County, California]» (original citation). One syntype in ZMHB (Roeschke 1907a: 175). Synonymy established, under the name *S. interruptus* var. *constrictus* (LeConte), by Lapouge (1933: 695).

*Brennus sinuatus* Casey, 1897: 330. Type locality: «California» (original citation). Syntypes [3 originally cited] location unknown. Synonymy established by Roeschke (1907a: 175), confirmed by Gidaspow (1968: 160).

*Brennus politus* Casey, 1897: 330. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 46025]. Synonymy established by Gidaspow (1968: 158).

*Brennus corpulentus* Casey, 1897: 331. Type locality: «Oakland, Alameda Co[unty], California» (original citation). Two syntypes in USNM [# 46029]. Synonymy established, under the name *S. interruptus* var. *constrictus* (LeConte), by Roeschke (1907a: 175), confirmed by Gidaspow (1968: 160).

*Brennus integer* Casey, 1914: 29. Type locality: «S[an]ta Cruz [Santa Cruz County], California» (original citation). One syntype in USNM [# 46026]. Synonymy established by Gidaspow (1968: 158).

*Brennus parvulicollis* Casey, 1920: 176. Type locality: «S[an]ta Cruz [Santa Cruz County], California» (original citation for *B. interruptus* (Ménétriés) *sensu* Casey, 1897). One syntype in USNM [# 46028]. Synonymy established, under the name *S. interruptus* var. *constrictus* (LeConte), by Lapouge (1933: 695), confirmed by Gidaspow (1968: 160). NOTE. This name was proposed for *Cychnus interruptus* Ménétriés, 1843 *sensu* Casey (1897: 333).

*Brennus beringi* Casey, 1920: 179. Type locality: «S[ain]t Paul Island, Alaska» (original citation) which is incorrect. One syntype in USNM [# 46024]. Synonymy established by Lindroth (1961a: 24). Etymology. The specific name honors the Danish navigator and explorer Vitus Bering [1681-1741] who is credited for being the first European to discover Alaska and the Aleutian Islands. The Bering Strait, the Bering Sea, Bering Island, and Bering Glacier are named for him.

*Brennus procerus* Casey, 1920: 179. Type locality: «Piedmont, Alameda Co[unty], California» (original citation). One syntype in USNM [# 46031]. Synonymy established by Gidaspow (1968: 158).

**Distribution.** The range of this species extends over much of California, including the Coast Ranges and the Sierra Nevada, as far south as Riverside County [see Gidaspow 1968: Fig. 6]. Some specimens simply labeled from Oregon are known.

**Records. USA:** CA [OR]

### *Scaphinotus marginatus* (Fischer von Waldheim, 1820)

*Cychnus marginatus* Fischer von Waldheim, 1820: plate 7. Type locality: «insula Unalashka [Alaska]» (Fischer von Waldheim 1822: 79). Syntype(s) in SMTD (Grämer 1960: 101; Gidaspow 1968: 149) and probably also in MHNP (collection Dejean).

*Cychnus marginatus* var. *fulleri* G.H. Horn, 1879: 179. Type locality: «Oregon» (original citation). Syntype(s) in MCZ [# 34835]. Synonymy established by Hatch (1953: 47), confirmed by Gidaspow (1968: 154).

*Cychnus marginatus* var. *gracilis* Géhin, 1885: 76. Type locality: «Mexique» (original citation), which is incorrect (Roeschke 1907a: 173). Syntype(s) in MHNP (collection Oberthür). Synonymy established by Roeschke (1907a: 171).

*Brennus cupripennis* Casey, 1897: 334. Type locality: «Washington State» (original citation). Two syntypes [2 ♂ originally cited] in USNM [# 46040]. Synonymy established by Hatch (1953: 47), confirmed by Lindroth (1961a: 22).

*Brennus insularis* Casey, 1897: 334. Type locality: «Queen Charlotte Islands [British Columbia]» (original citation). Holotype [by monotypy] (♀) in USNM [# 46041]. Synonymy established by Roeschke (1907a: 171), confirmed by Lindroth (1961a: 22).

*Brennus confusus* Casey, 1897: 336. Type locality: «undoubtedly on the coast between northern California and Alaska» (original citation). Two syntypes [2 originally cited] in USNM [# 46043]. Synonymy established by Hatch (1953: 47), confirmed by Lindroth (1961a: 23).

*Brennus marginatus* var. *fallax* Roeschke, 1907a: 174. Type locality: «Oregon, auch in Idaho und Montana, in den Bitter Root Mountains» (original citation). Three syntypes in ZMUA (Boer 2002: 49). Synonymy established by Lindroth (1961a: 23).

*Brennus columbianus* Casey, 1920: 180. Type locality: «Victoria, British Columbia» (original citation). Two syntypes in USNM [# 46042]. Synonymy established by Hatch (1953: 47), confirmed by Lindroth (1961a: 23).

*Brennus gracilis wrangelli* Casey, 1920: 182. Type locality: «Fort Wrangell, Alaska» (original citation). Holotype [by monotypy] (♀) in USNM [# 46045]. Synonymy established by Lindroth (1961a: 23).

*Brennus gracilis montanicus* Casey, 1920: 182. Type locality: «Helena [Lewis and Clark County], Montana» (original citation). Holotype [by monotypy] (♂) in USNM [# 46046]. Synonymy established by Lindroth (1961a: 23).

*Brennus oregonus* Casey, 1920: 182. Type locality: «Oregon» (original citation). One syntype in USNM [# 46044]. Synonymy established by Hatch (1953: 47), confirmed by Lindroth (1961a: 23).

**Distribution.** The range of this species extends from the Aleutians Islands and the Gulf Coast of Alaska south to northern California, northern Arizona (Coconino County, Eric van den Berghe pers. comm. 2009), and northwestern Wyoming [see Gidaspow 1968: Fig. 4]. Gidaspow (1968: 149) considered the possibility that the species ranges further east toward the Hudson Bay because of the presence in collections of several specimens labeled from “Hudson Bay Territory.”

**Records.** CAN: AB, BC (QCI, VCI) USA: AK, AZ, CA, ID, MT, OR, WA, WY

### *Scaphinotus obliquus* (LeConte, 1868)

*Cychrus obliquus* LeConte, 1868b: 61. Type locality: «near Sacramento [Sacramento County], California» (original citation). Holotype [by monotypy] (♂) in MCZ [# 608].

*Brennus convergens* Casey, 1897: 326. Type locality: «Siskiyou Co[unty], California» (original citation). Three syntypes [4 originally cited] in USNM [# 46035]. Synonymy established by Lapouge (1933: 695), confirmed by Gidaspow (1968: 156).

*Brennus opacicollis* Casey, 1897: 327. Type locality: «Oregon» (original citation). Two syntypes [2 originally cited] in USNM [# 46033]. Synonymy established, under the name *S. obliquus convergens* (Casey), by Roeschke (1907a: 180), confirmed by Gidaspow (1968: 156).



*Brennus sculptipennis* Casey, 1897: 327. Type locality: «California» (original citation). One syntype [3 originally cited] in USNM [# 46034]. Synonymy established, under the name *S. obliquus convergens* (Casey), by Roeschke (1907a: 180), confirmed by Gidaspow (1968: 156).

**Distribution.** This species is known from the northern part of California, as far south as Madera County [see Gidaspow 1968: Fig. 5], and from Washoe County in northwestern Nevada (La Rivers 1947: 133, as *S. obliquus convergens*). Some specimens simply labeled from Oregon are known.

**Records. USA:** CA, NV [OR]

### *Scaphinotus oreophilus* (Rivers, 1890)

*Cychrus oreophilus* Rivers, 1890b: 111. Type locality: «Shingle Springs, Eldorado County, California» (original citation). Two syntypes probably in ZMUA (collection Vogt) though not listed by Boer (2002).

*Brennus oreophilus hoppingi* Roeschke, 1907a: 183. Type locality: «Südlicher Arm des King River (4500-5500’), Fresno Co[unty] [California]» (original citation). Five syntypes in ZMUA (Boer 2002: 56). Synonymy established by Gidaspow (1968: 164). Etymology. The specific name was proposed for Ralph Hopping [1868-1941], forest entomologist in California and later in Vernon, British Columbia. Hopping built up a large collection of western beetles which was sold by his widow to the California Academy of Sciences in 1948.

*Brennus oreophilus humeralis* Casey, 1914: 30. Type locality: «Mokelumne Hill, Calaveras Co[unty], California» (original citation). One syntype in USNM [# 46039]. Synonymy established by Gidaspow (1968: 164).

**Distribution.** This species is known from central California [see Gidaspow 1968: Fig. 3] and from Grand County in eastern Utah (Gidaspow 1968: 165). The record from “Nevada” (Bousquet and Laroche 1993: 84) needs confirmation.

**Records. USA:** CA, UT [NV]

### *Scaphinotus punctatus* (LeConte, 1859)

*Cychrus punctatus* LeConte, 1859a: 69. Type locality: «Fort Tejon [Kern County, California]» (original citation). Syntype(s) in MCZ [# 605].

*Cychrus mimus* G.H. Horn, 1874: 20. Type locality: «along the Santa Ana River, at San Bernardino [San Bernardino County], California» (original citation). Syntype(s) in MCZ [# 618]. Synonymy established by Gidaspow (1968: 167).

*Brennus gravidus* Casey, 1897: 317. Type locality: «southern California» (original citation). Syntype(s) location unknown. Synonymy established by Roeschke (1907a: 191). NOTE. The specimen in Casey’s collection under the name *gravidus* is the female from Monterey that Casey stated in his remarks as being probably distinct from the male type.

*Brennus catenulatus* Casey, 1897: 324. Type locality: «southern California» (original citation). Two syntypes in USNM [# 46038]. Synonymy established by Gidaspow (1968: 167).

**Distribution.** This species is found in the southern third of California, including Santa Catalina Island, and in “Baja California” [see Gidaspow 1968: Fig. 7].

**Records. USA:** CA (CHI) – Mexico

***Scaphinotus riversi* (Roeschke, 1907)**

*Brennus oreophilus riversi* Roeschke, 1907a: 183. Type locality: «Hochgebirge der Sierra Nevada der Tulare und Kern Cos., in einer Höhe von etwa 5000 bis 8000 Fuss: Mt. Whitney, Round Meadow, Giant Forest [California]» (original citation). Four syntypes in ZMUA (Boer 2002: 99) and one possible syntype in SIM (Hennessey 1990: 466).

**Distribution.** This species is found in the southern half of California, in Tulare (Sequoia National Park), Fresno, Kern, and Los Angeles Counties [see Gidaspow 1968: Fig. 5].

**Records. USA:** CA

***Scaphinotus rugiceps incipiens* (Casey, 1897)**

*Brennus incipiens* Casey, 1897: 313. Type locality: «northern California?» (original citation), herein restricted to Green Point, Humboldt County (see Gidaspow 1968: 148). Holotype [by monotypy] (♀) in USNM [# 46015].

**Distribution.** This subspecies is found in southwestern Oregon (Westcott et al. 2006: 9) and northwestern California as far south as Colusa County [see Gidaspow 1968: Fig. 3].

**Records. USA:** CA, OR

***Scaphinotus rugiceps rugiceps* (Horn, 1872)**

*Cychrus rugiceps* G.H. Horn, 1872b: 143. Type locality: «Oregon» (original citation), herein restricted to Diamond Lake, Douglas County (see Gidaspow 1968: 148). Syntype(s) in MCZ [# 35352].

*Brennus porcatus* Casey, 1897: 328. Type locality: «California» (original citation). Holotype [by monotypy] (♂) in USNM [# 46036]. Synonymy established by Gidaspow (1968: 147). NOTE. This form was listed as a synonym of *S. interruptus dissolutus* by Roeschke (1907a: 175).

*Brennus compositus* Casey, 1897: 332. Type locality: «California» (original citation). Holotype [by monotypy] (♂) in USNM [# 46030]. Synonymy established by Gidaspow (1968: 147). NOTE. This form was listed as a synonym of *S. interruptus* by Roeschke (1907a: 175).

*Brennus rugiceps congener* Casey, 1914: 28. Type locality: «Josephine Co[unty], Oregon» (original citation). Two syntypes [2 originally cited] in USNM [# 46016]. Synonymy established by Hatch (1953: 48).

**Distribution.** This subspecies is known for sure only from western Oregon as far south as the border with California [see Gidaspow 1968: Fig. 3]. The records from “California” (Casey 1897: 328, 332, as *Brennus porcatus* and *B. compositus*) need confirmation.

**Records. USA:** OR [CA]

### *Scaphinotus striatopunctatus* (Chaudoir, 1844)

*Cychrus striatopunctatus* Chaudoir, 1844: 476. Type locality: «Californie» (original citation), herein restricted to Boonville, Mendocino County (see Gidaspow 1968: 169). Holotype [by monotypy] in MHNP.

*Cychrus ovalis* Motschulsky, 1859a: 162. Type locality: «Californie» (original citation). Lectotype (♀), designated by Kryzhanovskij (1968: 186), in ZMMU. Synonymy established (as aberration) by Roeschke (1907a: 188), confirmed by Kryzhanovskij (1968: 186).

*Brennus decipiens* Casey, 1897: 316. Type locality: «near Monterey [Monterey County], California» (original citation). Eight syntypes [8 originally cited] in USNM [# 46017]. Synonymy established by Roeschke (1907a: 188).

*Brennus subdepressus* Casey, 1920: 177. Type locality: «Monterey [Monterey County], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 46018]. Synonymy established by Lapouge (1933: 696), confirmed by Gidaspow (1968: 169).

**Distribution.** This species is found along western California from Mendocino County south to Los Angeles County [see Gidaspow 1968: Fig. 9].

**Records. USA:** CA

### *Scaphinotus subtilis* (Schaum, 1863)

*Cychrus subtilis* Schaum, 1863: 72. Type locality: «Sacramento [Sacramento County, California]» (original citation). Syntype(s) in ZMHB.

**Distribution.** This species is known only from central California, mostly along the west side of the Sierra Nevada from Calaveras County to Tulare and Kern Counties [see Gidaspow 1968: Fig. 8].

**Records. USA:** CA

### *Scaphinotus ventricosus* (Dejean, 1831)

*Cychrus ventricosus* Dejean, 1831: 527. Type locality: «Californie» (original citation), herein restricted to San Francisco, San Francisco County (see Eschscholtz 1833: 21). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 11).

*Cychrus lativentris* Motschulsky, 1850b: 358. Type locality not stated. Syntype(s) lost (Roeschke 1907a: 184). Synonymy established by Gidaspow (1968: 170).

*Cychrus alternatus* Motschulsky, 1859a: 163. Type locality: «Californie» (original citation). Syntype(s) lost (Roeschke 1907a: 188). Synonymy established by Gidaspow (1968: 170). NOTE. Roeschke (1907a: 188) listed this name as an aberration of *S. striatopunctatus* (Chaudoir).

*Cychrus fuchsianus* Rivers, 1890a: 71. Type locality: «Eldorado and Sonoma Counties, Cal[ifornia]» (original citation). One possible syntype in ZMUA (collection Vogt) but not listed by Boer (2002). Synonymy established (as aberration) by Roeschke (1907a: 184).

*Brennus symmetricus* Casey, 1897: 319. Type locality: «California» (original citation). Holotype [by monotypy] (♂) in USNM [# 46032]. Synonymy established by Gidaspow (1968: 170).

*Brennus strictus* Casey, 1897: 322. Type locality: «California» (original citation). One syntype in USNM [# 46019]. Synonymy established, under the name *S. ventricosus lativentris* (Motschulsky), by Roeschke (1907a: 184), confirmed by Gidaspow (1968: 173).

*Brennus brevicollis* Casey, 1920: 178. Type locality: «Mokelumne Hill, Calaveras Co[unty], California» (original citation). One syntype in USNM [# 46020]. Synonymy established by Gidaspow (1968: 170).

**Distribution.** This species ranges from southern Oregon to San Luis Obispo County along the coast and to Yosemite National Park along the Sierra Nevada; also known from the Santa Catalina Island [see Gidaspow 1968: Fig. 10].

**Records. USA:** CA, OR

### Subgenus *Neocyclus* Roeschke, 1907

*Neocyclus* Roeschke, 1907a: 197. Type species: *Cychrus angulatus* Harris, 1839 designated by Lindroth (1961a: 24). Etymology. From the Greek prefix *neo-* (new) and the generic name *Cychrus* [*q.v.*] [masculine].

**Diversity.** Three species restricted to the Pacific coastal region of North America.

**Identification.** Van Dyke (1944) first reviewed the species. Subsequently, Gidaspow (1973) revised them and provided a key for their identification.

### *Scaphinotus angulatus* (Harris, 1839)

*Cychrus angulatus* T.W. Harris, 1839: 200. Type locality: «Oregon» (original citation, see page 199), restricted to «Portland [Multnomah County]» by Lindroth (1961a: 24). Holotype [by monotypy] (♀) apparently lost (LeConte 1869c: 372).

*Scaphinotus angulatus maritimus* Van Dyke, 1924b: 5. Type locality: «near Port Angeles [Clallam County], Washington» (original citation). Holotype (♀) in CAS [# 3341]. Synonymy established by Lindroth (1961a: 25).





**Figure 7.** *Notiophilus aquaticus* (Linnaeus). This species is an example of a circumboreal taxon; it is found in the Northern Hemisphere without major gaps north of latitude 45. Linnaeus gave this species the epithet *aquaticus* in the 10th edition of his *Systema Naturae*, published in 1758, on the assumption that the species lived close to water. We know today that this is not the case and the species is found in relatively dry, open habitats. *Notiophilus* larvae and adults prey on collembolans. The adults are challenging to catch by hand because of their small size and swiftness.

**Distribution.** This species ranges from southwestern British Columbia, including Vancouver Island, to southwestern Oregon [see Gidaspow 1973: Fig. 1].

**Records.** CAN: BC (VCI) USA: OR, WA

***Scaphinotus behrensi* (Roeschke, 1907)**

*Neocychnus behrensi* Roeschke, 1907a: 199. Type locality: «Riesennadelholzwaldungen (= redwood cañon) im nördlichen Sonoma Co[unty], Californien» (original citation). Holotype [by monotypy] (♂) in ZMUA (Boer 2002: 32).

*Scaphinotus behrensi malkini* Van Dyke, 1944: 13. Type locality: «Spenser Butte, near Eugene [Lane County], Oregon» (original citation). Holotype (♂) in CAS [# 5345]. Synonymy established by Gidaspow (1973: 61).

**Distribution.** The range of this species extends near the Pacific Coast from Lincoln County in Oregon (Gidaspow 1973: 61) to Humboldt County in northern California [see Gidaspow 1973: Fig. 1].

**Records.** USA: CA, OR

***Scaphinotus longiceps* Van Dyke, 1924**

*Scaphinotus longiceps* Van Dyke, 1924b: 5. Type locality: «interior of Humboldt County, California» (original citation). Holotype (♂) in CAS [# 3340].

**Distribution.** This species is known only from a few specimens collected in Humboldt and Mendocino Counties (Weber and Kavanaugh 1992: 394), northern California.

**Records.** USA: CA

**Tribe CARABINI Latreille, 1802**

Carabici Latreille, 1802: 80. Type genus: *Carabus* Linnaeus, 1758.

Calosomii Bonelli, 1810: Tabula Synoptica. Type genus: *Calosoma* Weber, 1801.

**Diversity.** Worldwide, with about 1,080 species arrayed in three genera: *Aplothorax* Waterhouse (one species on the island of Saint Helena in South Atlantic Ocean), *Calosoma* (about 170 species), and *Carabus* (about 910 species).

**Genus CALOSOMA Weber, 1801**

*Calosoma* Weber, 1801: 20. Type species: *Carabus sycophanta* Linnaeus, 1758 designated by Latreille (1810: 426). Etymology (original). From the Greek *calos* (beautiful) and *soma* (body), alluding to the beautiful body coloration of adults of *C. sycophanta* and *C. inquisitor*, the two species included by Weber in the genus [neuter].

*Callisoma* Agassiz, 1846: 60, 61. Unjustified emendation of *Calosoma* Weber, 1801.

**Diversity.** Worldwide, with about 170 species in the Nearctic (41 species, of which one is adventive), Neotropical (about 55 species, many shared with North America), Australian (three species), Oriental (six species), Palaearctic (about 45 species), and

Afrotropical (about 35 species) Regions. The species are arrayed in about 25 genus-group taxa.

**Identification.** Gidaspow (1959) revised the North American species and provided a key for their identification. Subsequently Lindroth (1961a: 50, 55) listed in synonymy some of the species that were considered valid by Gidaspow (e.g., *C. concretum*, *C. pimelioides*, *C. zimmermani*) and Dajoz (1997a) described a new species (*C. dawsoni*).

**Taxonomic Note.** The genus *Calosoma* is retained here in its wide sense following several authors, including Culot (1988). Others used different arrangements. For example, Lorenz (2005) and Erwin (2007a) listed *Callisthenes* Fischer von Waldheim as a valid genus with *Chrysostigma* Kirby and *Callistenia* Lapouge as subgenera.

**Faunistic Note.** Burgess and Collins (1917: 86) reported that *Calosoma palmeri* Horn “occurs in California and Mexico.” The record for California is doubtful since the species, as far as known, is endemic to Guadalupe Island (Gidaspow 1959: 276).

### Subgenus *Castrida* Motschulsky, 1866

*Castrida* Motschulsky, 1866: 300. Type species: *Calosoma sayi* Dejean, 1826 by monotypy. Etymology. Unknown [feminine].

*Camedula* Motschulsky, 1866: 304. Type species: *Calosoma rufipenne* Dejean, 1831 designated by Géhin (1885: xxxi). NOTE. The first type species designation for *Camedula* Motschulsky is that of *Calosoma glabratum* Dejean, 1831 as selected by Géhin (1876b: 114). This species has been accepted as the type species by Jeannel (1940: 199) and Gidaspow (1959: 256). However, Breuning (1928a: 93) accepted *Calosoma rufipenne* Dejean, 1831 as type species following Géhin (1885: xxxi) and this species is currently recognized as the type species (e.g., Lorenz 1998: 59, Lorenz 2005: 57). As discussed by Bousquet (2002b: 11–12), the best solution to preserve nomenclatural stability is to refer the case to the Commission in order to maintain *Calosoma rufipenne* Dejean as type species.

*Callistriga* Motschulsky, 1866: 307. Type species: *Carabus alternans* Fabricius, 1792 designated by Géhin (1876b: 114). Synonymy established by Csiki (1927: 11).

*Calamata* Motschulsky, 1866: 307. Type species: *Calamata rugata* Motschulsky, 1866 (= *Calosoma alternans granulatum* Perty, 1830) by monotypy. Synonymy established by Csiki (1927: 11).

*Microcalosoma* Breuning, 1927: 146. Type species: *Calosoma linelli* Mutchler, 1925 by monotypy. Etymology. From the Greek *micros* (small) and the generic name *Calosoma* [*q.v.*] [neuter].

*Acampalita* Lapouge, 1929b: 9. Type species: *Calosoma vagans* Dejean, 1831 by subsequent monotypy in Lapouge (1931: 418). Synonymy established by Jeannel (1940: 89). Etymology. From the Greek prefix *a-* (privative) and the generic name *Campalita* [feminine].

*Catastriga* Lapouge, 1929b: 9. Type species: *Calosoma trapezipenne* Chaudoir, 1869 by subsequent monotypy in Lapouge (1931: 418). Synonymy established by Gidaspow (1959: 240).

*Caludemina* Jeannel, 1940: 89, 91. Type species: *Calosoma rufipenne* Dejean, 1831 by original designation. Synonymy established by Gidaspow (1963: 289). Etymology. Anagram of the generic name *Camedula* [*q.v.*] [neuter].

**Diversity.** Western Hemisphere, with 14 species in the Nearctic (one species) and Neotropical (14 species) Regions.

### *Calosoma sayi* Dejean, 1826

*Calosoma sayi* Dejean, 1826: 198. Type locality: «Amérique septentrionale» (original citation), herein restricted to Norfolk, Virginia (see Casey 1897: 344, as *C. sayi virginica*). Lectotype (♀), designated by Deuve (1978: 246), in MHNP. Etymology. The specific name was proposed in honor of Thomas Say [1787-1834], American naturalist and one of the founders of the Academy of Natural Sciences in Philadelphia. Say participated in the geological expedition to the off-shore islands of Georgia and Florida (then a Spanish colony) in 1818, in Major Long's expedition to the Rocky Mountains and the tributaries of the Missouri River in 1819 and 1820, and in Long's expedition to the headwaters of the Mississippi River in 1823. He lived the last eight years of his life in New Harmony, Indiana, in Robert Owen's utopian society experiment where he secretly married Lucy Way Sistare [1801-1886], an artist who illustrated some of her husband's works.

*Calosoma armata* Laporte, 1835: 156. Type locality: «Mexique» (original citation). Lectotype (♂), designated by Erwin (1991a: 20), in MHNP. Synonymy established by Breuning (1927: 192).

*Calosoma sayi* var. *abdominale* Géhin, 1885: 58. Type locality: «Mexique» (original citation). Lectotype (♂), designated by Erwin (1991a: 20), in MHNP. Synonymy established, under the name *C. alternans* var. *armatum* Laporte, by Roeschke (1900: 71).

*Calosoma sayi virginica* Casey, 1897: 344. Type locality: «Norfolk, V[irgini]a» (original citation). Lectotype (♂), designated by Erwin (1991a: 20), in USNM [# 37092]. Synonymy established by Roeschke (1900: 71).

*Calosoma alternans* var. *cuprascens* Roeschke, 1900: 71. Type locality not stated. Holotype [by monotypy] (♂) location unknown. Synonymy established by Jeannel (1940: 94).

**Distribution.** This species ranges from Long Island, New York (Notman 1928: 209) to "Iowa" (Burgess and Collins 1917: 62), south to Guatemala (Gidaspow 1963: 301) and southern Florida except for the Keys (Peck and Thomas 1998: 15), west along southern United States to "California" (Burgess and Collins 1917: 62); also known from the Greater Antilles as far south as Puerto Rico (Gidaspow 1963: 301). The records from "Minnesota," "North Dakota," and "Wisconsin" (Bousquet and Larochelle 1993: 70) are probably in error or based on strays.

**Records. USA:** AL, AR, AZ, CA, DC, FL, GA, IA, IL, IN, KS, KY, LA, MD, MO, MS, NC, NJ, NY, OH, OK, PA, SC, TN, TX, VA – Cuba, Dominican Republic, Guatemala, Haiti, Jamaica, Mexico, Puerto Rico



### Subgenus *Calosoma* Weber, 1801

*Calosoma* Weber, 1801: 20. Type-species: *Carabus sycophanta* Linnaeus, 1758 designated by Latreille (1810: 426).

*Callipara* Motschulsky, 1866: 309. Type species: *Carabus sycophanta* Linnaeus, 1758 designated by Géhin (1876b: 114).

*Syncalosoma* Breuning, 1927: 179. Type species: *Calosoma frigidum* Kirby, 1837 by original designation. Synonymy established by Lapouge (1931: 400). Etymology. From the Greek prefix *syn-* (together, with) and the generic name *Calosoma* [*q.v.*] [neuter].

*Acalosoma* Lafer, 1989: 106. Type species: *Carabus inquisitor* Linnaeus, 1758 by original designation.

**Diversity.** Northern Hemisphere, with six species in the Nearctic (two species, one of them adventive) and Palearctic (five species) Regions.

**Taxonomic Note.** This subgenus is retained in its narrow sense and excludes members of *Australodrepa* Lapouge and *Calodrepa* Motschulsky.

### *Calosoma frigidum* Kirby, 1837

*Calosoma frigidum* Kirby, 1837: 19. Type locality: «Drummond's Island [Chippewa County, Michigan], Canada» (original citation). One syntype in BMNH (Lindroth 1953b: 169).

*Calosoma frigida levettei* Casey, 1897: 344. Type locality: «Indiana» (original citation). Holotype [by monotypy] (♀) in USNM [# 37093]. Synonymy established by Breuning (1927: 180).

**Distribution.** This species occurs from Cape Breton Island to the Skeena River drainage in west-central British Columbia (Lindroth 1961a: 47), south to northeastern Nevada (La Rivers 1947: 134), central Utah (La Rivers 1947: 135), southeastern Texas in the Galveston area (Snow 1906a: 140; Gidaspow 1959: 245), and northern Georgia (Fattig 1949: 11).

**Records.** **CAN:** AB, BC, MB, NB, NS (CBI), ON, PE, QC, SK **USA:** CO, CT, GA, IA, IL, IN, LA, MA, MD, ME, MI, MN, MO, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SD, TN, TX, UT, VA, VT, WI, WV

### *Calosoma sycophanta* (Linnaeus, 1758)

*Carabus sycophanta* Linnaeus, 1758: 414. Type locality: «Europa» (original citation), restricted to «Sweden» by Lindroth (1961a: 47). One possible syntype in LSL (Lindroth 1957b: 334).

**Distribution.** This European species was introduced as early as 1906 in many places in Canada and United States for the biological control of two introduced lymantriids: the gypsy moth, *Lymantria dispar* (Linnaeus), and the browntail moth, *Euproctis chrysorrhoea* (Linnaeus). Based on the extensive survey of Schaefer et al. (1999), the species

is now established in eastern United States from southern Maine to Maryland and West Virginia, west to western Pennsylvania. The record from “Michigan” (Bousquet and Laroche 1993: 71) must be in error. There is no confirmation that the species is established on the west coast and the record from “Washington” (Bousquet and Laroche 1993) should be deleted.

**Records. USA:** CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV – **Adventive**

### **Subgenus *Calodrepa* Motschulsky, 1866**

*Calodrepa* Motschulsky, 1866: 310. Type species: *Carabus scrutator* Fabricius, 1775 designated by Géhin (1876b: 114). Etymology. Unknown [feminine].

**Diversity.** Western Hemisphere, with four species in the Nearctic (four species, one of them endemic) and Neotropical (three species) Regions.

**Taxonomic Note.** This subgenus is listed in synonymy with the nominotypical subgenus by some authors (e.g., Breuning 1927: 155; Lorenz 2005: 68).

### ***Calosoma aurocinctum* Chaudoir, 1850**

*Calosoma aurocinctum* Chaudoir, 1850a: 420. Type locality: «Mexique» (original citation), herein restricted to Merida, Yucatán (see Gidaspow 1959: 248). Lectotype (♀), designated by Deuve (1978: 248), in MHNP. NOTE. This name is often (e.g., Gidaspow 1963: 283; Erwin 1991a: 24) cited as if it had been proposed by Chaudoir (1850a: 420) as a replacement for *Calosoma splendidum* Perbosc, 1839 (nec Dejean 1831). However, Perbosc (1839: 261) attributed his *C. splendidum* to Dejean and so did not propose a new species.

**Distribution.** This species is found from the Rio Grande in southeastern Texas (Wickham 1897: 102; Burgess and Collins 1917: 122) south to Nicaragua (Gidaspow 1963: 283) [see Gidaspow 1959: Fig. 2].

**Records. USA:** TX – Mexico, Nicaragua

### ***Calosoma scrutator* (Fabricius, 1775)**

*Carabus scrutator* Fabricius, 1775: 239. Type locality: «Virginia» (original citation). Two syntypes in BMNH (collection Banks) and ZMUC (Zimsen 1964: 60).

**Distribution.** This widely distributed species ranges from western Maine (Majka et al. 2011: 45) to northeastern North Dakota (Tinerella 2003: 635), including southern Quebec (only as strays) and Ontario (Lindroth 1961a: 46), south to Venezuela (Gidaspow 1963: 283) and southern Florida (Peck and Thomas 1998: 15), west along the southwest to “California” (Gidaspow 1959: 250) and Baja California (Leng 1915: 565). Two specimens, likely strays, have been collected in New Brunswick (Webster and Bousquet 2008: 16) and on Sable Island, Nova Scotia (Majka et al. 2007: 6). The species is not known from the West Indies.

**Records.** CAN: NB, NS, ON, QC USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, WI, WV – Guatemala, Mexico, Venezuela

### *Calosoma splendidum* Dejean, 1831

*Calosoma splendidum* Dejean, 1831: 558. Type locality: «S[ain]t-Domingue [Dominican Republic or Hispaniola]» (original citation). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 12).

**Distribution.** This species is known from northeastern Georgia and southern Florida but only from a few century-old specimens (Gidaspow 1959: 248), and from the Bahamas (Turnbow and Thomas 2008: 12), Cuba, and Hispaniola (Gidaspow 1963: 283). Erwin (2007a: 104) listed this species also from Yucatán, Mexico.

**Records.** USA: FL, GA – Bahamas, Cuba, Haiti, Dominican Republic, Mexico

### *Calosoma wilcoxi* LeConte, 1847

*Calosoma wilcoxi* LeConte, 1847: 446. Type locality: «NovEboraco [= New York] ad Texas» (original citation), restricted to «New York state» by Lindroth (1961a: 46). Syntype(s) in MCZ [# 623].

**Distribution.** This species ranges from southeastern New Hampshire (Rockingham County [probably only as strays], Donald S. Chandler pers. comm. 1992) to southeastern Minnesota (Donald P. Schwert pers. comm. 1989), including southern Quebec (only as strays) and southern Ontario (Lindroth 1961a: 47), south to southeastern Texas (Brazoria County, Brian Raber pers. comm. 2010), southeastern Louisiana (Saint John the Baptist and Saint Tammany Parishes, Igor M. Sokolov pers. comm. 2009), and central Georgia (Fattig 1949: 11). The record from “California” (Burgess and Collins 1917: 38) is likely in error or based on a stray.

**Records.** CAN: ON, QC USA: AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI, WV

### Subgenus *Camegonia* Lapouge, 1924

*Camegonia* Lapouge, 1924: 38. Type species: *Calosoma carbonatum* LeConte *sensu* Lapouge, 1924 (= *Calosoma prominens* LeConte, 1853) designated by Breuning (1928a: 95). Etymology. Unknown [feminine]. NOTE. Lapouge (1924: 38–39) associated two taxa with *Camegonia*, *Calosoma carbonatum* LeConte, 1862 and *C. lugubre* LeConte, 1853. Breuning (1928a: 95) noted that Lapouge misidentified *C. prominens* LeConte, 1853 for *Camegonia carbonata* and designated *C. prominens* LeConte as type species of *Camegonia* Lapouge, 1924. That species was not originally included but since Breuning (1928a: 95) listed the species in synonymy

with *Camegonia carbonata sensu* Lapouge, 1924, one of the two species originally included in *Camegonia*, he is deemed to have designated the latter species as type species (ICZN 1999: Article 69.2.2). Therefore Breuning (1928a: 95) designated as type species a species originally included as an expressly stated misidentification and the species so designated is the nominal species denoted by the name of the taxonomic species actually involved (ICZN 1999: Article 69.2.4), that is *Calosoma prominens* LeConte, 1853.

**Diversity.** Three North American species, all of them extending into Mexico.

**Taxonomic Note.** This subgenus is listed in synonymy with *Carabosoma* Géhin by some authors (e.g., Lorenz 2005: 70).

### *Calosoma marginale* Casey, 1897

*Calosoma lugubre* LeConte, 1853c: 400 [primary homonym of *Calosoma lugubre* Motschulsky, 1844]. Type locality: «New Braunfels [Comal County], Texas» (original citation). Holotype [by monotypy] (♂) in MCZ [# 626].

*Calosoma marginalis* Casey, 1897: 340. Type locality: «Arizona?» (original citation). Holotype [by monotypy] (♂) in USNM [# 37109]. Synonymy established by Breuning (1928a: 97).

*Calosoma lecontei* Csiki, 1927: 21. Replacement name for *Calosoma lugubre* LeConte, 1853.

**Distribution.** This species ranges from “Iowa” (Jaques and Redlinger 1946: 295, as *C. lugubre*) to southeastern Colorado (Michels et al. 2008), south to southern Mexico (Gidaspow 1959: 254-255) and eastern Arkansas (Arkansas County, Ken Karns pers. comm. 2009). Gidaspow (1963: 282) reported the presence of two specimens from Costa Rica. The records from “Illinois” (Bousquet and Laroche 1993: 71) and northern Arizona (Wickham 1896a: 156) need confirmation. The specimen labeled from Duparquet in Quebec (Lindroth 1961a: 49) is almost certainly mislabeled.

**Records.** USA: AR, CO, IA, KS, MO, NE, NM, OK, TX [AZ, IL] – Costa Rica, Mexico

### *Calosoma parvicolle* Fall, 1910

*Calosoma parvicollis* Fall, 1910: 90. Type locality: «San Bernardino, Riverside and Pasadena, southern California» (original citation), restricted to «Pasadena [Los Angeles County]» by Gidaspow (1959: 256). Syntype(s) in MCZ [# 23843].

*Calosoma clemens* Casey, 1914: 32. Type locality: «Las Vegas [Clark County], Nevada» (original citation). One syntype in USNM [# 37111]. Synonymy established by Breuning (1928a: 95).

*Calosoma pertinax* Casey, 1920: 163. Type locality: «Albuquerque [Bernalillo County], New Mexico» (original citation). One syntype in USNM [# 37110]. Synonymy established by Breuning (1928a: 95).



**Distribution.** This species is found from central California to eastern Utah, south to southwestern New Mexico, Sonora in Mexico, and Baja California (Gidaspow 1959: 256).

**Records. USA:** AZ, CA, NM, NV, UT – Mexico

### ***Calosoma prominens* LeConte, 1853**

*Calosoma angulatum* LeConte, 1852a: 199 [primary homonym of *Calosoma angulatum* Chevrolat, 1834]. Type locality: «circa Pimas [Graham County, Arizona]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 624].

*Calosoma prominens* LeConte, 1853c: 400. Replacement name for *Calosoma angulatum* LeConte, 1852.

**Distribution.** This species is found from Inyo County in eastern California (Riley 1893: 239; Fall 1901a: 40) to central New Mexico, south to Sonora and the Baja California Peninsula (Gidaspow 1959: 255).

**Records. USA:** AZ, CA, NM – Mexico

### **Subgenus *Carabosoma* Géhin, 1885**

*Carabosoma* Géhin, 1885: xxxii. Type species: *Calosoma glabratum* Dejean, 1831 designated by Breuning (1928a: 100). Etymology. From the generic name *Carabus* [*q.v.*] and the Greek *soma* (body), alluding to the resemblance of adults to those of some *Carabus* (“*forme rappelant celles de certains carabes*”) [neuter].

*Acamegonia* Lapouge, 1924: 38. Type species: *Acamegonia peregrinatrix incerta* Lapouge, 1924 (= *Calosoma eremicola* Fall, 1910) by monotypy. Synonymy established by Bousquet and Laroche (1993: 72).

**Diversity.** Western Hemisphere, with five species in the Nearctic (four species, one of them endemic) and Neotropical (four species, only one, *C. glabratum*, endemic) Regions.

### **[*angulatum* group]**

### ***Calosoma angulatum* Chevrolat, 1834**

*Calosoma angulatum* Chevrolat, 1834: [no. 44]. Type locality: «Bocadelmonte [Veracruz, Mexico]» (original citation). Holotype [by monotypy] in MHNP (Erwin 1991a: 26).

*Calosoma angulicollis* Chaudoir, 1869a: 377. Type locality: Santa Marta, Colombia (lectotype label). Lectotype (♀), designated by Erwin (1991a: 26), in MHNP. Synonymy established by Erwin (1991a: 26).

*Calosoma angulicollis* var. *uniforme* Géhin, 1885: 63. Type locality: «Mazatlan [Sinaloa, Mexico]» (original citation). Syntype(s) probably in MHNP (collection Oberthür). Synonymy established by Breuning (1928a: 101).

*Calosoma forreri* Géhin, 1885: 64. Type locality: «Arizona» (original citation). Syntype(s) in MHNP (Deuve 1978: 253). Synonymy established by Jeannel (1940: 203).

**Distribution.** This species is found in Mexico south at least to Colombia and Venezuela (Erwin 1991a: 26). It is also occasionally found in southwestern United States from California to Texas (Gidaspow 1959: 253).

**Records. USA:** AZ, CA, NM, TX – Colombia, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Venezuela

[**peregrinator group**]

***Calosoma eremicola* Fall, 1910**

*Calosoma eremicola* Fall, 1910: 91. Type locality: «San Clemente Island [Los Angeles County], southern California» (original citation). Syntype(s) [2 originally cited] in MCZ [# 23842].

*Calosoma rugosipennis* Schaeffer, 1911: 113. Type locality: «California» (original citation). Holotype [by monotypy] (♂) location unknown. Synonymy established by Gidaspow (1959: 259).

*Calosoma hospes* Casey, 1913: 63. Type locality: «Coronado [San Diego County], near San Diego, California» (original citation). Two syntypes in USNM [# 37114]. Synonymy established by Jeannel (1940: 206).

*Acamegonia peregrinatrix incerta* Lapouge, 1924: 38. Type locality: «Basse Californie [= Baja California]» (original citation). Syntype(s) location unknown. Synonymy established by Gidaspow (1959: 259).

**Distribution.** This species is found in southern California and northern Baja California (Gidaspow 1959: 259); it is also known from one locality in southwestern New Mexico (Gidaspow 1959: 259), from Montezuma County in Colorado (FFPC), and has been reported from Nevada by Erwin (2007a: 91).

**Records. USA:** CA (CHI), CO, NM, NV – Mexico

***Calosoma peregrinator* Guérin-Méneville, 1844**

*Calosoma peregrinator* Guérin-Méneville, 1844c: 255. Type locality: intérieur du Mexique (inferred from title of the paper), herein restricted to Guadalajara, Jalisco (see Gidaspow 1959: 258). Syntype(s) probably in MHNP.

*Calosoma carbonatum* LeConte, 1862: 53. Type locality: «New Mexico and upper Texas» (original citation), restricted to «New Mexico» by Gidaspow (1959: 257). Syntype(s) in MCZ [# 625]. Synonymy established by Horn (1883b: 270).

*Calosoma peregrinator ingens* Casey, 1913: 62. Type locality: «San Diego [San Diego County], California» (original citation). Two syntypes [2 originally cited] in

USNM [# 37105]. Synonymy established by Breuning (1928a: 103), confirmed by Gidaspow (1959: 258).

*Calosoma peregrinator amplipennis* Casey, 1913: 62. Type locality: «probably New Mexico or southern Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 37106]. Synonymy established by Breuning (1928a: 103), confirmed by Gidaspow (1959: 258).

*Calosoma subgracilis* Casey, 1913: 63. Type locality not stated. Holotype [by monotypy] (♂) in USNM [# 37107]. Synonymy established by Jeannel (1940: 204), confirmed by Gidaspow (1959: 259).

*Calosoma apacheana* Casey, 1913: 63. Type locality: «Arizona» (original citation). Holotype [by monotypy] (♂) in USNM [# 37108]. Synonymy established by Breuning (1928a: 103), confirmed by Gidaspow (1959: 258).

**Distribution.** The range of this species extends from Sacramento County in central California (Clark 1999: 202) to western Kansas (Popenoe 1877: 22), south to the Federal District in Mexico and Baja California (Gidaspow 1959: 258).

**Records. USA:** AZ, CA, CO, KS, NM, OK, TX, UT – Mexico

### *Calosoma sponsa* Casey, 1897

*Calosoma sponsa* Casey, 1897: 340. Type locality: «Utah» (original citation). Holotype [by monotypy] (♂) in USNM [# 37113]. NOTE. It is obvious that Casey (1897) incorrectly treated *Calosoma* as a feminine name. Therefore the specific name could be a noun in apposition, from the Latin *sponsa*, -ae (betrothed woman, bride), or a Latin adjective, from *sponsus*, -a, -um (promised, engaged, betrothed). In such case, the name is to be treated as a noun in apposition (ICZN 1999: Article 31.2.2) unless the author indicated that he or she regarded the name as an adjective or the evidence of usage is decisive. Casey (1897: 340) did not indicate that the name was an adjective and the evidence of usage is not decisive since the name has been treated as an adjective (e.g., *C. sponsum*) by some authors (e.g., Erwin et al. 1977: 4.4; Bousquet and Laroche 1993: 72; Lorenz 2005: 70; Erwin 2007: 104) and as a noun in apposition (e.g., *C. sponsa*) by others (e.g., Gidaspow 1959: 260; Culot 1988: 13). Consequently the name is to be treated as a noun in apposition.

*Calosoma parviceps* Casey, 1897: 341. Type locality: «Arizona» (original citation). One syntype in USNM [# 37112]. Synonymy established by Breuning (1928a: 103), confirmed by Gidaspow (1959: 260).

**Distribution.** This species is known from western Utah (Millard County, Ken Karns pers. comm. 2009), western Nevada, southern California, and “Arizona” (Gidaspow 1959: 260).

**Records. USA:** AZ, CA, NV, UT

**Subgenus *Callitropa* Motschulsky, 1866**

*Callitropa* Motschulsky, 1866: 300. Type species: *Carabus externus* Say, 1823 by monotypy. Etymology. Uncertain, possibly from the Greek prefix *callo-* (beautiful) and *tropos* (manner) [feminine].

*Paratropa* Lapouge, 1929b: 3. Type species: *Calosoma macrum* LeConte, 1853 designated by Jeannel (1940: 209). Synonymy established by Jeannel (1940: 209).

**Diversity.** Three North American species, two of them extending into Mexico.

***Calosoma externum* (Say, 1823)**

*Carabus externus* Say, 1823b: 150. Type locality: «Little Rock [Pulaski County], Ark[ansas]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 331), in MCZ [# 33089]. NOTE. «Arkansa» was the area originally cited by Say (1823b: 150).

*Calosoma longipenne* Dejean, 1831: 568. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 12; Deuve 1978: 247). Synonymy established by LeConte (1847: 445), confirmed by Lindroth (1955b: 12).

**Distribution.** This species ranges from “Vermont” (Ross T. Bell pers. comm. 1989; probably only as strays) to “Nebraska,” including southernmost Ontario (only as strays), south to “Texas” (Gidaspow 1959: 274) and southern Georgia (Fattig 1949: 10).

**Records.** CAN: ON USA: AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NJ, NY, OH, OK, PA, SC, TN, TX, VA, VT, WI

***Calosoma macrum* LeConte, 1853**

*Calosoma macrum* LeConte, 1853c: 400. Type locality: «Texas» (original citation), herein restricted to San Antonio, Bexar County (see Breuning 1928a: 118). Syntype(s) in MCZ [# 621].

**Distribution.** This species is known from “Arkansas” (Jeannel 1940: 214) to “New Mexico” (Erwin 2007a: 98), south to northeastern Mexico (Gidaspow 1959: 274) and “Louisiana” (Burgess and Collins 1917: 25).

**Records.** USA: AR, LA, NM, OK, TX – Mexico

***Calosoma protractum* LeConte, 1862**

*Calosoma protractum* LeConte, 1862: 52. Type locality: «Arizona» (original citation). Syntype(s) in MCZ [# 622].

*Calosoma dolens* Chaudoir, 1869a: 376. Type locality: «près d’Oaxaca, Mexique» (original citation). Lectotype (♂), designated by Deuve (1978: 250), in MHNP. Synonymy established by Breuning (1928a: 118).



*Calosoma truncatum* Géhin, 1885: 64. Type locality: «Mexico» (original citation). Syntype(s) probably in MHNP (collection Oberthür). Synonymy established by Breuning (1928a: 118).

**Distribution.** This species is known from “Colorado” (Gidaspow 1959: 275) and southeastern Arizona (Snow 1906b: 161) south at least to the state of Guerrero in Mexico (Gidaspow 1959: 275). The records from southern Kansas (Snow 1903: 192; Knaus 1905a: 218; Burgess and Collins 1917: 26) are doubtful (see Gidaspow 1959: 275).

**Records. USA:** AZ, CO – Mexico

### **Subgenus *Blaptosoma* Géhin, 1876**

*Blaptosoma* Géhin, 1876a: 45. Type species: *Calosoma laeve* Dejean, 1826 designated by Breuning (1928b: 43). Etymology. From the Greek *blapto* (hurt) and *soma* (body) [neuter].

*Aulacopterus* Géhin, 1885: xxxiv. Type species: *Calosoma viridisulcatum* Chaudoir, 1863 by original designation. Synonymy established by Breuning (1928b: 43).

**Diversity.** Seven Mexican species, one of them extending into North America.

### ***Calosoma haydeni haydeni* Horn, 1870**

*Calosoma haydeni* G.H. Horn, 1870a: 69. Type locality: «southern Colorado» (original citation). Syntype(s) in MCZ [# 34552]. Etymology. This species was proposed for Ferdinand Vandever Hayden [1828-1887], American geologist, explorer, teacher, and physician. Hayden played the leading role in 1871 and 1872 for the establishment of Yellowstone National Park, the first national “public park or pleasuring-ground for the benefit and enjoyment of the people.”

**Distribution.** This subspecies is known from southern Colorado (Wickham 1902: 231), northwestern Arizona, “New Mexico,” Brewster County in western Texas (Gidaspow 1959: 281), and Chihuahua in Mexico (Erwin 2007a: 96).

**Records. USA:** AZ, CO, NM, TX – Mexico

### ***Calosoma haydeni punctulicolle* Bates, 1891**

*Calosoma laeve* var. *punctulicolle* Bates, 1891a: 225. Type locality: «Santa Clara, in Chihuahua; Durango city; Monterey, in Nuevo Leon» (original citation). Syntype(s) probably in BMNH.

**Distribution.** This subspecies is known from Mexico as far south as the Federal District and from Brewster County in western Texas (Gidaspow 1959: 281).

**Records. USA:** TX – Mexico

**Subgenus *Chrysostigma* Kirby, 1837**

*Chrysostigma* Kirby, 1837: 19. Type species: *Carabus calidus* Fabricius, 1775 designated by Hope (1838: 47). Etymology. From the Greek *chrysos* (gold) and *stigma* (mark, spot), alluding to the conspicuous gilded elytral punctures (“elytra obscure with gilded punctiform impressions”) of the adult [neuter].

*Tapinosthenes* Kolbe, 1895: 56. Type species: *Calosoma cancellatum* Eschscholtz, 1833 by monotypy. Synonymy established by Jeannel (1940: 161). Etymology. From the Greek *tapeinos* (low, humble) and *sthenos* (strength) [masculine].

*Lyperostenia* Lapouge, 1929b: 3. Type species: *Calosoma triste* LeConte, 1845 (= *Calosoma affine* Chaudoir, 1843) by subsequent monotypy in Lapouge (1931: 382). Synonymy established by Gidaspow (1959: 260). Etymology. From the Greek *lyperos* (painful, by extension sad) and the Greek *stenos* (narrow) [feminine].

**Diversity.** Western Hemisphere, with ten species in North America (nine species) and Middle America (four species, only one, *C. ampliator* Bates, being endemic).

***Calosoma affine* Chaudoir, 1843**

*Calosoma affine* Chaudoir, 1843b: 746. Type locality: «Mexique» (original citation), herein restricted to Villa Lerdo, Durango (see Gidaspow 1959: 269). Syntype(s) in MHNP (Deuve 1978: 250).

*Calosoma triste* LeConte, 1845a: 201. Type locality: «Missouri [Territory]» (original citation). Syntype(s) in MCZ [# 627]. Synonymy established by Jeannel (1940: 169).

*Calosoma tristoides* Fall, 1910: 92. Type locality: «at or near San Diego [San Diego County], California» (original citation). Syntype(s) in MCZ [# 23844]. Synonymy established by Jeannel (1940: 169).

**Distribution.** This species ranges from southern Minnesota (Gandhi et al. 2005: 922) to the Pacific Coast in southern California, south to the state of Oaxaca in Mexico (Gidaspow 1959: 269). The records from Missouri (probably based on the type locality of *C. triste*) and “Arkansas” (Burgess and Collins 1917: 87), possibly based on a stray, need confirmation.

**Records.** USA: AZ, CA, CO, KS, MN, NE, NM, NV, OK, TX, UT [AR, MO] – Mexico

***Calosoma calidum* (Fabricius, 1775)**

*Carabus calidus* Fabricius, 1775: 237. Type locality: «America» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1961a: 50). Lectotype (♂), designated by Lindroth (1961a: 50), in ZMUC.

*Calosoma calida stellata* Casey, 1897: 344. Type locality: «Lake Superior» (original citation). One syntype in USNM [# 37088]. Synonymy established by Gidaspow (1959: 265).

*Calosoma calida expansa* Casey, 1897: 344. Type locality: «Keokuk [Lee County], Iowa» (original citation). One syntype in USNM [# 37087]. Synonymy established by Casey (1913: 60), confirmed by Lindroth (1961a: 50).

*Calosoma calida laticollis* Casey, 1897: 344. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). One syntype in USNM [# 37089]. Synonymy established by Breuning (1928a: 84), confirmed by Lindroth (1961a: 50).

*Calosoma comes* Casey, 1920: 156. Type locality: «Northwest Territory» (original citation). Holotype [by monotypy] (♂) in USNM [# 37090]. Synonymy established by Breuning (1928a: 84), confirmed by Lindroth (1961a: 50).

*Calosoma concreta* Casey, 1920: 157. Type locality: «apparently north of Lake Superior» (original citation). Holotype [by monotypy] (♂) in USNM [# 37091]. Synonymy established, under the name *C. calidum stellatum* Casey, by Breuning (1928a: 84), confirmed by Lindroth (1961a: 50).

*Chrysostigma lepidum ocellatum* Lapouge, 1931: 381. Type locality: «Canada méridional, Etats-Unis» (original citation). Syntype(s) probably in MCZ, BMNH, and MHNP. Synonymy established with the name *C. expansum* Casey by Lapouge (1931: 381). NOTE. This name was proposed for *Calosoma calidum* (Fabricius, 1775) *sensu* Dejean (1826: 197), Kirby (1837: 19), LeConte (1878e: 65), Burgess and Collins (1917: 98) and Breuning (1928a: 84).

**Distribution.** The range of this species extends from Newfoundland (Larson and Langor 1982: 592) and Saint Pierre and Miquelon (Lindroth 1955a: 28) to eastern British Columbia (Lindroth 1961a: 51), south to “Oregon” (Hatch 1953: 52), northeastern New Mexico (Casey 1897: 344), “Kansas” (Horn 1872c: 384), east-central Missouri (Summers 1873: 133), and northern Georgia (Fattig 1949: 11); several specimens have also been caught along the Slave and Mackenzie Rivers, up to 65°30'N, in Northwest Territories (White 1851: 357; Lindroth 1961a: 51). The records from southeastern Louisiana (Summers 1874a: 79), “Alabama,” “Arkansas,” and “Mississippi” (Bousquet and Laroche 1993: 72) are probably in error.

**Records.** FRA: PM CAN: AB, BC, MB, NB, NS (CBI), NT, ON, QC, SK USA: CO, CT, DC, DE, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OR, PA, RI, SD, TN, UT, VA, VT, WA, WI, WV, WY  
**Note.** Gidaspow (1959: 266) treated *C. concretum* Casey as a valid species. However, both Lindroth (1961a: 50) and Obydov (2003: 534) retained the name as synonym of *C. calidum* (Fabricius).

### *Calosoma cancellatum* Eschscholtz, 1833

*Calosoma cancellatum* Eschscholtz, 1833: 23. Type locality: «bei St. Franzisco [San Francisco County], Californien» (original citation). Syntype(s) location unknown (possibly in ZMMU).

*Calosoma aenescens* LeConte, 1854a: 16. Type locality: «Fort Vancouver» (original citation). Syntype(s) in MCZ [# 632]. Synonymy established by LeConte (1857c:

30). NOTE. Fort Vancouver was a massive British outpost on the north bank of the Columbia River, slightly upstream from the mouth of the Willamette River, in Washington.

*Calosoma esuriens* Casey, 1913: 64. Type locality: «near San Diego [San Diego County], California» (original citation). One syntype in USNM [# 37094]. Synonymy established by Breuning (1928a: 90).

*Calosoma transversa* Casey, 1913: 65. Type locality: «near San Diego [San Diego County], California» (original citation). One syntype in USNM [# 37095]. Synonymy established by Breuning (1928a: 90).

*Calosoma sagax* Casey, 1920: 158. Type locality: «Lassen Co[unty], California» (original citation). One syntype in USNM [# 37096]. Synonymy established by Breuning (1928a: 90).

*Calosoma rectilatera* Casey, 1920: 158. Type locality: «Palm Spring [Riverside County], California» (original citation). One syntype in USNM [# 37097]. Synonymy established by Breuning (1928a: 91).

*Calosoma praestans* Casey, 1920: 159. Type locality: «Butte Co[unty], California» (original citation). One syntype in USNM [# 37098]. Synonymy established by Breuning (1928a: 91).

**Distribution.** This species ranges from south-central British Columbia (Lindroth 1961a: 53) to north-central North Dakota (McHenry County, Foster F. Purrington pers. comm. 2009), south to “Arizona” (Gidaspow 1959: 263) and southern California along the coast (Casey 1913: 64-65, as *C. esuriens* and *C. transversa*). The record from “Indian Territory” (= Oklahoma) (Burgess and Collins 1917: 111) is probably in error.

**Records.** CAN: BC USA: AZ, CA, ID, MT, ND, NV, OR, UT, WA

### *Calosoma lepidum* LeConte, 1845

*Calosoma lepidum* LeConte, 1845a: 201. Type locality: «Missouri [Territory]» (original citation), cited from «ad flumen Yellow-stone» by LeConte (1847: 446). Syntype(s) in MCZ [# 630].

**Distribution.** This species inhabits the Great Plains ranging from the southern parts of the Prairie Provinces south to Montana (Gidaspow 1959: 265; Lindroth 1961a: 51) and north-central South Dakota (Walworth County, CNC). The record from “Wyoming” (Bousquet and Larochelle 1993: 73) needs confirmation.

**Records.** CAN: AB, MB, SK USA: MT, ND, SD [WY]

### *Calosoma morrisonii* Horn, 1885

*Calosoma morrisonii* G.H. Horn, 1885a: 128. Type locality: «Colorado» (original citation). Syntype(s) in MCZ [# 35318] and ZMUA (Boer 2002: 79). Etymology. The specific name honors Herbert Knowles Morrison [1854-1885] who became a professional insect collector in the 1870s. Morrison travelled across the United States and sometimes walked 40 miles a day in pursuit of insects (Sorensen 1995: 37).



*Calosoma mexicanum* Géhin, 1885: 67. Type locality: «Mexique» (original citation). Syntype(s) in MHNP (Deuve 1978: 252). Synonymy established by Gidaspow (1959: 270). NOTE. Bruschi (2010), who saw a syntype of *C. mexicanum* Géhin, believed the specimen is very similar to, and probably conspecific with, those of *C. calidum* (Fabricius). If this is correct, then the provenance indicated by Géhin (1885: 67) is incorrect since *C. calidum* is not found in Mexico.

**Distribution.** This species is known from southern California to “Colorado,” south to Durango in western Mexico (Gidaspow 1959: 270).

**Records. USA:** CA, CO, NM, NV – Mexico

### *Calosoma obsoletum* Say, 1823

*Calosoma obsoleta* Say, 1823b: 149. Type locality: «F[or]t Reynolds [Pueblo County], Colo[rado]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 331), in MCZ [# 33088]. NOTE. «Arkansa» was the area originally cited by Say (1823b: 150).

*Calosoma indistinctum* LeConte, 1845b: 208. Type locality: United States of America (inferred from title of the paper). Syntype(s) probably in MCZ. Synonymy established by Breuning (1928a: 110). NOTE. LeConte’s collection contains six specimens under the name *C. obsoletum*. Any or all of them could be syntypes.

*Calosoma obsoleta microsticta* Casey, 1897: 345. Type locality: «Fort Wingate [McKinley County], New Mexico; Kansas» (original citation). Two syntypes [2 ♂ originally cited] in USNM [# 37104]. Synonymy established by Breuning (1928a: 110). NOTE. Gidaspow (1959: 267) pointed out that of the two specimens in Casey’s collection (USNM) under this name, one belongs to *C. lepidum* LeConte, the other to *C. obsoletum* Say. Until a lectotype is designated, the name *C. microsticta* Casey is listed as a junior synonym of *C. obsoletum* Say following Breuning (1928a: 110).

**Distribution.** This species ranges from Saskatchewan (Lindroth 1961a: 50) to eastern Oregon, south to northeastern Nevada (La Rivers 1947: 136), northwestern New Mexico (Casey 1897: 345, as *C. obsoleta microsticta*; McKinley County, UASM) and southwestern Oklahoma (Kondratieff et al. 2005: 171), east to eastern Minnesota (Gandhi et al. 2005: 922). The record from “Texas” (Burgess and Collins 1917: 87) needs confirmation.

**Records. CAN:** AB, MB, SK **USA:** CO, IA, ID, KS, MN, MT, ND, NE, NM, NV, OK, OR, SD, UT, WY [TX]

### *Calosoma semilaeve* LeConte, 1852

*Calosoma semilaeve* LeConte, 1852a: 199. Type locality: «San Jose; San Diego [California]» (original citation), restricted to «San Diego [San Diego County]» by Gidaspow (1959: 271). Syntype(s) in MCZ [# 628].

*Calosoma semilaevis davidsoni* Casey, 1914: 33. Type locality: «Alameda Co[unty], California» (original citation). Two syntypes in USNM [# 37116]. Synonymy estab-

lished by Breuning (1928a: 111). Etymology. The subspecific name was proposed for George Davidson [1825-1911], surveyor, geodesist, and astronomer. Born in England, Davidson was put in charge of the survey on the west coast in 1850 soon after the United States took over California from Mexico. The Davidson Seamount off the coast of California and Mount Davidson and Davidson Street in San Francisco are named for him.

*Calosoma semilaevis adjutor* Casey, 1920: 162. Type locality: «Alameda [Alameda County], California» (original citation). One syntype in USNM [# 37115]. Synonymy established by Breuning (1928a: 111).

**Distribution.** This species ranges from eastern Oregon and “Idaho” (Gidaspow 1959: 271) south to southern Arizona (Snow 1907: 141) and southern California along the coast (Fall 1901a: 40; Moore 1937: 4); also found on Guadalupe Island, Mexico (Gidaspow 1959: 271). The record from northeastern Kansas (Popenoe 1877: 22) is likely in error.

**Records. USA:** AZ, CA (CHI), ID, OR, UT – Mexico

### *Calosoma simplex* LeConte, 1878

*Calosoma simplex* LeConte, 1878d: 61. Type locality: «middle California» (original citation), herein restricted to Pinoche Hill, Merced County (see Gidaspow 1959: 272). Holotype [by monotypy] (♂) in MCZ [# 629].

**Distribution.** This species is confined to California where it is known from Yolo County to Riverside (Gidaspow 1959: 272) and San Diego Counties (Moore 1937: 4). The records from “Arizona,” “Colorado,” “Texas,” and “Mexico” (Burgess and Collins 1917: 93) are probably in error.

**Records. USA:** CA

### *Calosoma tepidum* LeConte, 1852

*Calosoma tepidum* LeConte, 1852a: 199. Type locality: «Oregon» (original citation), herein restricted to Oregon City, Clackamas County (see Breuning 1928a: 89). Syntype(s) in MCZ [# 631].

*Calosoma irregulare* Walker, 1866: 312. Type locality: British Columbia (inferred from title of the book). Syntype(s) location unknown (possibly in BMNH). Synonymy established by Horn (1870a: 70).

*Calosoma tepida caelator* Casey, 1913: 61. Type locality: «Coeur d’Alene [Kootenai County], Idaho» (original citation). Holotype [by monotypy] (♂) in USNM [# 37101]. Synonymy established by Breuning (1928a: 88), confirmed by Lindroth (1961a: 51).

*Calosoma tepida indigens* Casey, 1913: 61. Type locality: «Oregon» (original citation). Two syntypes in USNM [# 37099]. Synonymy established by Breuning (1928a: 88), confirmed by Lindroth (1961a: 51).

*Calosoma pallax* Casey, 1920: 160. Type locality: «probably Oregon or adjacent region» (original citation). Holotype [by monotypy] (♂) in USNM [# 37100]. Synonymy established by Breuning (1928a: 88), confirmed by Lindroth (1961a: 51).

*Calosoma semicuprea* Casey, 1920: 161. Type locality: «probably northern Rocky Mountain region» (original citation). Holotype [by monotypy] (♂) in USNM [# 37102]. Synonymy established by Breuning (1928a: 88), confirmed by Lindroth (1961a: 51).

*Calosoma cogitans* Casey, 1920: 161. Type locality: «Stockton [Tooele County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 111), in USNM [# 37103]. Synonymy established by Breuning (1928a: 88), confirmed by Lindroth (1961a: 52).

**Distribution.** This species is found from Vancouver Island (Lindroth 1961a: 52) to “Nebraska,” south to “Colorado” (Gidaspow 1959: 264) and southern California (La Rivers 1947: 136). The records from “North Dakota” (Bousquet and Larochelle 1993: 73) and “Alberta” (Burgess and Collins 1917: 107) need confirmation.

**Records.** CAN: BC (VCI) USA: AZ, CA, CO, ID, MT, NE, NV, OR, UT, WA, WY [AB, ND]

**Note.** Obydov (2003: 536), based on a study of two specimens only, concluded that *C. cogitans* Casey represents a valid subspecies of *C. tepidum* LeConte. I agree with Gidaspow (1959: 263) and Lindroth (1961a: 52) that the name does not apply to a distinct taxon.

### Subgenus *Callistenia* Lapouge, 1929

*Callistenia* Lapouge, 1929b: 2. Type species: *Calosoma moniliatum* LeConte, 1852 designated by Jeannel (1940: 170). Etymology. Uncertain, possibly from the Greek *callos* (beauty) and *stenos* (narrow) [feminine].

*Isostenia* Lapouge, 1929b: 2. Type species: *Calosoma wilkesii* LeConte, 1852 by subsequent monotypy in Lapouge (1931: 380). Synonymy established by Jeannel (1940: 170).

**Diversity.** Fourteen North American species in the western half of the continent.

### *Calosoma dawsoni* (Dajoz, 1997), new combination

*Callisthenes dawsoni* Dajoz, 1997a: 70. Type locality: «proximité du Big Alkali Lake (2100 mètres) au voisinage de la route de Mammoth Lakes à Benton, Mono County, Californie» (original citation). Holotype probably in Dajoz’s collection (Paris, France).

**Distribution.** This species is known only from the original 16 specimens collected at the type locality in the Sierra Nevada.

**Records.** USA: CA

***Calosoma dietzii* Schaeffer, 1904**

*Calosoma dietzii* Schaeffer, 1904: 197. Type locality: «Tulare Co[unty], California» (original citation). Syntype(s) [4 originally cited] location unknown. Etymology. The specific name was proposed for Ottomar Dietz [1854-1901], an enthusiastic beetle collector. Born in Germany, Dietz moved to America in his 20s, living in Milwaukee and Cincinnati before settling in New York where he was engaged in the newspaper advertising business. He was a founding member of the New York Entomological Society.

*Callisthenes gravidulus* Casey, 1913: 69. Type locality: «Sequoia National Park (4600'), Tulare Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 37120]. Synonymy established by Breuning (1928b: 79).

**Distribution.** This species has been recorded so far from the Sierra Nevada in Tulare County and "South Fork" in Humboldt County, California (Gidaspow 1959: 308).

**Records. USA:** CA

***Calosoma discors* LeConte, 1857**

*Calosoma discors* LeConte, 1857c: 31. Type locality: «San Francisco; Sacramento [California]» (original citation), restricted to «Sacramento [Sacramento County]» by Gidaspow (1959: 308). Syntype(s) in MCZ [# 634].

*Callisthenes discors inversus* Casey, 1913: 67. Type locality: «San Francisco [San Francisco County], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 37117]. Synonymy established by Breuning (1928b: 79).

**Distribution.** This species is found in California from El Dorado and Sacramento Counties to Santa Cruz and Madera Counties (Gidaspow 1959: 308); it was cited also from Washington (Burgess and Collins 1917: 119) but the record is probably in error or based on a stray.

**Records. USA:** CA

***Calosoma lariversi* Van Dyke, 1943**

*Calosoma lariversi* Van Dyke, 1943: 17. Type locality: «near Lamoille [Elko County], Nevada» (original citation). Holotype (♂) in CAS [# 5294]. Etymology. The specific name honors Ira John La Rivers, II [1915-1977], professor of biology at the University of Nevada in Reno. La Rivers was a naturalist and published on many living groups including beetles, true bugs, ants, fishes, and algae.

**Distribution.** According to La Rivers (1947: 137), this species is "apparently the predominant *Calosoma* of eastern Nevada, and a marked montane isolate."

**Records. USA:** NV





**Figure 8.** *Cychnus tuberculatus* (Harris). This species belongs to a genus that contains numerous species in the Palearctic Region but only two in North America, both west coastal elements. The two species are morphologically very similar and likely sister-species, suggesting that a single ancestral stock crossed Beringia. *Stomis* and *Trechoblemus* are other carabid genera well represented in the Palearctic with a single species each on the West Coast of North America.

***Calosoma latipenne* Horn, 1870**

*Calosoma latipenne* G.H. Horn, 1870a: 70. Type locality: «elevated regions of the South Sierras of California» (original citation). Syntype(s) in MCZ [# 8125].

*Calosoma arcuata* Casey, 1897: 343. Type locality: «Arizona» (original citation), which may be in error (Gidaspow 1959: 307). One syntype in USNM [# 37121]. Synonymy established with doubt, under the name *C. subaeneum opimum* (Casey), by Breuning (1928b: 81), confirmed by Gidaspow (1959: 306).

*Callisthenes tularensis* Casey, 1913: 68. Type locality: «Tulare Co[unty], California» (original citation). One syntype in USNM [# 37119]. Synonymy established by Gidaspow (1959: 306).

*Callisthenes opimus* Casey, 1913: 69. Type locality: «Kern Co[unty], California» (original citation). Two syntypes in USNM [# 37118]. Synonymy established by Gidaspow (1959: 306).

**Distribution.** This species is found in California from Sacramento County to Los Angeles and San Bernardino Counties (Gidaspow 1959: 307); according to Burgess and Collins (1917: 122), it was also collected in Reno, western Nevada.

**Records. USA:** CA, NV

***Calosoma luxatum* Say, 1823**

*Calosoma luxata* Say, 1823b: 149. Type locality: «Douglas Spring, Routt Co[unty], Colo[rado]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 331), in MCZ [# 33087]. NOTE. «Arkansa [probably the Arkansas River since Say added “found near the Rocky mountains”]» was the area originally cited by Say (1823b: 150).

*Carabus zimmermani* LeConte, 1847: 445. Type locality: «Rocky Mountains» (original citation). Holotype [by monotypy] in MCZ [# 638]. Synonymy established by Jeannel (1940: 175). Etymology. The species name honors Christian Zimmermann [1800-1867], an accomplished entomologist. Born in Germany, Zimmermann immigrated to the United States at the age of 31 and eventually settled in South Carolina where he divided his time between collecting trips along the East Coast and working on his collection at home. His collection was bought by Dr. Lewis of Philadelphia and from him by George Robert Crotch who sold it to the MCZ. According to Hagen (1889: 57), “a great part [of Zimmermann’s specimens] is in Leconte’s collection, and can be recognized at once by the number on the pins in Zimmermann’s hand-writing.”

*Calosoma striatulum* LeConte, 1859c: 4 [primary homonym of *Calosoma striatulum* Chevrolat, 1835]. Type locality: «Milk river [probably in Montana]; Utah» (original citation). Syntype(s) in MCZ [# 639]. Synonymy established by Burgess and Collins (1917: 120), confirmed by Lindroth (1961a: 54).

*Callisthenes pimelioides* Walker, 1866: 312. Type locality: British Columbia (inferred from title of the book), restricted to «Oliver» by Lindroth (1961a: 54). At least

one syntype in BMNH (Lindroth 1961a: 55). Synonymy established, under the name *C. zimmermani* LeConte, by LeConte (1870: 399) and Horn (1870a: 70), confirmed by Lindroth (1961a: 54).

*Callisthenes luxatus* var. *opacus* Géhin, 1885: 70. Type locality: «Orégon» (original citation). Syntype(s) in MHNP (Deuve 1978: 252). Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 83).

*Callisthenes exaratus* Casey, 1913: 72. Type locality: «Placer Co[unty], California» (original citation). Three syntypes [3 originally cited] in USNM [# 37132]. Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 84).

*Callisthenes tegulatus* Casey, 1913: 72. Type locality: «California» (original citation). One syntype in USNM [# 37128]. Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 83).

*Callisthenes tegulatus viator* Casey, 1913: 72. Type locality: «California» (original citation). One syntype in USNM [# 37129]. Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 83).

*Callisthenes pustulosus* Casey, 1913: 73. Type locality: «Yreka [Siskiyou County], California» (original citation). One syntype in USNM [# 37127]. Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 84).

*Callisthenes diffractus* Casey, 1913: 75. Type locality: «Coolidge [McKinley County], New Mexico» (original citation). One syntype in USNM [# 37126]. Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 84).

*Callisthenes reflexus* Casey, 1920: 164. Type locality: «northern Rocky Mountain region» (original citation). One syntype in USNM [# 37130]. Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 84).

*Callisthenes utensis* Casey, 1920: 165. Type locality: «Stockton [Tooele County], Utah» (original citation). One syntype in USNM [# 37131]. Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 84).

*Callisthenes semotus* Casey, 1920: 166. Type locality: «Stockton [Tooele County], Utah» (original citation). One syntype in USNM [# 37133]. Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 84).

*Callisthenes debilis* Casey, 1920: 167. Type locality: «Oregon» (original citation). One syntype in USNM [# 37134] and one in SIM (Hennessey 1990: 466). Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 84).

*Callisthenes parowanus* Casey, 1920: 167. Type locality: «Parowan [Iron County], Utah» (original citation). One syntype in USNM [# 37136]. Synonymy established, under the name *C. luxatum zimmermanni* LeConte, by Breuning (1928b: 84).

*Calosoma striata* Breuning, 1928b: 86. Replacement name for *Calosoma striatulum* LeConte, 1859.

*Calosoma zimmermanni tahoensis* Van Dyke, 1943: 18. Type locality: «slopes of M[oun]t Tallac, near Lake Tahoe [Placer County], California» (original citation). Holotype (♂) in CAS [# 5296]. Synonymy established, under the name *C. zimmermanni* LeConte, by Gidaspow (1959: 318).

**Distribution.** This species ranges from southern Saskatchewan to the Okanagan Valley in south-central British Columbia (Lindroth 1961a: 56), south to southeastern California, northwestern New Mexico (Casey, 1913: 75, as *Callisthenes diffractus*), and northern Kansas [see Gidaspow 1959: Fig. 11, as *C. luxatus*, *C. pimelioides*, and *C. zimmermanni*]. At least one specimen simply labeled from New Mexico is known (Gidaspow 1959: 311). The records from “Oklahoma” and “Texas” (Burgess and Collins 1917: 121, as *C. zimmermani*) need confirmation.

**Records.** CAN: AB, BC, SK USA: AZ, CA, CO, ID, KS, MT, NE, NM, NV, OR, SD, UT, WA, WY [OK, TX]

**Note.** Gidaspow (1959) considered *C. pimelioides* Walker [synonyms: *tegulatus* Casey, *viator* Casey, *pustulosus* Casey, *reflexus* Casey, and *parowanus* Casey] and *C. zimmermanni* LeConte [synonyms: *opacus* Géhin, *exaratus* Casey, *debilis* Casey, and *tahoensis* Van Dyke] as distinct species but Lindroth (1961a: 55) argued that the structural differences noted between these forms are no more than intraspecific variation.

### *Calosoma moniliatum* (LeConte, 1852)

*Callisthenes moniliatus* LeConte, 1852a: 200. Type locality: «Oregon» (original citation). Syntype(s) in MCZ [# 633].

*Calosoma laqueatum* LeConte, 1860: 318. Type locality: «Saskatchewan» (original citation). Syntype(s) in MCZ [# 637]. Synonymy established by LeConte (1878e: 66).

*Carabus bicolor* Walker, 1866: 313 [primary homonym of *Carabus bicolor* Drury, 1773]. Type locality: British Columbia (inferred from title of the book). Syntype(s) in BMNH. Synonymy established, under the name *C. laqueatum* LeConte, by LeConte (1870: 399), confirmed by Lindroth (1961a: 53).

*Callisthenes concinnus* Casey, 1913: 66. Type locality: «Priest Lake [Bonner County], Idaho» (original citation). Lectotype (♂), designated by Lindroth (1975: 111), in USNM [# 37135]. Synonymy established by Jeannel (1940: 177).

*Carabus taedatus* var. *vancouvericus* Csiki, 1927: 286. Replacement name for *Carabus taedatus* var. *bicolor* Walker, 1866.

**Distribution.** This species ranges from Saskatchewan to southeastern British Columbia (Lindroth 1961a: 53-54), south to “California,” “Arizona,” and “Nebraska” (Gidaspow 1959: 305). The records from “Vancouver Island” (Gidaspow 1959: 305) and “Northwest Territory, Canada” (Burgess and Collins 1917: 114) are probably in error.

**Records.** CAN: AB, BC, SK USA: AZ, CA, ID, MT, NE, OR, WA



***Calosoma monticola* Casey, 1897**

*Calosoma monticola* Casey, 1897: 342. Type locality: «Reno [Washoe County], Nevada» (original citation). One syntype in USNM [# 37124].

*Callisthenes nevadensis* Casey, 1913: 74. Type locality: «near Reno [Washoe County], Nevada» (original citation). One syntype in USNM [# 37125]. Synonymy established by Gidaspow (1959: 314).

**Distribution.** The range of this species extends from central Washington south at least to El Dorado County in California and western Nevada (Gidaspow 1959: 315); also recorded from “Utah” (Erwin 2007a: 79). One specimen simply labeled from Wyoming is known (Gidaspow 1959: 315). Notwithstanding Gidaspow (1959: 315), Hatch (1953: 54) did not record this species from Washington, Idaho, Oregon, and British Columbia and so the records from “Oregon” and “Idaho” (Bousquet and Laroche 1993: 74) need confirmation.

**Records. USA:** CA, NV, UT, WA [ID, OR, WY]

***Calosoma oregonum* (Gidaspow, 1959)**

*Callisthenes oregonus* Gidaspow, 1959: 317. Type species: «Oregon» (original citation). Holotype (♂) in SIM.

**Distribution.** This species is known from four specimens without locality data from “Oregon” (Gidaspow 1959: 317).

**Records. USA:** OR

***Calosoma placherum* (Gidaspow, 1959)**

*Callisthenes placherus* Gidaspow, 1959: 309. Type locality: «Forest Hill, Placer County, California» (original citation). Holotype (♂) in CAS [# 8516].

**Distribution.** This species is confined to California where it is found as far south as San Diego County along the coast and Tuolumne County in the Sierra Nevada (Gidaspow 1959: 310).

**Records. USA:** CA

***Calosoma schaefferi* Breuning, 1928**

*Calosoma irregulare* Schaeffer, 1915b: 235 [primary homonym of *Calosoma irregulare* Walker, 1866 and *Calosoma irregulare* Reitter, 1902]. Type locality: «Castella [Siskiyou County], California» (original citation). Holotype (♂) in USNM [# 42495].

*Calosoma discors schaefferi* Breuning, 1928b: 79. Replacement name for *Calosoma discors irregulare* Schaeffer, 1915.

*Calosoma striatius* Hatch, 1953: 54. Type locality: «Spencer’s Butte, Eugene [Lane County], Oregon» (original citation). Holotype (♂) in USNM. Synonymy established by Erwin (2007a: 81).

**Distribution.** This species ranges from western Oregon (Hatch 1953: 54, as *C. striatus*) to Santa Cruz County in California (Gidaspow 1959: 309) along the Coast Ranges.

**Records. USA:** CA, OR

***Calosoma subaeneum* Chaudoir, 1869**

*Calosoma subaeneum* Chaudoir, 1869b: 28. Type locality: «Californie» (original citation). Holotype [by monotypy] (♂) in MHNP (Deuve 1978: 250).

**Distribution.** This species is known from “Washington,” “Idaho,” and “California” (Burgess and Collins 1917: 114; Gidaspow 1959: 305). The records from British Columbia (Hatch 1953: 53; Gidaspow 1959: 305) probably refer to *C. cancellatum* Eschscholtz as pointed out by Lindroth (1961a: 53).

**Records. USA:** CA, ID, WA

***Calosoma subasperatum* Schaeffer, 1915**

*Calosoma subasperatum* Schaeffer, 1915b: 235. Type locality: «California» (original citation), herein restricted to Dorris, Siskiyou County (see Gidaspow 1959: 316). Holotype location unknown.

*Callisthenes klamathensis* Casey, 1920: 169. Type locality: «Klamath Co[unty], Oregon» (original citation). One syntype in USNM [# 37123]. Synonymy established by Gidaspow (1959: 315).

**Distribution.** This rarely collected species is known from Klamath and Harney Counties in southern Oregon and Siskiyou County in northern California (Gidaspow 1959: 316); also recorded from “Nevada” (Erwin 2007a: 82).

**Records. USA:** CA, NV, OR

***Calosoma wilkesii* (LeConte, 1852)**

*Callisthenes wilkesii* LeConte, 1852a: 200. Type locality: «Oregon» (original citation). Syntype(s) in MCZ [# 635]. Etymology. The specific name honors Charles Wilkes [1798-1877], American naval officer and explorer who commanded the United States Exploring Expedition (1838-1842), commonly known as the Wilkes Expedition. The expedition included naturalists who brought back entomological specimens.

**Distribution.** This species is found west of the Rocky Mountains from south-central British Columbia south to “California” (Lindroth 1961a: 54).

**Records. CAN:** BC **USA:** CA, ID, OR, WA

**Genus *CARABUS* Linnaeus, 1758**

*Carabus* Linnaeus, 1758: 413. Type species: *Carabus granulatus* Linnaeus, 1758 (ICZN 1954). Etymology. From the Greek *carabos* (an animal in Aristotle) [mas-

culine]. The animal in question, named *Locusta* in Latin, is uncertain. According to Camus (1783: 259), *carabos* was a grasshopper, to Cuvier (1803: 369, 370) a crawfish, and to Latreille (1812: 142) a Cerambycidae. Olivier (1795: [35] 1) reported that the name *Carabus* came from the scientific name *Scarabaeus* slightly modified.

**Diversity.** About 910 species (Lorenz 2005: 72–114) in North America (14 species), Mexico (two species), and the Palearctic (about 895 species) and Oriental (about five species) Regions.

**Identification.** Van Dyke (1944) reviewed the North American species and provided a key for the identification of all species except *C. auratus*. Lindroth (1961a: 30–42) covered all but two species (*C. finitimus* and *C. forreri*).

### Subgenus *Carabus* Linnaeus, 1758

*Carabus* Linnaeus, 1758: 413. Type species: *Carabus granulatus* Linnaeus, 1758 (ICZN 1954).

*Lichnocarabus* Reitter, 1896: 161. Type species: *Tachypus vinctus* Weber, 1801 designated by Deuve (1991: 29). Etymology. From the Greek *lichnos* (greedy, dainty) and the generic name *Carabus* [*q.v.*] [masculine].

*Paracarabus* Lapouge, 1930: 263 [junior homonym of *Paracarabus* Reitter, 1896]. Type species: *Carabus granulatus* Linnaeus, 1758 designated by Nakane (1962: 39). Etymology. From the Greek *para* (beside, near) and the generic name *Carabus* [*q.v.*] [masculine].

*Neocarabus* Hatch, 1953: 50 [junior homonym of *Neocarabus* Bengtsson, 1927 and *Neocarabus* Lapouge, 1930]. Type species: *Carabus granulatus* Linnaeus, 1758 by monotypy. NOTE. Hatch (1949c: 144) proposed this name earlier but failed to provide at the time a description of the taxon. Therefore the name is unavailable from that date.

**Diversity.** Twenty-six species (Deuve 2004: 109–119) in the Nearctic (three species, one of them adventive) and Palearctic (24 species) Regions.

**Taxonomic Note.** Members of *Archaeocarabus* Semenov (38 Chinese species) are included in this subgenus by some authors (e.g., Lorenz 2005: 72–73).

### [*granulatus* group]

#### *Carabus granulatus granulatus* Linnaeus, 1758

*Carabus granulatus* Linnaeus, 1758: 413. Type locality not stated; «Suecia» selected by Lindroth (1957b: 339). Four possible syntypes, only one belonging to the present species, in LSL (Lindroth 1957b: 331).

*Carabus granulatus hibernicus* Lindroth, 1956a: 7. Type locality: «Killarney, Kerry Co[unty], Ireland» (original citation). Holotype (♂) in BMNH. Synonymy established by Deuve (1994a: 90).

**Distribution.** This European subspecies is adventive in North America where it is known from Newfoundland (Larson and Langor 1982: 592) to southeastern Manitoba (Roughley et al. 2010: 230; CMNH), and from east-central Minnesota (Gandhi et al. 2011: 673), Massachusetts (Van Dyke 1945a: 129), and Connecticut (Middlesex County, William L. Krinsky pers. comm. 2012) in the east, and from western British Columbia (Lindroth 1961a: 37), including the Queen Charlotte Islands (Kavanaugh 2010: 385), western Washington (Hatch 1953: 51), and Edmonton, Alberta (UASM), in the west. The first inventoried specimen collected in the east was found in New Brunswick in 1890 (Lindroth 1961a: 37) and in the west in Seattle, Washington, in 1924 (Hatch 1933c: 117).

**Records.** **FRA:** PM **CAN:** AB, BC (QCI, VCI), MB, NB, NF, NS, ON, PE, QC **USA:** CT, MA, MN, WA – **Adventive**

[**vinctus group**]

***Carabus goryi* Dejean, 1831**

*Carabus limbatus* Say, 1823a: 77 [primary homonym of *Carabus limbatus* Fabricius, 1777]. Type locality: «Charles Co[unty], Maryland» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 331), in MCZ [# 33091]. NOTE. «Maryland» was the area originally cited by Say (1823a: 77).

*Carabus goryi* Dejean, 1831: 544. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 12; Toulgoët 1975: 17). Synonymy established by LeConte (1847: 444), confirmed by Lindroth (1955b: 12). Etymology. The specific name was proposed for Hippolyte Louis Gory [1800-1852], captain of cavalry and coleopterist in France. Gory was a founding member of the *Société Entomologique de France*. His collection, which contained over 18,000 species, was scattered after his death.

*Carabus limbatus clarkei* Blumenthal, 1958: 64. Type locality: «Klingman's Dome [= Clingmans Dome] (etwa 1900 m), Alleghenies, an der Grenze von North Carolina» (original citation). Syntype(s) [2 specimens (left elytra only) stated] location unknown. Synonymy established by Lindroth (1961a: 35). Etymology. The subspecific name was proposed for the American lepidopterist John Frederick Gates Clarke [1905-1990] who worked at the USNM.

**Distribution.** The range of this species extends from southern Maine (Dearborn and Donahue 1993: 2) to southeastern Minnesota (Donald P. Schwert pers. comm. 1989), including southernmost Ontario (Lindroth 1961a: 35), south to northeastern Mississippi (Snodgrass and Cross 1983: 14), northern Alabama (Löding 1945: 11), and northern Georgia (Fattig 1949: 10; CMNH). The record from Idaho (LeConte 1878a: 471; Hatch 1953: 51) is in error (Lindroth 1961a: 35); that from southeastern Louisiana (Summers 1874a: 79) needs confirmation.

**Records.** **CAN:** ON **USA:** AL, CT, DC, DE, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, MS, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV [LA]



***Carabus vinctus* (Weber, 1801)**

*Tachypus vinctus* Weber, 1801: 42. Type locality: «America septentrionali» (original citation), herein restricted to Newport News, Virginia (CNC). Syntype(s) location unknown.

*Carabus interruptus* Say, 1823a: 76 [primary homonym of *Carabus interruptus* Herbst, 1784]. Type locality: «Germantown [probably the neighborhood of Philadelphia], P[ennsylvania]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 331), in MCZ [# 33090]. Synonymy established by Dejean (1826: 79).

*Carabus ligatus* Germar, 1824: 6. Type locality: «America septentrionali» (original citation). Syntype(s) probably lost. Synonymy established by Horn (1876e: 127).

*Carabus carinatus* Dejean, 1826: 80 [primary homonym of *Carabus carinatus* Duftschmid, 1812]. Type locality: «Géorgie; environs de Philadelphie [Pennsylvania]» (original citation). Lectotype (♂), designated by Toulgoët (1975: 17), in MHNP. Synonymy established doubtfully with *C. ligatus* Germar by Dejean (1826: 80), confirmed by Lindroth (1955b: 12).

*Carabus vinctus* var. *georgiae* Csiki, 1927: 185. Replacement name for *Carabus vinctus* var. *carinatus* Dejean, 1826.

**Distribution.** This species ranges from Massachusetts (Harris 1833: 567; Frost 1910: 86) to southeastern Minnesota (Gandhi et al. 2005: 923), including southern Ontario (Lindroth 1961a: 34), south to southeastern Mississippi (Stone County, UASM), southwestern Alabama (Van Dyke 1945a: 126), and the Florida Panhandle (Peck and Thomas 1998: 16). The record from “Louisiana” (Summers 1874a: 79) is probably in error.

**Records.** CAN: ON USA: AL, CT, DC, DE, FL, GA, IA, IL, IN, MA, MD, MI, MN, MS, NC, NJ, NY, OH, PA, RI, SC, TN, VA, WV

**Subgenus *Diocarabus* Reitter, 1896**

*Diocarabus* Reitter, 1896: 185. Type species: *Carabus loschnikovii* Fischer von Waldheim, 1823 by monotypy. Etymology. Uncertain, possibly from the Greek *dis* (twice) or *dios* (Zeus, chief of the Greek gods) and the generic name *Carabus* [*q.v.*] [masculine].

*Cryocarabus* Lapouge, 1931: 575. Type species: *Carabus chamissonis* Fischer von Waldheim, 1820 by monotypy. Etymology. From the Greek *cryos* (cold) and the generic name *Carabus* [*q.v.*] [masculine].

**Diversity.** Eleven species in North America (one northern species) and Asia (ten species, one of them extending into northern European Russia).

**Taxonomic Note.** Deuve (2004: 186) included members of this taxon in the subgenus *Tomocarabus* Reitter, 1896.

***Carabus chamissonis* Fischer von Waldheim, 1820**

*Carabus chamissonis* Fischer von Waldheim, 1820: plate 7. Type locality: «île d'Ounalachka [Alaska]» (Fischer von Waldheim 1822: 89). Syntype(s) in ZMH

(collection Mannerheim) (Silfverberg 1987: 14), SMTD (Grämer 1960: 98), and probably also in ZMMU (collection Eschscholtz). Etymology. This species was named after the German poet Adelbert Loginovich von Chamisso [1781-1838], who served as botanist on the first scientific voyage around the world, 1815-1818, under the command of Otto Evstaf'evich von Kotzebue on the Russian ship *Rurik*.

*Carabus brachyderus* Wiedemann [in Wiedemann and Germar], 1821: 110. Type locality: «Unalaschka [Alaska]» (original citation). Syntype(s) location unknown (possibly in ZMUC). Synonymy established by Mannerheim (1843: 186).

*Carabus groenlandicus* Dejean, 1831: 554. Type locality: «côtes du Groenland» (original citation), which is incorrect (Lindroth 1955b: 12). Lectotype (♂), designated by Toulgoët (1975: 16), in MHNP. Synonymy established by LeConte (1863b: 3), confirmed by Lindroth (1955b: 12).

*Carabus groenlandicus washingtoni* Casey, 1920: 155. Type locality: «M[oun]t Washington [Coos County], New Hampshire» (original citation). Three syntypes [3 originally cited] in USNM [# 46058]. Synonymy established by Breuning (1932: 300).

*Carabus rugosostriatus* Mandl, 1955: 237. Type locality: «Juldus [= Kaidu He, Xinjiang Uygur Autonomous Region, China]» (original citation), which is incorrect (Deuve 1991: 51). Holotype (♀) in NHMW. Synonymy established by Deuve (1991: 51).

**Distribution.** This species occurs from the Labrador coast to the Seward Peninsula in Alaska (Lindroth 1961a: 33-34), including the Aleutians and Kodiak Island, south to northern British Columbia (CNC); isolated on high mountains in Gaspé Peninsula (Quebec), New Hampshire (Lindroth 1961a: 34), and Maine (Mount Katahdin, CNC). Fossil remnants of this species, dated between about 16,700 and 21,500 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96) and northeastern Illinois (Garry et al. 1990: 394).

**Records.** CAN: AB, BC, LB, MB, NT, NU, ON, QC, SK, YT USA: AK, ME, NH

### Subgenus *Aulonocarabus* Reitter, 1896

*Aulonocarabus* Reitter, 1896: 192. Type species: *Carabus canaliculatus* Adams, 1812 designated by Nakane (1962: 39). Etymology. From the Greek *aulonos* (channel) and the generic name *Carabus* [*q.v.*], probably alluding to one of the two species included, *Carabus canaliculatus* which is the Latin name for channel [masculine].

*Baptaulonocarabus* Imura, 2002: 130. Type species: *Carabus truncaticollis* Eschscholtz, 1833 by original designation. Synonymy established by Deuve (2004: 197). Etymology. From the Greek *baptos* (dyed) and the generic name *Aulonocarabus* [*q.v.*] [masculine].

**Diversity.** Thirteen species (Deuve 2004: 197-203) in North America (one Holarctic species) and Asia (13 species, one of them extending into northern European Russia).

***Carabus truncaticollis truncaticollis* Eschscholtz, 1833**

*Carabus truncaticollis* Eschscholtz, 1833: 22. Type locality: «Auf den Inseln des Kamtschatkischen Meeres, St. Georg und St. Paul [Pribilof Islands, Alaska]» (original citation). Syntype(s) [2 originally cited] location unknown (possibly in ZMMU).

*Carabus lutshnikianus* Basilewsky, 1937: 63. Type locality: «Ile Saint-Paul, Alaska» (original citation). Holotype (♀) location unknown. Synonymy established by Van Dyke (1945a: 97).

*Carabus truncaticollis alaskensis* Basilewsky, 1937: 63. Type locality: «Ile Saint-Paul, Alaska» (original citation). Holotype location unknown. Synonymy established by Van Dyke (1945a: 97).

**Distribution.** This Holarctic subspecies is known from a few old specimens collected on the Kamchatka Peninsula (Shilenkov in Kryzhanovskij et al. 1995: 43) and from Alaska, including the Pribilof Islands, to the Mackenzie River delta in northern Northwest Territories (Lindroth 1961a: 40).

**Records.** CAN: NT, YT USA: AK – **Holarctic**

**Note.** 1. This species is listed in the subgenus *Aulonocarabus* Reitter by Kryzhanovskij et al. (1995: 43), Bousquet et al. (2003: 134), and Deuve (2004: 197) and in the subgenus *Diocarabus* by Casale and Kryzhanovskij (2003: 93) and Lorenz (2005: 85). 2. Two other subspecies of *Carabus truncaticollis* occur in Asia (Deuve 2004: 197–198).

**Subgenus *Homoeocarabus* Reitter, 1896**

*Homoeocarabus* Reitter, 1896: 144. Type species: *Carabus maeander* Fischer von Waldheim, 1820 by monotypy. Etymology. From the Greek *homoios* (like, resembling) and the generic name *Carabus* [*q.v.*] [masculine].

**Diversity.** One Holarctic species.

***Carabus maeander maeander* Fischer von Waldheim, 1820**

*Carabus maeander* Fischer von Waldheim, 1820: plate 10. Type locality: «Sibiria, propre Nertschinsk» (Fischer von Waldheim 1822: 104). Syntype(s) in SMTD (Grämer 1960: 96).

*Carabus incompletus* Fischer von Waldheim, 1828: 303. Type locality: «Kamtschatka [Russia]» (original citation). Syntype(s) location unknown. Synonymy established by Breuning (1932: 411).

*Carabus ehrenbergii* Fischer von Waldheim, 1829b: 368. Type locality: «Kamtschatkae [Russia]» (original citation). Syntype(s) location unknown. Synonymy established, under the name *C. incompletus* Fischer von Waldheim, by Heyden (1879: 166).

*Carabus lapilayi* Laporte, 1834: 89. Type locality: «Terre-Neuve [= Newfoundland]» (original citation). Syntype(s) location unknown. Synonymy established by Le Conte (1866: 78). Etymology. The specific name was proposed for Auguste Jean Marie Bachelot de la Pylaie (also spelled de Lapilaye) [1786–1856], French bota-

nist, explorer, and archaeologist. Bachelot de la Pylaie made two trips to Newfoundland and Saint-Pierre and Miquelon and published a flora (unfinished) of the region.

*Carabus hudsonicus* Motschulsky, 1866: 293. Type locality: «Hudson-Bay» (original citation). Lectotype [as holotype], designated by Kryzhanovskij (1968: 178), in ZMMU. Synonymy established with doubt by Horn (1870a: 70), confirmed by Kryzhanovskij (1968: 178).

*Carabus maeander* var. *simoni* Heyden, 1879: 166. Type locality: «Huds[on Bay]» (original citation). Syntype(s) location unknown. Synonymy established by Roeschke (1900: 70).

*Carabus maeander* var. *excostatus* Kraatz, 1880: 338. Type locality not stated. Holotype [by monotypy] location unknown (possibly in DEI). Synonymy established by Breuning (1932: 412).

*Carabus lecontei* Géhin, 1885: 26. Type locality: «Detroit [Wayne County, Michigan]» (original citation for *Carabus* [no] 3 of LeConte 1847: 444). Syntype(s) presumably lost. Synonymy established by Breuning (1932: 412). NOTE. This taxon was described by a bibliographic reference to a previously published description, that of *Carabus* [no] 3 of LeConte (1847: 444).

*Carabus maeander atlanticus* Lapouge, 1925: 191. Type locality: «Saint-Pierre-Miquelon» (original citation). Syntype(s) location unknown (most probably destroyed). Synonymy established, under the name *C. maeander* n[atio] *lapilayi* Laporte, by Breuning (1932: 412).

**Distribution.** This Holarctic subspecies ranges from western Siberia (Bousquet et al. 2003: 154) to the Bering Sea Coast and from Alaska (Lindroth 1961a: 36) to Newfoundland (Lindroth 1955a: 23), south at least to northeastern New York (Powell 1977: 148), northern Iowa (Larsen et al. 2003: 292), and northern New Mexico (Brantley et al. 2003: 382; Sandoval County, UASM). The record from “Pennsylvania” (Bousquet and Larochelle 1993: 76) needs confirmation.

**Records.** FRA: PM CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK USA: AK, CO, IA, IL, IN, ME, MI, MN, MT, ND, NM, NY, OH, SD, VT, WI [PA] – **Holarctic**

**Note.** Two other subspecies of this species, *C. maeander chejuensis* Deuve from South Korea and *C. maeander paludis* Géhin from the Far East, Japan, and China, are found in Asia. Deuve (2004: 183) also retained *C. lapilayi* Laporte as a valid subspecies.

### Subgenus *Hemicarabus* Géhin, 1876

*Hemicarabus* Géhin, 1876a: 25. Type species: *Carabus nitens* Linnaeus, 1758 designated by Géhin (1885: xix). Etymology. From the Greek prefix *hemi-* (half) and the generic name *Carabus* [q.v.] [masculine].

**Diversity.** Four species in North America (one species), Asia (two species), and Europe (one species).



***Carabus serratus* Say, 1823**

*Carabus serratus* Say, 1823a: 77. Type locality: «Asheville [Buncombe County], N[orth] C[arolina]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 331), in MCZ [# 33092].

*Carabus lineatopunctatus* Dejean, 1826: 77. Type locality: «Amérique septentrionale» (original citation). Three possible syntypes in MHNP (Lindroth 1955b: 12). Synonymy established by Dejean (1826: 77), confirmed by Lindroth (1955b: 12).

*Carabus canadensis* LeConte [in Melsheimer], 1853: 10. Type locality: «Canada» (original citation for *C. ligatus* Germar *sensu* Kirby, 1837), restricted to «Nipigon, W[estern] Ont[ario]» by Lindroth (1961a: 40). Syntype(s) probably in BMNH. Synonymy established by Henshaw (1882: 207). NOTE. This name was proposed for *Carabus ligatus* Germar, 1824 *sensu* Kirby (1837: 18).

*Carabus tatumi* Motschulsky, 1866: 293. Type locality: «Hudson-Bay dans l'Amérique arctique» (original citation). Lectotype [as holotype] (♀), designated by Kryzhanovskij (1968: 184), in ZMMU. Synonymy established by Horn (1870a: 70), confirmed by Kryzhanovskij (1968: 184).

*Carabus serratus vegasensis* Casey, 1913: 59. Type locality: «Las Vegas [San Miguel County], New Mexico; probably Colorado» (original citation). Three syntypes in USNM [# 46055]. Synonymy established by Breuning (1933b: 858).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 26) to the Okanagan Valley in south-central British Columbia (Lindroth 1961a: 41), south to eastern Oregon (Hatch 1953: 50), central New Mexico (Fall and Cockerell 1907: 156), eastern Kansas (Popenoe 1877: 22; Horn 1872c: 384), and northwestern South Carolina (Ciegler 2000: 29).

**Records.** **CAN:** AB, BC, MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** CO, CT, DC, DE, GA, IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OR, PA, RI, SC, SD, VA, VT, WA, WI, WV, WY

**Subgenus *Archicarabus* Seidlitz, 1887**

*Archicarabus* Seidlitz, 1887: 6 [Gattung]. Type species: *Carabus nemoralis* Müller, 1764 by monotypy. Etymology. From the Greek *arche* (beginning) and the generic name *Carabus* [*q.v.*] [masculine].

*Archeocarabus* Bengtsson, 1927: 83. Type species: *Carabus nemoralis* Müller, 1764 by original designation. Etymology. From the Greek *arche* (beginning) and the generic name *Carabus* [*q.v.*] [masculine].

**Diversity.** Ten species in Europe and the Middle East (Deuve 2004: 167-173), one of them adventive in North America.

***Carabus nemoralis nemoralis* Müller, 1764**

*Carabus nemoralis* O.F. Müller, 1764: 21. Type locality: Frederiksdal [Sjaelland, Denmark] (inferred from title of the book). Syntype(s) lost.

*Carabus nemoralis* var. *canadensis* Lapouge, 1908a: 19 [primary homonym of *Carabus canadensis* LeConte, 1853]. Type locality: «Terre-Neuve et New Brunswick» (original citation). Syntype(s) location unknown. Synonymy established by Breuning (1933a: 667). NOTE. The specimen from “France: Ardèche” in MHNP designated as lectotype of this taxon by Toulgoët (1976: 32) is certainly not a syntype since the taxon was described from specimens collected in Newfoundland and New Brunswick.

**Distribution.** This European subspecies is adventive in North America where it is found from Newfoundland (Lindroth 1955a: 27) to central Minnesota (Crow Wing County, CNC), south to northeastern Virginia (Falls Church, UASM) in the east, and from the Queen Charlotte Islands (Kavanaugh 1992: 51) to central Alberta (Lindroth 1961a: 37), south to southeastern Wyoming (Burne 1989: 290), northern Utah (Salt Lake County, CMNH), and central California (Lindroth 1961a: 37); seemingly isolated in the Saskatoon area, Saskatchewan (Ronald R. Hooper pers. comm. 1990). The first inventoried specimens collected on this continent was found in New Brunswick in 1890 (Horn 1892d: 61) and on the west coast around 1909 in Seattle, Washington (Hatch 1933c: 117). The date of 1870 listed by Lindroth (1961a: 37) for the first occurrence of this species on the continent is probably a lapsus for 1890. The species was also intentionally introduced in New England as predators of gypsy moths prior to 1911 (Smith 1959: 9).

**Records.** CAN: AB, BC (QCI, VCI), NB, NF, NS, ON, PE, QC, SK USA: CA, CT, DE, ID, IL, IN, MA, ME, MI, MN, MT, NH, NJ, NV, NY, OH, OR, PA, RI, SD, UT, VA, VT, WA, WI, WY – **Adventive**

### Subgenus *Tachypus* Weber, 1801

*Tachypus* Weber, 1801: 19. Type species: *Carabus auratus* Linnaeus, 1760 designated by Ádám (1996: 11). Etymology. From the Greek *tachys* (swift, quick, fast) and *pous* (foot) [masculine].

*Autocarabus* Seidlitz, 1887: 9 [Gattung]. Type species: *Carabus auratus* Linnaeus, 1760 by monotypy. Etymology. From the Greek *autos* (self) and the generic name *Carabus* [*q.v.*] [masculine].

*Goniocarabus* Reitter, 1896: 150 [junior homonym of *Goniocarabus* Géhin, 1885]. Type species: *Carabus cancellatus* Illiger, 1798 designated by Jeannel (1941b: 109). Etymology. From the Greek *gonios* (angle) and the generic name *Carabus* [*q.v.*] [masculine].

*Cancellocarabus* Lutshnik, 1924: 38, 49. Replacement name for *Goniocarabus* Reitter, 1896. Etymology. From the Latin *cancellus* (lattice) and the generic name *Carabus* [*q.v.*] [masculine].

**Diversity.** Four European species, one of them extending into Siberia. One species is adventive in eastern North America.

**Faunistic Note.** The European *Carabus cancellatus* Illiger has been recorded from North Carolina (Horn 1883b: 270), Georgia (Fattig 1949: 10), and Wisconsin (Leng 1920: 44) but no specimens have been collected in recent decades. The species is probably not established on this continent.

### ***Carabus auratus auratus* Linnaeus, 1760**

*Carabus auratus* Linnaeus, 1760: 219. Type locality: «Suecia» (original citation), which is probably incorrect (Lindroth 1957b: 328). One possible syntype in LSL (Lindroth 1957b: 328).

**Distribution.** This European subspecies was intentionally introduced into Massachusetts in 1908 and 1910 (Smith 1959: 7) for gypsy moth control. It is now established in New England (Lindroth 1961a: 37). The first inventoried specimen collected subsequently to its release was found in June 1920 in Winchester, Massachusetts (Smith 1959: 7).

**Records. USA:** CT, MA, ME, NH, VT – **Adventive**

**Note.** In a cladistic analysis conducted by Arndt et al. (2003: 312, Fig. 7.16), this species turned out as the sister-group to all remaining species of *Carabus*.

### **Subgenus *Tanaocarabus* Reitter, 1896**

*Tanaocarabus* Reitter, 1896: 135. Type species: *Carabus sylvosus* Say, 1823 designated by Breuning (1933b: 895). Etymology. From the Greek *tanaos* (outstretched, long) and the generic name *Carabus* [*q.v.*], probably alluding to the elongate shape of the adults [masculine].

*Neocarabus* Lapouge, 1931: 569 [junior homonym of *Neocarabus* Bengtsson, 1927]. Type species: *Carabus taedatus* Fabricius, 1787 by monotypy.

*Durangocarabus* Imura, 2002: 141. Type species: *Carabus forreri* Bates, 1882 by original designation. Synonymy established by Deuve (2004: 195). Etymology. From the name of the state Durango in Mexico and the generic name *Carabus* [*q.v.*] [masculine].

**Diversity.** Five species in North America (four species) and Mexico (two species). One of Mexican species, *C. hendrichsi* Bolivar, Rotger, and Coronado, is endemic to the Sierra Madre Oriental.

### ***Carabus finitimus* Haldeman, 1852**

*Carabus finitimus* Haldeman, 1852: 373. Type locality: «Fort Gates [Coryell County, Texas]» (original citation). Three possible syntypes, each with a dark red disc, in MCZ (collection LeConte).

*Carabus lecontei* Casey, 1913: 57 [primary homonym of *Carabus lecontei* Géhin, 1885]. Type locality: «Texas» (original citation). Holotype [by monotypy] (♀) in USNM [# 46052]. Synonymy established by Breuning (1933b: 896).

*Carabus caseyi* Angell, 1914: 75. Replacement name for *Carabus lecontei* Casey, 1913.

**Distribution.** This species is known from Kansas (Chautauqua County, CMNH; Erwin 2007a: 110), Wichita National Forest in Oklahoma, and eastern Texas (Van Dyke 1945a: 117).

**Records. USA:** KS, OK, TX

### *Carabus forreri forreri* Bates, 1882

*Carabus forreri* Bates, 1882b: 320. Type locality: «Ciudad, Durango, Mexico» (original citation). Syntype(s) in MHNP (Toulgoët 1975: 232). Etymology. The specific name was proposed for Alfonse Forrer [1836-1899], a collector of natural history objects. Born in London, Forrer moved to the United States while a young man and, at the close of the civil war, accepted a commission from the British Museum to collect zoological material along the west coast of the United States and Mexico. He supplied many other European museums with his material and also collected for Salvin and Godman. In July 1900, his personal collection, consisting mainly of fishes, birds, and insects, was offered for sale for \$500 by his widow.

*Carabus townsendi* Casey, 1905: 160. Type locality: «Meadow Valley (7,300 feet), six miles south of Colonia Garcia, Chihuahua, Mexico, in the Sierra Madre Mountains» (original citation). Holotype [by monotypy] in USNM. Synonymy established by Breuning (1933b: 897). Etymology. This taxon was named after the American entomologist Charles Henry Tyler Townsend [1863-1944] who published on many subjects but is primarily known for his studies on Sarcophagidae and Tachinidae. Townsend worked for many years in South America and made significant contributions in the fields of agricultural and medical entomology. At the time of his death he was living in a suburb of São Paulo where he founded his own publishing company.

**Distribution.** This species is known from southeastern Arizona and the state of Durango in Mexico (Van Dyke 1945a: 118-119).

**Records. USA:** AZ – Mexico

**Note.** *Carabus forreri willi* Deuve is known from Chihuahua in Mexico.

### *Carabus sylvosus* Say, 1823

*Carabus sylvosus* Say, 1823a: 75. Type locality: North America (inferred from title of the book), restricted to «Asheville [Buncombe County], N[orth] C[arolina]» by Lindroth (1961a: 41). Lectotype (♂), designated by Lindroth and Freitag (1969: 330), in MHNP.

*Carabus lherminieri* Dejean, 1826: 152. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 12; Toulgoët 1975: 20). Synonymy established by LeConte (1863b: 3), confirmed by Lindroth (1955b: 12). Etymology. The specific name was proposed for Félix Louis L'Herminier [1779-1833], a French pharmacist and naturalist who lived for over 30 years in



Guadeloupe. L'Herminier also spent times in South Carolina where he gathered insects; some of them were sent to Dejean.

**Distribution.** This species ranges from “Maine” (Larochelle and Larivière 1990a: 27) to northern Minnesota (Gandhi et al. 2005: 923), north to north-central Ontario (Spires 1985: 79), south to “Texas” (Van Dyke 1945a: 116, as *C. sylvosus lherminieri*) and central Florida (Peck and Thomas 1998: 16). The record from “Utah” (Bousquet and Larochelle 1993: 77) is in error.

**Records.** **CAN:** ON, QC **USA:** AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WI, WV

### *Carabus taedatus agassii* LeConte, 1850

*Carabus agassii* LeConte, 1850: 209. Type locality: «Kakàbeka [Ontario]» (original citation). Syntype(s) in MCZ [# 619]. Etymology. The specific was proposed in honor of the Swiss zoologist, geologist, paleontologist, and nomenclatorist Jean Louis Rodolphe Agassiz [1807-1873], one of the best-known scientists of his time. In his late 30s, Agassiz moved to United States and became professor of zoology and geology at Harvard University where he founded the Museum of Comparative Zoology in 1859 and served as the museum's first director until his death. Agassiz is remembered today for his theories on ice ages and other scientific accomplishments but also for his scientific racism and his resistance to Darwin's theory of evolution.

*Carabus oregonensis* LeConte, 1854a: 16. Type locality: «Prairie Paso [= possibly Bear Prairie Pass, Lewis County, Washington]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 620]. Synonymy established by Breuning (1933b: 719).

*Carabus taedatus* var. *canadicus* Roeschke, 1900: 69. Type locality: «Canada, wenigstens über den östlichen» (original citation). Syntype(s) in DEI (Edelbrock 1986: 64). Synonymy established by Breuning (1933b: 719).

*Carabus patulicollis* Casey, 1913: 57. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 46053]. Synonymy established by Lindroth (1961a: 39)

*Carabus taedatus montanicus* Casey, 1913: 58. Type locality: «Coeur d'Alene [Kootenai County], Idaho» (original citation). Holotype [by monotypy] (♂) in USNM [# 46051]. Synonymy established by Breuning (1933b: 719).

*Carabus franciscanus* Casey, 1913: 58. Type locality: «coast region near San Francisco, California» (original citation), which is probably incorrect (Lindroth 1961a: 38). Holotype [by monotypy] (♂) in USNM [# 46054]. **New synonymy.**

*Carabus stocktonensis* Casey, 1920: 155. Type locality: «Eureka and Stockton, Utah» (original citation). Two syntypes in USNM [# 46056]. Synonymy established by Lindroth (1961a: 39).

*Carabus taedatus coloradensis* Breuning, 1933b: 719. Type locality: «Longs Peak [Boulder County], Colorado» (original citation). Holotype (♂) in ZMUA (Boer 2002:

41). Synonymy established, under the name *C. taedatus patulicollis* Casey, by Van Dyke (1945a: 113).

**Distribution.** This subspecies ranges from Newfoundland (Lindroth 1955a: 25) to Yukon Territory, south to the Sierra Nevada in east-central California, southern Arizona, southern New Mexico, and southwestern South Dakota (Purrington et al. 2002: 202) [see Edelbrock 1986: Fig. 69].

**Records.** CAN: AB, BC (QCI), MB, NF, NT, ON, QC, SK, YT USA: AZ, CA, CO, ID, MT, ND, NM, NV, OR, SD, UT, WA, WY

### *Carabus taedatus bicanaliceps* Casey, 1920

*Carabus bicanaliceps* Casey, 1920: 154. Type locality: «Olympia [Thurston County], Washington» (original citation). Holotype [by monotypy] (♀) in USNM [# 46057].

**Distribution.** This subspecies is known from Vancouver Island and the Puget Sound area in Washington south to central Oregon between the coast and the Cascade Range (Edelbrock 1986: 49, Fig. 69).

**Records.** CAN: BC (VCI) USA: OR, WA

### *Carabus taedatus rainieri* Van Dyke, 1945

*Carabus taedatus rainieri* Van Dyke, 1945a: 108. Type locality: «Paradise Park (6000 ft.), M[oun]t Rainier [Pierce County], Wash[ington]» (original citation). Holotype (♂) in CAS [# 5442].

**Distribution.** This subspecies is known from high altitude along the northern Cascades and from coastal mountains of Oregon (Edelbrock 1986: 49).

**Records.** CAN: BC USA: OR, WA

### *Carabus taedatus taedatus* Fabricius, 1787

*Carabus taedatus* Fabricius, 1787: 196. Type locality: «America boreali» (original citation), restricted to «Unalaska, Aleut[ian] Isl[ands] [Alaska]» by Lindroth (1961a: 38). Two syntypes in BMNH (collection Banks) and ZMUC (Zimsen 1964: 52).

*Carabus baccivorus* Fischer von Waldheim, 1820: plate 7. Type locality: «insula Unalaschka [Alaska]» (Fischer von Waldheim 1822: 87). Syntype(s) in ZMH (collection Mannerheim) (Silfverberg 1987: 13), SMTD (Grämer 1960: 100), and probably also in ZMMU (collection Eschscholtz). Synonymy established by LeConte (1857c: 30), confirmed by Edelbrock (1986: 43).

*Carabus seriatus* Wiedemann [in Wiedemann and Germar], 1821: 109. Type locality: «Unalaschka [Alaska]» (original citation). Syntype(s) location unknown (possibly in ZMUC). Synonymy established, under the name *C. baccivorus* Fischer von Waldheim, by Mannerheim (1843: 187).

*Carabus gladiator* Motschulsky, 1866: 285. Type locality: «Hudson-Bay» (original citation), which is likely incorrect. Syntype(s) in ZMMU (Edelbrock 1986: 64)

though not listed by Keleinikova (1976). Synonymy established, under the name *C. taedatus* var. *baccivorus* Fischer von Waldheim, by Horn (1870a: 70), confirmed by Edelbrock (1986: 43).

**Distribution.** This subspecies is restricted to southeastern Alaska including the Aleutian Islands (Edelbrock 1986: 49, Fig. 69).

**Records. USA:** AK

**Note.** 1. Edelbrock (1986) studied the geographical variation in *Carabus taedatus* and recognized four species, and one of them (*C. agassii*) was segregated into two subspecies (*agassii* and *franciscanus*). I have followed Deuve (1994a: 144) in listing Edelbrock's species as subspecies. Furthermore I do not recognize the form *C. agassii franciscanus* as subspecifically distinct. 2. This species is placed in the subgenus *Oreocarabus* Géhin by some authors (e.g., Breuning 1933b: 719; Lorenz 2005: 91).

### Subgenus *Megodontus* Solier, 1848

*Megodontus* Solier, 1848: 58. Type species: *Carabus caelatus* Fabricius, 1801 by original designation. Etymology. From the Greek *megas* (large) and *odontos* (tooth), probably alluding to the large mentum tooth of the adult (“*dent du sinus du mentum grande*”) [masculine].

*Megalodontus* Jacobson, 1905: 217. Unjustified emendation of *Megodontus* Solier, 1848.

*Nabicarabus* Kwon and Lee, 1984: 102. Type species: *Carabus vietinghoffii* Adams, 1812 by original designation. Synonymy established by Deuve (1994a: 153). Etymology. From the Greek *nabis* (giraffe) and the generic name *Carabus* [*q.v.*] [masculine].

**Diversity.** Twenty-two species (Deuve 2004: 363–375) in North America (one Holarctic species) and Eurasia (22 species).

### *Carabus vietinghoffii vietinghoffii* Adams, 1812

*Carabus vietinghoffii* Adams, 1812: 170. Type locality: «ubi ducentis fere milliaribus ultra urbem Jakutzk, ad ripas fluvii Lenae [= about 200 “miles” pass the city of Yakutsk, on the banks of the Lena River], Sibiriae orientalis [Russia]» (original citation). Syntypes in SMTD (Grämer 1960: 95). Etymology. The specific name was proposed for Baron de Vietinghoff [1767–1829], Latvian naturalist also named Christoph Burchard Scheel.

*Carabus vietinghovi* var. *schtschegolewi* Poppius, 1906a: 15. Type locality: «oberen Lena [Siberia, Russia]» (original citation). Holotype [by monotypy] (♀) location unknown. Synonymy established by Breuning (1926: 70).

*Carabus vietinghoffi alaskanus* Obydov, 1996: 85. Type locality: «Umiat, Alaska» (original citation). Holotype (♂) in Obydov's collection (Moscow, Russia). Synonymy established by Lorenz (2005: 108).

**Distribution.** This subspecies is found in eastern Siberia and in North America from the Seward Peninsula in Alaska to Bathurst Inlet on the arctic coast of Nunavut (Lindroth 1961a: 42).

**Records.** CAN: NT, NU, YT USA: AK – **Holarctic**

**Note.** Two other subspecies of this species occur in eastern Asia.

### Subfamily CICINDELINAE Latreille, 1802

Cicindeletae Latreille, 1802: 77. Type genus: *Cicindela* Linnaeus, 1758.

**Diversity.** Worldwide, with more than 2,500 species (Lorenz 2005: 22-62) arrayed in five tribes: Amblycheilini (13 species), Cicindelini (more than 1,710 species), Collyridini (about 335 Asian species), Ctenostomatini (about 225 species in the Neotropical and Afrotropical Regions), Manticorini (14 Afrotropical species), and Megacephalini (about 200 species).

### Tribe AMBLYCHEILINI Csiki, 1903

Amblychilinae Csiki, 1903: 124. Type genus: *Amblychila* Agassiz, 1846 (unjustified emendation of *Amblycheila* Say, 1830 not in prevailing usage) (= *Amblycheila* Say, 1830).

Omites W. Horn, 1907b: 466. Type genus: *Omus* Eschscholtz, 1829.

**Diversity.** Western Hemisphere, with 13 species in North America (ten species), Mexico (two species), and South America (one species) arrayed in three genera: *Amblycheila* (seven species), *Omus* (five species), and *Picnochile* Motschulsky (one species in Chile and Argentina).

### Genus AMBLYCHEILA Say, 1830

*Amblycheila* Say, 1830a: 67. Type species: *Manticora cylindriformis* Say, 1823 by original designation. Etymology. From the Greek *amblys* (blunt, obtuse) and *cheila* (lip, by extension labrum [upper lip]), probably alluding to absence of teeth on the apical edge of the labrum of adults of this genus contrary to those of the genus *Cicindela* [feminine].

*Amblychila* Agassiz, 1846: 16. Unjustified emendation of *Amblycheila* Say, 1830.

*Amblyprosopa* Gistel, 1850: 75. Unnecessary replacement name for *Amblycheila* Say, 1830.

*Chaleposomus* Chaudoir, 1861a: 337. Unnecessary replacement name for *Amblycheila* Say, 1830. Etymology. From the Greek *chalepos* (difficult, severe, harsh) and *soma* (body) [masculine].

**Diversity.** Seven species (Pearson et al. 2006: 48) in western North America (five species) and northern Mexico (two species: *A. nyx* Sumlin from west-central Coahuila and *A. halffteri* Mateu from San Luis Potosí).



**Identification.** Vaurie (1955) reviewed the species and offered a key for their identification. Subsequently one new North American species, *A. hoversoni* Gage, was described in 1991. Pearson et al. (2006: 22) field guide includes a key to the North American species.

**Faunistic Note.** The record of *A. halffteri* from “Texas” (Bousquet and Larochelle 1993: 52) is in error. The species is known so far only from San Luis Potosí in Mexico.

### *Amblycheila baroni* Rivers, 1890

*Amblychila baroni* Rivers, 1890b: 111. Type locality: «Pantano [= Pima] County, Arizona» (original citation). Holotype [by monotypy] (♀) probably in DEI. Etymology. The specific name was proposed in honor of Oscar Theodor Baron [1847-1926]. Born in Germany, Baron spent about 30 years in California where he collected extensively Lepidoptera but also Coleoptera and other insects in Mendocino and Fresno Counties. Moreover he travelled to Arizona, Mexico, Central America, and South America. He returned to Germany where he lived his last 30 years. NOTE. Leng (1902: 98) reported that the holotype was “found dead in a canyon ... at an elevation of 5000 feet.”

*Amblychila baroni longipes* Casey, 1909: 253. Type locality: «Baboquivari M[oun]t[ain]s [Pima County], Arizona» (original citation). One syntype in USNM [# 45890]. Synonymy established by Horn (1910a: 123).

*Amblycheila baroni enodis* Casey, 1916: 5. Type locality: «Garces, Huachuca M[oun]t[ain]s, Cochise Co[unty], Arizona» (original citation). One syntype in USNM [# 45892]. Synonymy established by Horn (1926: 52).

*Amblycheila ventricosa* Casey, 1924: 1. Type locality: «Huachuca M[oun]t[ain]s [Cochise County], Arizona» (original citation). Holotype [by monotypy] (♀) in USNM [# 45891]. Synonymy established by Horn (1926: 52).

**Distribution.** This species, also known as the “Montane Giant Tiger Beetle<sup>7</sup>,” is restricted to mountains in southeastern Arizona and a small area in western Texas near Big Bend National Park (Pearson et al. 2006: 48).

**Records. USA:** AZ, TX

### *Amblycheila cylindriformis* (Say, 1823)

*Manticora cylindriformis* Say, 1823b: 139. Type locality: «Arkansa[s] [River] ... found at the base of the Rocky Mountains» (original citation). Syntype(s) lost. NOTE. Say’s specimen(s) were probably collected in Colorado.

**Distribution.** This species, also known as the “Great Plains Giant Tiger Beetle,” ranges from southwestern South Dakota (Howden 1970: 8) and eastern Wyoming (Huber 1978: 75) south to western Texas [see Pearson et al. 2006: Map 3]. The record from

<sup>7</sup> All vernacular names of tiger beetles are taken from Pearson et al. (2006) and Erwin and Pearson (2008).

“Arizona” (Horn 1910a: 123) is in error; those from “Arkansas” (Leng 1902: 97; Erwin and Pearson 2008: 20) are probably based on a misinterpretation of the type locality.

**Records. USA:** CO, KS, NE, NM, OK, SD, TX, WY

***Amblycheila hoversoni* Gage, 1991**

*Amblycheila hoversoni* Gage, 1991: 2. Type locality: «16 mi[les] south of George West, Live Oak County, Texas» (original citation). Holotype (♂) in MCZ [# 33379].

**Distribution.** This species, also known as the “South Texas Giant Tiger Beetle,” is found only in south and west-central Texas (Pearson et al. 2006: 51).

**Records. USA:** TX

***Amblycheila picolomini* Reiche, 1840**

*Amblycheila picolomini* Reiche, 1840: 560. Type locality: «port ou baie de Saint-Francisco, dans la Nouvelle-Californie, sous le 48e degré environ de latitude septentrionale» (original citation), which is incorrect. Holotype [by monotypy] (♀) in MHNP (Horn 1904: 97). Etymology. The specific name was proposed for the collector of the type specimen, count Enea Silvio Vincenzo [Vincent] Piccolomini who spent ten years, “engaged in scientific pursuits,” in Mexico and United States. NOTE. 1. Reiche originally used two different spellings for this species, *picolomini* (page 560) and *piccolomini* (plate 19). As far as I know, Reiche did not subsequently use the species name and nobody acted as “First Reviser.” Therefore, I select “*picolomini*” as the correct original spelling since it is in prevailing usage. 2. George Horn (1893: 281) remarked that the specimens collected by “Piccolomini” and sold by Richard Henri Dupont (born Richard Henry Puech) as found in California, which included the holotype of this species, were in fact collected “anywhere from western Texas to central Arizona.”

**Distribution.** This species, also known as the “Plateau Giant Tiger Beetle,” occurs from the northern half of Arizona to western Texas, north to southwestern Colorado (Kippenhan 1994: 21) and southeastern Utah (Krell and Brookhart 2012: 110). The record from “Oklahoma” (Bousquet and Laroche 1993: 52) is in error.

**Records. USA:** AZ, CO, NM, TX, UT

***Amblycheila schwarzi* Horn, 1904**

*Amblycheila schwarzi* W. Horn, 1904: 98. Type locality not stated; «Truxton Valley, Peach Springs (5,000 ft.), Arizona» selected by Freitag (1999: 8). Syntype(s) [2 originally cited] probably in ZMHB. NOTE. This name is usually credited to Horn (1903a: 196) who first proposed it. Horn (1903a: 196) reported that “*Amblycheila piccolomini* G. Horn, Leconte, Leng ex parte” is different from “*A. piccolomini* Rivers” and gave the name *A. schwarzi* to the form not identical with “*A. piccolomini* Reiche.” In my opinion, Horn’s statement does not constitute a description by

indication. The next year Horn published a description of *A. schwarzi* and stated, after seeing the type of *A. piccolomini* Reiche in Paris, that his new species was the “*A. piccolomini* Rivers and Leng, ex parte.”

*Amblycheila utahensis* Tanner, 1951: 47. Type locality: «Diamond Valley, 15 miles north of S[ain]t George, Washington County, Utah» (original citation). Holotype (♂) in BYUC (Shawn M. Clark pers. comm. 2007). Synonymy established by Vaurie (1955: 20).

**Distribution.** This species, also known as the “Mojave Giant Tiger Beetle,” is found from northwestern Arizona and southwestern Utah west to the desert mountains of southeastern California east of the Sierra Nevada [see Vaurie 1955: Fig. 1 and Pearson et al. 2006: Map 2].

**Records. USA:** AZ, CA, NV, UT

### Genus *OMUS* Eschscholtz, 1829

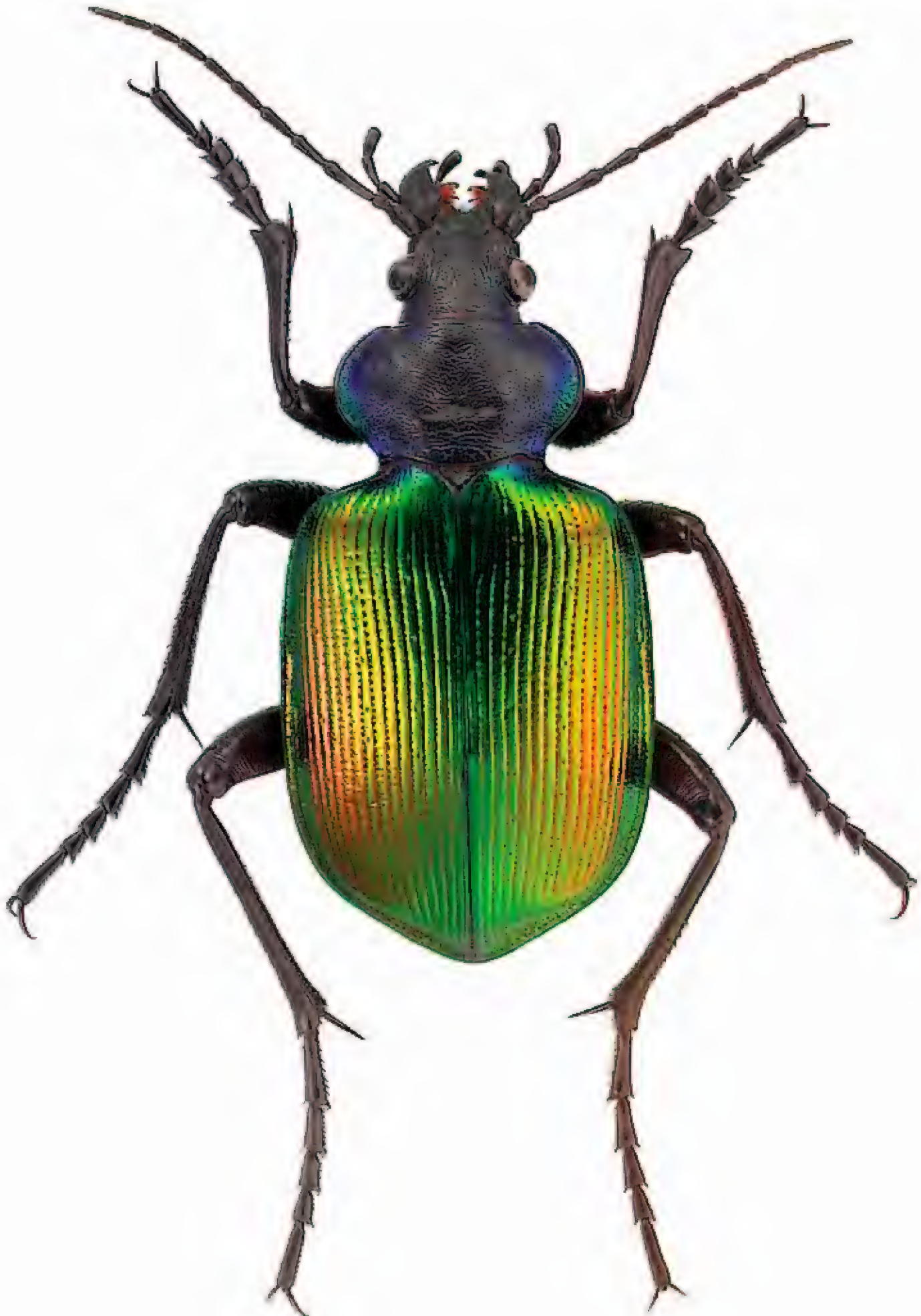
*Omus* Eschscholtz, 1829: 3. Type species: *Omus californicus* Eschscholtz, 1829 by monotypy. Etymology. From the Greek *omos* (cruel), possibly alluding to the apparent ferocious habits of the species in the eyes of Eschscholtz [masculine].

*Leptomus* Casey, 1914: 1. Type species: *Omus submetallicus* Horn, 1869 by original designation. Synonymy established by Horn (1915: 443). Etymology. From the Greek *leptos* (fine, small, thin, delicate) and the generic name *Omus* [*q.v.*] [masculine].

*Megomus* Casey, 1914: 1. Type species: *Omus dejeanii* Reiche, 1838 by original designation. Synonymy established by Horn (1915: 443). Etymology. From the Greek *megas* (large) and the generic name *Omus* [*q.v.*] [masculine].

**Diversity.** Five species in western North America inhabiting the Pacific coastal lowlands and the mountain slopes, including those of the Cascade and Sierra Nevada ranges.

**Identification.** Casey, between 1897 and 1924, described so many forms in this genus (90 species-group taxa) that at the time of his death in 1925 it was virtually impossible to identify members of *Omus*. Cazier (1942) wrote a detailed monographic revision of the genus and recognized three species (*A. californicus*, *A. dejeanii*, and *A. submetallicus*) with four subspecies for *A. californicus*. He also provided keys for the identification of the taxa. Unfortunately his thesis was not published. In his thesis on the cicindelids of the Pacific Northwest, Leffler (1979a) followed Cazier’s (1942) conclusions concerning the taxonomy of *Omus* except that he recognized a fourth species, according specific rank to *O. audouini* considered a synonym of *O. californicus californicus* by Cazier. Leffler (1979a) provided a key for the separation of the species but his work also remained unpublished. Subsequently, a new species was described by van den Berghe in 1994. The field guide of Pearson et al. (2006: 23) includes a key to all five species.



**Figure 9.** *Calosoma sycophanta* (Linnaeus). This species is one of only two intentionally introduced carabids in North America that became established on this continent, the other one being *Carabus auratus*. These species were introduced for the biological control of the gypsy moth, *Lymantria dispar*, and the browntail moth, *Euproctis chrysorrhoea*. Since its release in the vicinity of Boston in 1906-1907, *C. sycophanta* has spread to southern Maine and to West Virginia.



***Omus audouini* Reiche, 1838**

*Omus audouini* Reiche, 1838: 300. Type locality: «versant occidental des montagnes rocheuses, dans le district d'Oregon, aux États-Unis de l'Amérique du Nord» (original citation, see page 297). Syntype(s) probably in MHNP. Etymology. The specific name was proposed for the French zoologist Jean-Victor Audouin [1797–1841], co-founder of the *Annales des Sciences Naturelles* and a founding member of the *Société Entomologique de France*. In 1823 Audouin became assistant librarian at the Muséum d'Histoire Naturelle in Paris and obtained his doctorate in 1826. He succeeded Latreille as assistant naturalist at the chair of Crustacean and Insects at the Museum in 1830 and three years later as professor of the same chair. He died of apoplexy. He had no insect collection but held a large entomological library which he willingly made available to scholars.

*Omus ambiguus* Schaupp, 1884b: 121. Type locality: «M[oun]t Shasta District [Siskiyou County], Cal[ifornia]» (original citation). Holotype [by monotypy] (♂) in USNM (collection Casey). Synonymy established by Bousquet and Laroche (1993: 52) based on Leffler (1979a: 192) unpublished thesis. NOTE. Leng (1902: 108) reported that the holotype was probably collected at “Upper Soda Springs” in Siskiyou County, at 3000–4000 feet.

*Omus van dykei* W. Horn, 1903a: 185. Type locality: «Mittel-Oregon» (original citation). Holotype [by monotypy, cf. Horn 1903a: 197] (♂) location unknown. Synonymy established by Boyd (1982: 2).

*Omus borealis* Casey, 1909: 256. Type locality: «Oregon» (original citation). One syntype in USNM [# 45857]. Synonymy established with doubt by Horn (1910a: 125), confirmed by Leffler (1979a: 198).

*Omus californicus humeroplanatus* W. Horn, 1910b: 293. Type locality: «Provincia Del Norte, Calif[ornia]» (original citation). Syntype(s) in MHNP. Synonymy established, under the name *O. californicus borealis* Casey, by Horn (1915: 431).

*Omus audouini parvulus* Casey, 1913: 2. Type locality: «Oregon» (original citation). One syntype in USNM [# 45809]. Synonymy established by Horn (1915: 431), confirmed by Leffler (1979a: 199).

*Omus oregonensis* Casey, 1913: 2. Type locality: «Josephine Co[unty], Oregon» (original citation). One syntype in USNM [# 45832]. Synonymy established, under the name *O. californicus borealis* Casey, by Hatch (1953: 36), confirmed by Leffler (1979a: 199) and van den Berghe (1994: 33). NOTE. According to Leffler (1979a: 199), the type series was collected at Selma and Waldo (abandoned townsite 5 km ESE of O'Brien), Josephine County, by F.W. Nunenmacher.

*Omus rugipennis* Casey, 1914: 3. Type locality: «northern California» (original citation). One syntype in USNM [# 45803]. Synonymy established, under the name *O. californicus ambiguus* Schaupp, by Horn (1915: 443), confirmed by Leffler (1979a: 200). NOTE. According to Leffler (1979a: 200), the type series was collected at Mud Lake, 7 miles NW Cottage Grove, in Siskiyou County, by F.W. Nunenmacher.

- Omus solidulus* Casey, 1914: 3. Type locality: «Shasta Retreat [Bucks Lake], Siskiyou Co[unty], California» (original citation). One syntype in USNM [# 45812]. Synonymy established, under the name *O. californicus ambiguus* Schaupp, by Horn (1915: 443), confirmed by Leffler (1979a: 200).
- Omus audouini brevicornis* Casey, 1916: 8. Type locality: «Humboldt Co[unty], California» (original citation). One syntype in USNM [# 45806]. Synonymy established, under the name *O. californicus humeroplanatus* Horn, by Horn (1926: 55), confirmed by Leffler (1979a: 200). NOTE. According to Leffler (1979a: 200), the type series was not collected in Humboldt County as indicated by Casey (1916: 8) but at Mud Lake, 7 miles North West Cottage Grove, Siskiyou County, by F.W. Nunenmacher.
- Omus audouini aequicornis* Casey, 1916: 9. Type locality: «Josephine Co[unty], Oregon» (original citation). Two syntypes in USNM [# 45807]. Synonymy established, under the name *O. californicus humeroplanatus* Horn, by Horn (1926: 55), confirmed by Leffler (1979a: 201) and van den Berghe (1994: 33). NOTE. According to Leffler (1979a: 201), the two original specimens were collected at Selma and Waldo in Josephine County.
- Omus audouini tacomae* Casey, 1916: 9. Type locality: «Tacoma [Pierce County], Washington» (original citation). One syntype in USNM [# 45804]. Synonymy established by Horn (1926: 55), confirmed by Leffler (1979a: 201).
- Omus audouini delicatulus* Casey, 1916: 9. Type locality: «Oregon» (original citation). One syntype in USNM [# 45814]. Synonymy established by Horn (1926: 55), confirmed by Leffler (1979a: 201).
- Omus audouini distans* Casey, 1916: 10. Type locality: «Seattle [King County], Washington» (original citation). One syntype in USNM [# 45813]. Synonymy established by Horn (1926: 55), confirmed by Leffler (1979a: 201).
- Omus ambiguus humeralis* Casey, 1916: 10. Type locality: «Humboldt Co[unty], California» (original citation). One syntype in USNM [# 45811]. Synonymy established, under the name *O. californicus humeroplanatus* Horn, by Horn (1926: 55), confirmed by Leffler (1979a: 201). NOTE. According to Cazier (1942: 104), the type series was collected at 10 miles east of Orick, in Humboldt County, by F.W. Nunenmacher.
- Omus thoracicus* Casey, 1916: 11. Type locality: «Klamath Co[unty], Oregon» (original citation). One syntype in USNM [# 45816]. Synonymy established, under the name *O. californicus oregonensis* Casey, by Horn (1926: 55), confirmed by Leffler (1979a: 202) and van den Berghe (1994: 33). NOTE. According to Leffler (1979a: 202), the type series was collected at Upper Klamath Lake, Klamath County, by F.W. Nunenmacher.
- Omus [cephalicus] audens* Casey, 1924: 3. Type locality: «Seattle [King County], Washington» (original citation). One syntype in USNM [# 45805]. Synonymy established by Horn (1926: 55), confirmed by Leffler (1979a: 202).
- Omus [ambiguus] socius* Casey, 1924: 4. Type locality: «Shasta Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 45810]. Synonymy

established, under the name *O. californicus ambiguus* Schaupp, by Horn (1926: 56), confirmed by Leffler (1979a: 203). NOTE. According to Leffler (1979a: 203), the holotype was collected by F.W. Nunenmacher at Round Mountain, Shasta County.

**Distribution.** The range of this species, also known as the “Audouin’s Night-stalking Tiger Beetle,” extends from southwestern British Columbia, including southern Vancouver Island, south to northwestern California [see Pearson et al. 2006: Map 9].

**Records.** CAN: BC (VCI) USA: CA, OR, WA

### *Omus californicus angustocylindricus* Horn, 1913

*Omus californicus angusto-cylindricus* W. Horn, 1913: 348. Type locality: «Lassen Co[unty] borealis, Calif[ornia]» (original citation). Syntype(s) in MHNP and MCZ [# 25599].

*Omus cylindricus* Casey, 1914: 4. Unjustified emendation of *Omus angustocylindricus* Horn, 1913.

**Distribution.** This subspecies, also known as the “Narrow Night-stalking Tiger Beetle,” is found above 1500 m of elevation in Plumas and Lassen Counties in northeastern California (Leffler 1979a: 218).

**Records.** USA: CA

### *Omus californicus californicus* Eschscholtz, 1829

*Omus californicus* Eschscholtz, 1829: 3. Type locality: «Cabo de los Reyes [Marin County], Californien» (original citation). Syntype(s) location unknown (possibly in ZMMU).

*Omus xanti* LeConte, 1859a: 69. Type locality: «Fort Tejon [Kern County, California]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 23592]. Synonymy established by Horn (1903a: 196). Etymology. The species name was proposed for John Xantus de Vesey [1825-1894], a Hungarian exile who worked in the United States as a bookseller, druggist, teacher, and hospital steward. He became over the years a gifted collector of natural history specimens. He eventually returned to his native Hungary and served as Director of the Zoological Garden of Budapest and as curator of ethnography at the Hungarian National Museum.

*Omus laevis* G.H. Horn, 1867a: 394. Type locality: «high Sierras near the head waters of King’s and Tulé rivers [California]» (original citation), restricted to «southeast Fresno County and East Tulare County» by Ward (1982: 59). Lectotype (♂), designated by Ward (1982: 59), in MCZ [# 35314]. Synonymy established by Bousquet and Larochelle (1993: 52) based on Leffler (1979a: 209) unpublished thesis.

*Omus lecontei* G.H. Horn, 1872b: 143. Type locality: «near Monterey [Monterey County], California» (original citation). Lectotype (♂), designated by Ward (1982: 59), in MCZ [# 58]. Synonymy established by Bousquet and Larochelle (1993: 52) based on Leffler (1979a: 209) unpublished thesis. NOTE. This form is

considered a valid subspecies of *O. californicus* Eschscholtz by Knisley and Haines (2010).

*Omus sequoiarum* Crotch, 1874b: 73. Type locality: «Calaveras in the Sierra Nevada» (original citation). Syntype(s) [20 originally cited] in MCZ [# 57] and AMNH [# 444]. Synonymy established by Bousquet and Larochelle (1993: 52) based on Leffler (1979a: 209) unpublished thesis.

*Omus edwardsii* Crotch, 1874b: 73. Type locality: «Lake Tahoe [Placer County, California]» (original citation). Syntype(s) [6 originally cited] in MCZ [# 56] and AMNH [# 445] (Grossbeck 1912: 360). Synonymy established by Bousquet and Larochelle (1993: 52) based on Leffler (1979a: 209) unpublished thesis. Etymology. The specific name honors Henry Edwards [1830-1891], a stage actor by profession and enthusiastic collector of Lepidoptera and other insects. Born in England, Edwards travelled to Australia, South and Central America, Mexico, and from 1865 to 1877 resided in San Francisco before moving to eastern United States. In 1891, his widow put Edwards' collection, which consisted of about 300,000 specimens of all orders, for sale. The American Museum of Natural History acquired the collection as well as his correspondence and notes.

*Omus hornii* LeConte, 1875a: 157. Type locality: «Yosemite, California» (original citation). Holotype [by monotypy] (♀) in MCZ [# 46]. Synonymy established, under the name *O. californicus sequoiarum* Crotch, by Horn (1930: 78).

*Omus hornianus* W. Horn, 1892a: 91. Type locality: «California?» (original citation). Holotype [by monotypy] (♂) in DEI (Döbler 1973: 384). Synonymy established by Horn (1902b: 388).

*Omus montanus* Casey, 1897: 290. Type locality: «Placer Co[unty], California» (original citation). Two syntypes in USNM [# 45842]. Synonymy established by, under the name *O. californicus edwardsii* Crotch, by Horn (1905: 54).

*Omus lugubris* Casey, 1897: 290. Type locality: «California» (original citation). One syntype [2 ♂ originally cited] in USNM [# 45859]. Synonymy established, under the name *O. edwardsii* Crotch, by Leng (1902: 102).

*Omus punctifrons* Casey, 1897: 291. Type locality: «California» (original citation). Holotype [by monotypy] (♀) in USNM [# 45861]. Synonymy established, under the name *O. sequoiarum* Crotch, by Leng (1902: 102).

*Omus confluens* Casey, 1897: 291. Type locality: «California» (original citation). Holotype [by monotypy] (♀) in USNM [# 45863]. Synonymy established, under the name *O. sequoiarum* Crotch, by Leng (1902: 102).

*Omus sculptilis* Casey, 1897: 292. Type locality: «coast regions north of San Francisco, California» (original citation). Holotype [by monotypy] (♂) in USNM [# 45824]. Synonymy established by Horn (1902b: 388).

*Omus elongatus* Casey, 1897: 293. Type locality: «near San Francisco, California» (original citation). One syntype in USNM [# 45852]. Synonymy established, under the name *O. lecontei* Horn, by Horn (1903a: 188, 198).

*Omus californicus fuchsi* W. Horn, 1903a: 188. Type locality: «Küste von Californien, südlich von San Francisco gefangen: wahrscheinlich in oder in der Nähe



- von Monterey Co. [= coast of California, south of San Francisco, probably in or close to Monterey County]» (original citation). One syntype in CMNH. Synonymy established, under the name *O. californicus lecontei* Horn, by Boyd (1982: 2).
- Omus mimus* Casey, 1909: 256. Type locality: «probably northern California» (original citation). One syntype in USNM [# 45819]. Synonymy established with doubt by Horn (1910a: 125).
- Omus dunni* Casey, 1909: 258. Type locality: «vicinity of San Francisco [California]» (original citation). Two syntypes in USNM [# 45853]. Synonymy established, under the name *O. californicus lecontei* Horn, by Horn (1910a: 126).
- Omus dunni regularis* Casey, 1909: 258. Type locality: «Carmel, Monterey Co[unty] [California]» (original citation). Two syntypes in USNM [# 45854]. Synonymy established, under the name *O. californicus lecontei* Horn, by Horn (1910a: 126).
- Omus dunni maritimus* Casey, 1909: 259. Type locality: «Monterey Co[unty] [California]» (original citation). One syntype in USNM [# 45855]. Synonymy established, under the name *O. californicus lecontei* Horn, by Horn (1910a: 126).
- Omus cribripennis* Casey, 1909: 261. Type locality: «Placerville, El Dorado Co[unty] [California]» (original citation). One syntype in USNM [# 45846]. Synonymy established by Bousquet and Laroche (1993: 53) based on Leffler (1979a: 210) unpublished thesis.
- Omus edwardsi lobatus* Casey, 1909: 261. Type locality: «Placer Co[unty] [California]» (original citation). One syntype in USNM [# 45840]. Synonymy established, under the name *O. californicus edwardsii* Crotch, by Horn (1910a: 126).
- Omus montanus lucidicollis* Casey, 1909: 262. Type locality: «Placer Co[unty] [California]» (original citation). Two syntypes in USNM [# 45841]. Synonymy established, under the name *O. californicus edwardsii* Crotch, by Horn (1910a: 126).
- Omus montanus brunnescens* Casey, 1909: 262. Type locality: «Placer Co[unty] [California]» (original citation). Two syntypes in USNM [# 45843]. Synonymy established, under the name *O. californicus edwardsii* Crotch, by Horn (1910a: 126).
- Omus punctifrons degener* Casey, 1909: 263. Type locality: «Sierra Co[unty] [California]» (original citation). One syntype in USNM [# 45865]. Synonymy established, under the name *O. californicus punctifrons* Casey, by Horn (1910a: 125).
- Omus fraterculus* Casey, 1909: 263. Type locality: «Placer Co[unty] [California]» (original citation). Syntype(s) in USNM [# 45862]. Synonymy established, under the name *O. californicus punctifrons* Casey, by Horn (1930: 78).
- Omus collaris* Casey, 1909: 265. Type locality: «Wawona, Mariposa Co[unty] [California]» (original citation). One syntype in USNM [# 45881]. Synonymy established, under the name *O. hornii* LeConte, by Horn (1910a: 126).
- Omus compositus* Casey, 1909: 265. Type locality: «Wawona, Mariposa Co[unty] [California]» (original citation). One syntype in USNM [# 45882]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1910a: 126).
- Omus tularensis* Casey, 1909: 265. Type locality: «Davenport (6,400 feet), Soldiers' Camp (5,800 feet), and Colony Mill (5,415 feet), Tulare Co[unty] [California]»

- (original citation). Six syntypes in USNM [# 45885]. Synonymy established, under the name *O. californicus laevis* LeConte, by Horn (1910a: 126).
- Omus tularensis gracilior* Casey, 1909: 266. Type locality: «Tulare Co[unty] [California]» (original citation). Holotype [by monotypy] (♂) in USNM [# 45886]. Synonymy established, under the name *O. californicus laevis* LeConte, by Horn (1910a: 126).
- Omus lugubris sierricola* Casey, 1913: 3. Type locality: «California» (original citation). Holotype [by monotypy] (♂) in USNM [# 45860]. Synonymy established, under the name *O. californicus sequoiarum* Crotch, by Horn (1915: 432).
- Omus californicus intermedio-pronotalis* W. Horn, 1913: 346. Type locality: «Plumas Co[unty] orientalis, Calif[ornia]» (original citation). Two syntypes in MCZ [# 25598] and IRSN. Synonymy established, under the name *O. californicus edwardsii* Crotch, by Horn (1930: 79).
- Omus californicus nunenmacheri* W. Horn, 1913: 347. Type locality: «Lassen Co[unty] centralis, Calif[ornia]» (original citation). Syntype(s) [6 originally cited] in MHNP and MCZ [# 25597]. Synonymy established by Bousquet and Laroche (1993: 53) based on Leffler's (1979a: 210) unpublished thesis. Etymology. The subspecific name was proposed for Frederick William Nunenmacher [1870-1946], a successful collector of beetles in western United States and a specialist of Coccinellidae. His coccinellid collection went to the California Academy of Sciences and his general collection to the Field Museum of Natural History.
- Omus californicus vermiculatus* Casey, 1914: 5. Type locality: «probably near San Francisco, California» (original citation). Three syntypes [3 originally cited] in USNM [# 45823]. Synonymy established by Horn (1915: 443).
- Omus pronotalis* Casey, 1914: 10. Unjustified emendation of *Omus intermediopronotalis* Horn, 1913.
- Omus sequoiarum longitarsis* Casey, 1914: 12. Type locality: «Big Trees, Calaveras Co[unty], California» (original citation). One syntype in USNM [# 45858]. Synonymy established, under the name *O. californicus sequoiarum* Crotch, by Horn (1915: 443).
- Omus horni temperatus* Casey, 1914: 15. Type locality: «Giant Forest, Tulare Co[unty], California» (original citation). One syntype in USNM [# 45866]. Synonymy established, under the name *O. californicus laevis* LeConte, by Horn (1915: 443).
- Omus tularensis opacellus* Casey, 1914: 16. Type locality: «Tulare Co[unty], California» (original citation). One syntype in USNM [# 45889]. Synonymy established, under the name *O. californicus laevis* LeConte, by Horn (1915: 443).
- Omus levis* W. Horn, 1915: 443. Unjustified emendation of *Omus laevis* Horn, 1867.
- Omus shastanicus* Casey, 1916: 11. Type locality: «Shasta Co[unty], California» (original citation). Two syntypes in USNM [# 45808]. Synonymy established by Bousquet and Laroche (1993: 53) based on Leffler (1979a: 211) unpublished thesis.
- Omus shastanicus cephalicus* Casey, 1916: 11. Type locality: «Shasta Co[unty], California» (original citation). One syntype in USNM [# 45802]. Synonymy established, under the name *O. californicus shastanicus* Casey, by Horn (1926: 55).

- Omus shastanicus tenuiculus* Casey, 1916: 12. Type locality: «Shasta Co[unty], California» (original citation). One syntype in USNM [# 45815]. Synonymy established, under the name *O. californicus shastanicus* Casey, by Horn (1926: 55).
- Omus semilucens* Casey, 1916: 12. Type locality: «San Francisco Co[unty], California» (original citation). One syntype in USNM [# 45834]. Synonymy established by Horn (1926: 54).
- Omus semilucens diminuens* Casey, 1916: 13. Type locality: «Leona Heights, Alameda Co[unty], California» (original citation). One syntype in USNM [# 45833]. Synonymy established by Horn (1926: 55).
- Omus californicus latipennis* Casey, 1916: 13. Type locality: «Leona Heights, Alameda Co[unty], California» (original citation). One syntype in USNM [# 45822]. Synonymy established by Horn (1926: 55).
- Omus sculptilis opacipennis* Casey, 1916: 13. Type locality: «S[ain]t Helena, Napa Co[unty], California» (original citation). One syntype in USNM [# 45817]. Synonymy established by Horn (1926: 55).
- Omus lacertus* Casey, 1916: 15. Type locality: «Carmel, Monterey Co[unty], California» (original citation). One syntype in USNM [# 45856]. Synonymy established, under the name *O. californicus lecontei* Horn, by Horn (1926: 59).
- Omus laticollis* Casey, 1916: 16. Type locality: «Tuolumne Co[unty], California» (original citation). Two syntypes in USNM [# 45864]. Synonymy established, under the name *O. californicus fuchsi* Horn, by Horn (1930: 78).
- Omus temperatus difficilis* Casey, 1916: 17. Type locality: «Mariposa Co[unty], California» (original citation). One syntype in USNM [# 45867]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus temperatus mariposae* Casey, 1916: 17. Type locality: «Mariposa Co[unty], California» (original citation). One syntype in USNM [# 45869]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus temperatus sparsellus* Casey, 1916: 18. Type locality: «Wawona, Mariposa Co[unty], California» (original citation). One syntype in USNM [# 45873]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus subsericeus* Casey, 1916: 18. Type locality: «Kaweah [Tulare County], California» (original citation). One syntype in USNM [# 45874]. Synonymy established, under the name *O. californicus laevis* Horn, by Horn (1926: 57).
- Omus collaris antennalis* Casey, 1916: 19. Type locality: «Mariposa Co[unty], California» (original citation). Two syntypes in USNM [# 45875]. Synonymy established, under the name *O. californicus laevis* Horn, by Horn (1926: 57).
- Omus collaris trapezicollis* Casey, 1916: 19. Type locality: «Mariposa Co[unty], California» (original citation). One syntype in USNM [# 45872]. Synonymy established, under the name *O. californicus laevis* Horn, by Horn (1926: 57).
- Omus collaris erraticus* Casey, 1916: 20. Type locality: «Tuolumne Co[unty], California» (original citation). One syntype [2 originally cited] in USNM [# 45868]. Synonymy established, under the name *O. californicus laevis* Horn, by Horn (1926: 57).

- Omus horni brevis* Casey, 1916: 21. Type locality: «Tuolumne Co[unty], California» (original citation). One syntype in USNM [# 45883]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus horni propinquus* Casey, 1916: 21. Type locality: «Mariposa Co[unty], California» (original citation). One syntype in USNM [# 45871]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus horni asperatus* Casey, 1916: 22. Type locality: «Tuolumne Co[unty], California» (original citation). One syntype in USNM [# 45879]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus horni granosus* Casey, 1916: 22. Type locality: «Mariposa Co[unty], California» (original citation). One syntype in USNM [# 45880]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus horni sinuosus* Casey, 1916: 23. Type locality: «Wawona, Mariposa Co[unty], California» (original citation). One syntype in USNM [# 45877]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus horni punctatus* Casey, 1916: 23. Type locality: «Tuolumne Co[unty], California» (original citation). Four syntypes [4 originally cited] in USNM [# 45878]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57). NOTE. Hennessey (1990: 467) reported the presence of a syntype of *O. punctatus* Casey in SIM.
- Omus horni farctus* Casey, 1916: 23. Type locality: «Mariposa Co[unty], California» (original citation). One syntype in USNM [# 45884]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus marginalis* Casey, 1916: 24. Type locality: «Tuolumne Co[unty], California» (original citation). One syntype in USNM [# 45870]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).
- Omus tularensis remissus* Casey, 1916: 25. Type locality: «Colony Mill (5400 ft.), Tulare Co[unty], California» (original citation). One syntype in USNM [# 45887]. Synonymy established, under the name *O. californicus laevis* Horn, by Horn (1926: 57).
- Omus laevis peropacus* Casey, 1916: 25. Type locality: «Tulare Co[unty], California» (original citation). One syntype [3 originally cited] in USNM [# 45888]. Synonymy established, under the name *O. californicus laevis* Horn, by Horn (1926: 57).
- Omus cupreonitens* Blaisdell and Reynolds, 1917: 49. Type locality: «shore of Humboldt Bay near Arcata, Humboldt County, California» (original citation). Holotype (♂) in USNM [# 21355]. Synonymy established by Bousquet and Larochelle (1993: 53) based on Leffler (1979a: 212) unpublished thesis.
- Omus [cupreonitens] reynoldsi* Casey, 1924: 5. Type locality: «Arcata, Humboldt Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 45839]. Synonymy established, under the name *O. cupreonitens* Blaisdell and Reynolds, by Blaisdell (1925: 80).
- Omus [sculptilis] densicollis* Casey, 1924: 5. Type locality: «Mendocino Co[unty], California» (original citation). One syntype in USNM [# 45825]. Synonymy established by Horn (1926: 55).



- Omus [sculptilis] argutus* Casey, 1924: 6. Type locality: «Alameda Co[unty], California» (original citation). One syntype in USNM [# 45826]. Synonymy established by Horn (1930: 78).
- Omus [mimus] debiliceps* Casey, 1924: 6. Type locality: «San Francisco [San Francisco County], California» (original citation). One syntype in USNM [# 45818]. Synonymy established by Horn (1926: 54).
- Omus [mimus] insulsus* Casey, 1924: 6. Type locality: «S[an]ta Cruz Co[unty], California» (original citation). Two syntypes in USNM [# 45828]. Synonymy established by Horn (1926: 55).
- Omus [mimus] modicus* Casey, 1924: 7. Type locality: «Mendocino Co[unty], California» (original citation). Two syntypes [2 ♂ originally cited] in USNM [# 45827]. Synonymy established by Horn (1926: 55).
- Omus [mimus] stolidus* Casey, 1924: 7. Type locality: «Mendocino Co[unty], California» (original citation). Two syntypes in USNM [# 45829]. Synonymy established by Horn (1926: 54).
- Omus [mimus] subparallelus* Casey, 1924: 7. Type locality: «S[an]ta Cruz Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 45830]. Synonymy established by Horn (1926: 55).
- Omus ventricosus* Casey, 1924: 8. Type locality: «Mendocino Co[unty], California» (original citation). One syntype in USNM [# 45831]. Synonymy established by Horn (1926: 54).
- Omus leachi* Casey, 1924: 8. Type locality: «Trinity Co[unty], California» (original citation). Four syntypes [4 originally cited] in USNM [# 45838]. Synonymy established by Horn (1926: 55).
- Omus pullatus* Casey, 1924: 9. Type locality: «Sonoma Co[unty], California» (original citation). One syntype in USNM [# 45820]. Synonymy established by Horn (1926: 55).
- Omus [vermiculatus] pollens* Casey, 1924: 9. Type locality: «Marin Co[unty], California» (original citation). One syntype in USNM [# 45821]. Synonymy established by Horn (1926: 55).
- Omus [californicus] turbulentus* Casey, 1924: 10. Type locality: «Sonoma Co[unty], California» (original citation). One syntype in USNM [# 45835]. Synonymy established by Horn (1926: 55).
- Omus [californicus] aethiops* Casey, 1924: 10. Type locality: «Shasta Co[unty], California» (original citation). One syntype in USNM [# 45836]. Synonymy established by Horn (1926: 55).
- Omus [californicus] sparsus* Casey, 1924: 10. Type locality: «S[an]ta Cruz, California» (original citation). One syntype in USNM [# 45837]. Synonymy established by Horn (1926: 55).
- Omus [horni] callosus* Casey, 1924: 12. Type locality: «Tuolumne Co[unty], California» (original citation). One syntype in USNM [# 45876]. Synonymy established, under the name *O. californicus hornii* LeConte, by Horn (1926: 57).

*Omus vanlooi* Nunenmacher, 1940: 144. Type locality: «Butte County, California» (original citation). Holotype (♂) in CAS [# 8164]. Synonymy established by Bousquet and Larochelle (1993: 53) based on Leffler (1979a: 212) unpublished thesis.

**Distribution.** This subspecies, also known as the “California Night-stalking Tiger Beetle,” ranges from southwestern Oregon to southern California along the coast and through the Sierra Nevada, at elevation below 900 m near the range of *O. californicus intermedius* (Leffler 1979a: 218; Fig. 18).

**Records. USA:** CA, OR

### *Omus californicus intermedius* Leng, 1902

*Omus intermedius* Leng, 1902: 104. Type locality: «Coulterville, Mariposa Co[unty], Cal[ifornia]» (original citation). Syntype(s) location unknown. NOTE. The specimen labeled “CoType 25595” in MCZ is not a syntype (see Dahl 1941: 169) but was determined by Leng; the specimen is labeled “Harris Collection - Colony Mill Ro[ad] n[orth] Kaweah California.”

*Omus procerus* Casey, 1909: 259. Type locality: «Tulare Co[unty] [California]» (original citation). One syntype in USNM [# 45850]. Synonymy established by Horn (1910a: 126).

*Omus procerus parvicollis* Casey, 1909: 260. Type locality: «Redwood and Mabel Creeks and Watson Springs, Tulare Co[unty] [California]» (original citation). Five syntypes in USNM [# 45848]. Synonymy established by Horn (1910a: 126).

*Omus blaisdelli* Casey, 1909: 260. Type locality: «Mokelumne Hill, Calaveras Co[unty] [California]» (original citation). Five syntypes in USNM [# 45844]. Synonymy established by Horn (1910a: 126).

*Omus spissipes* Casey, 1913: 3. Type locality: «Tulare Co[unty], California» (original citation). One syntype in USNM [# 45849]. Synonymy established by Horn (1915: 432).

*Omus parvicollis ovipennis* Casey, 1916: 14. Type locality: «Mokelumne Hill, Calaveras Co[unty], California» (original citation). One syntype in USNM [# 45851]. Synonymy established, under the name *O. blaisdelli* Casey, by Blaisdell (1925: 80).

*Omus [blaisdelli] torvus* Casey, 1924: 11. Type locality: «Lampson's Flat (1800 feet), California» (original citation). One syntype in USNM [# 45845]. Synonymy established, under the name *O. blaisdelli* Casey, by Blaisdell (1925: 80).

*Omus [cribripennis] maurus* Casey, 1924: 11. Type locality: «El Dorado Co[unty], California» (original citation). Three syntypes [3 originally cited] in USNM [# 45847]. Synonymy established by Horn (1926: 58).

**Distribution.** This subspecies, also known as the “Intermediate Night-stalking Tiger Beetle,” is found above 900 meters in the Sierra Nevada between El Dorado and Tulare Counties, California (Leffler 1979a: 222).

**Records. USA:** CA

***Omus californicus subcylindricus* Nunenmacher, 1940**

*Omus subcylindricus* Nunenmacher, 1940: 143. Type locality: «Santa Clara County, California» (original citation). Holotype (♂) in CAS [# 8165].

**Distribution.** This subspecies, also known as the “Subcylindrical Night-stalking Tiger Beetle,” is restricted to San Martin, Santa Clara County, in western California (Leffler 1979a: 217).

**Records. USA:** CA

***Omus cazieri* van den Berghe, 1994**

*Omus cazieri* van den Berghe, 1994: 33. Type locality: «north side M[oun]t Ashland (1080-1200 m), Jackson Co[unty], Oregon» (original citation). Holotype (♂) in CMNH. Etymology. The specific name was proposed in honor of Mont Adelbert Cazier [1911-1995], curator at the American Museum of Natural History and later professor of zoology at Arizona State University. Cazier published on the behaviour, ecology, and systematics of various arthropod groups, including tiger beetles.

**Distribution.** This taxon, also known as the “Mount Ashland Night-stalking Tiger Beetle,” is known only from Jackson County in southwestern Oregon.

**Records. USA:** OR

***Omus dejeanii* Reiche, 1838**

*Omus dejeanii* Reiche, 1838: 299. Type locality: «versant occidental des montagnes rocheuses, dans le district d’Oregon, aux États-Unis de l’Amérique du Nord» (original citation, see page 297), herein restricted to Bull Run, Clackamas County, Oregon (see Casey 1916: 8, as *O. dejeani foveatus*). Syntype(s) probably in MHNP. Etymology. The specific name was proposed in honor of Pierre François Marie Auguste Dejean [1780-1845], a French military officer who held the title of aide-de-camp to Napoleon Bonaparte from 1813 to 1815. Forced to leave his country in January 1816, he was able to come back in 1818 thanks to the relations of his father. At the death of this one in 1824, Dejean inherited his double title of count and pair-de-France. In 1844, Dejean was awarded the rank of “Grand Croix” (the highest) of the prestigious order Légion d’Honneur.

*Omus dejeani robustus* Casey, 1916: 7. Type locality: «Seattle [King County], Washington» (original citation). Two syntypes in USNM [# 45800]. Synonymy established by Horn (1926: 54).

*Omus dejeani foveatus* Casey, 1916: 8. Type locality: «Bull Run, Clackamas Co[unty], Oregon» (original citation). Two syntypes in USNM [# 45801]. Synonymy established by Horn (1926: 54).

**Distribution.** This species, also known as the “Greater Night-stalking Tiger Beetle,” is found from southwestern British Columbia, including Vancouver Island, to southwestern Oregon [see Pearson et al. 2006: Map 6]. The record from northern California

(Leng 1902: 105) needs confirmation; that from “Montana” (Leng 1902: 105) is in error.

**Records.** CAN: BC (VCI) USA: OR, WA [CA]

### ***Omus submetallicus* Horn, 1869**

*Omus submetallicus* G.H. Horn, 1869b: 129. Type locality: «California» (original citation), restricted, incorrectly so, to «mountains near Alleghany City, Sierra Co[unty]» by Ward (1982: 59), based on information provided by Fuchs to Leng (1902: 109), and subsequently to «Warthan Canyon, mouth of Mulch Canyon, 601 m, 43.6 km (by road) E[ast] San Lucas, St[ate] H[y]w[a]y 198, Fresno Co[unty]» by Leffler (1986a: 38). Holotype [by monotypy] (♂) in MCZ [# 33469].

*Omus submetallicus niger* Cazier, 1937b: 94. Type locality: «Warthan Canyon, Fresno Co[unty], California» (original citation). Holotype (♂) in CAS [# 4478]. Synonymy established by Bousquet and Laroche (1993: 52) based on Leffler's statement (1979a: 181).

**Distribution.** This species, also known as the “Lustrous Night-stalking Tiger Beetle,” is restricted to a small area east of Warthan Canyon in western Fresno County, central California (Knisley and Haines 2010: 245).

**Records.** USA: CA

### **Tribe MEGACEPHALINI Laporte, 1834**

Megacephalidae Laporte, 1834: 33. Type genus: *Megacephala* Latreille, 1802.

Megalocephalidae Gistel, 1850: 75. Type genus: *Megalocephala* Gistel, 1850 (= *Megacephala* Latreille, 1802).

Oxycheilites J. Thomson, 1857: 17, 53. Type genus: *Oxycheila* Dejean, 1825.

Tetrachae Leng and Mutchler, 1916: 683. Type genus: *Tetracha* Hope, 1838.

**Diversity.** About 200 species in the Nearctic (four species), Neotropical (about 165 species), Australian (25 species), Palaearctic (one species), and Afrotropical (12 species) Regions. The species are arrayed in 11 genera (see Naviaux 2007: 10-11): *Aniara* Hope (one Neotropical species), *Australicapitona* Sumlin (eight Australian species), *Cheiloxia* Guérin-Méneville (two Neotropical species), *Grammognatha* Motschulsky (one Mediterranean species), *Megacephala* Latreille (12 Afrotropical species), *Metriocha* Thomson (one Neotropical species), *Oxycheila* Dejean (about 30 Neotropical species), *Phaeoxantha* Chaudoir (12 Neotropical species), *Pseudotetracha* Fleutiaux (17 Australian species), *Pseudoxyscheila* Guérin-Méneville (about 20 Neotropical species), and *Tetracha* (about 95 species).

### **Genus *TETRACHA* Hope, 1838**

*Gnatho* Illiger, 1807: 348 [potential *nomen oblitum*, see Bousquet (2002b: 23)]. Type species: *Cicindela carolina* Linnaeus, 1763 designated by Bousquet (2002b: 24).



**Etymology.** Uncertain, either from the Latin *Gnatho* (name of a parasite in *Eunu-chus*, title of a comedy by Terence; a parasite in general) or the Greek *gnathos* (jaw). *Tetracha* Hope, 1838: 6 [potential *nomen protectum*]. Type species: *Cicindela carolina* Linnaeus, 1763 by monotypy. **Etymology.** From the Greek *tetra* (four) and perhaps *chaite* (long hair) contracted, possibly alluding to the presence of four setae on the labrum (Naviaux 2007: 16) [feminine].

**Diversity.** Western Hemisphere, with about 95 species (110 species-group taxa) (Naviaux 2007: 3) in the Nearctic (four species, only one endemic) and Neotropical (about 95 species) Regions. The species are arrayed in seven subgenera: *Apterotetracha* Naviaux (three Brazilian species), *Microtetracha* Naviaux (one Argentine species), *Neotetracha* (about 55 species), *Oblongotetracha* Naviaux (one Venezuelan species), *Paratetracha* Naviaux (five South American species), *Prototetracha* Naviaux (one Mexican species), and *Tetracha s.str.* (29 species).

**Identification.** Naviaux (2007) recently revised the species and provided keys for the subgenera and the species groups but not for all species. Pearson et al. (2006: 24) field guide to the tiger beetles of North America included a key to all North American species (*T. impressa* under the name *T. affinis*) except *T. floridana*. Naviaux (2007: 42–43) redescribed *T. floridana* and pointed out the structural differences between the species and *T. carolina*.

**Taxonomic Note.** In their phylogenetic analysis based on the nuclear 18S and the mitochondrial 16S and cytochrome oxidase III genes, Zerm et al. (2007) found out that the genus *Tetracha* was paraphyletic in regard to the monospecific genus *Aniara* Hope and that the two genera and *Phaeoxantha* form a clade.

**Faunistic Note.** From a zoogeographical point of view it is of interest to note that a specimen identical to present day *T. carolina carolina* has been found in amber from the east coast of Germany (Horn 1906).

### Subgenus *Tetracha* Hope, 1838

*Tetracha* Hope, 1838: 6. Type species: *Cicindela carolina* Linnaeus, 1763 by original designation.

**Diversity.** Twenty-nine species in North America (three species, one of them endemic) and the Neotropical Region (28 species), including the West Indies.

#### [*carolina* group]

##### *Tetracha carolina carolina* (Linnaeus, 1763)

*Cicindela carolina* Linnaeus, 1763: 395. Type locality: «Carolina» (original citation). Two possible syntypes in LSL (Lindroth 1957b: 336).

*Megacephala carolinensis* Latreille, 1805: 175. Unjustified emendation of *Megacephala carolina* (Linnaeus, 1763).

*Megacephala mexicana* Gray, 1831: 263. Type locality: «Mexico» (original citation). Syntype(s) location unknown. Synonymy established by Cresson (1861: 8).

*Megacephala boisduvalii* Gistel, 1837: 7. Type locality: «Mexico» (original citation). Syntype(s) lost. Synonymy established by Horn (1903b: 220). Etymology. The specific name honors the French naturalist and physician Jean Baptiste Antoine Déchauffour de Boisduval [1801-1879] who for some time was employed by count Dejean as curator of his collection. Boisduval is primarily known for his work on Lepidoptera. Among other things he published with John Eatton LeConte an iconography of the Lepidoptera and caterpillars of North America between 1829 and 1834.

**Distribution.** The range of this subspecies, also known as the “Pan-American Big-headed Tiger Beetle” (Pearson et al. 2006: 57) or the “Carolina Metallic Tiger Beetle” (Erwin and Pearson 2008: 70), extends from Maryland to southeastern California, south to Nicaragua (Naviaux 2010: 70) and the Florida Keys [see Pearson et al. 1997: Fig. 3]; two specimens from San Diego County in California are also known (Moore 1937: 3). The records from the Bahamas, Cuba, Cayman Islands, and Jamaica refer to *T. carolina occidentalis*. The records from “Colorado” (Wickham 1902: 228), “Connecticut,” “Indiana,” “New Jersey,” and “New York” (see Bousquet and Laroche 1993: 54) are probably in error or based on strays; that from Nebraska (Bruner 1901: 97) needs confirmation (see Spomer et al. 2008a: 11).

**Records. USA:** AL, AR, AZ, CA, DC, FL, GA, IA, IL, KS, KY, LA, MD, MO, MS, NC, NM, NV, OK, SC, TN, TX, VA [NE] – Guatemala, Mexico, Nicaragua

**Note.** Three more subspecies are recognized by Naviaux (2007: 40): *T. carolina chevrolatii* Chaudoir from the Yucatán Peninsula and Belize, *T. carolina moraveci* Naviaux from the state of Mexico, and *T. carolina occidentalis* (Klug) from the West Indies.

### *Tetracha floridana* Leng and Mutchler, 1916

*Tetracha carolina* var. *floridana* Leng and Mutchler, 1916: 688. Type locality: «[The] Everglade[s], Fl[orid]a» (original citation). Holotype in AMNH [# 129] (Dahl 1941: 170).

**Distribution.** This species, also known as the “Florida Metallic Tiger Beetle,” is found only in southern Florida, from Dixie County to the Keys (Choate 2003: 63).

**Records. USA:** FL

### [*virginica* group]

#### *Tetracha virginica* (Linnaeus, 1767)

*Cicindela virginica* Linnaeus, 1767: 657. Type locality: «Carolina» (original citation). Syntype(s) probably lost. NOTE. *Cicindela virginata*, usually attributed to Linnaeus, is an incorrect subsequent spelling introduced by Gmelin (1790: 1922).

*Tetracha virginica* var. *melaena* Cartwright, 1935: 70. Type locality: «Clemson College [Anderson and Pickens Counties], S[outh] C[arolina]» (original citation). Holotype (♂) in USNM [# 50765]. Synonymy established by Boyd (1982: 5).

**Distribution.** The range of this species, also known as the “Virginia Big-headed Tiger Beetle” (Pearson et al. 2006: 59) or the “Virginia Metallic Tiger Beetle” (Erwin and Pearson 2008: 100), extends from southwestern Connecticut (Dunn 1985b: 21) to southwestern Nebraska (Spomer et al. 2008a: 54), south to southwestern Texas, northeastern Mexico (Pearson et al. 2006: 60), and the Florida Keys [see Pearson et al. 2006: Map 13]; apparently isolated in southeastern Arizona (Dajoz 2004: 116) and south-central Wisconsin (Lawton 1971: 57). The records from “Colorado” (Boyd 1982: 5) and “Tabasco” (Erwin and Pearson 2008: 100) need confirmation.

**Records. USA:** AL, AR, AZ, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MD, MO, MS, NC, NE, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WI, WV [CO] – Mexico

### **Subgenus *Neotetracha* Naviaux, 2007**

*Neotetracha* Naviaux, 2007: 29, 79. Type species: *Megacephala distinguenda* Dejean, 1831 by original designation. Etymology. From Greek prefix *neo-* (new) and the generic name *Tetracha* [*q.v.*] [feminine].

**Diversity.** About 55 Neotropical species, one of them extending into southeastern Texas.

### ***Tetracha impressa* (Chevrolat, 1841)**

*Megacephala impressa* Chevrolat, 1841: [plate 55] 3. Type locality: «en allant de la Vera-Cruz à Mexico» (original citation). Holotype [by monotypy] (♀) in MHNP (Naviaux 2007: 143).

**Distribution.** This species, also known as the “Upland Metallic Tiger Beetle,” ranges from southeastern Texas (Darlington 1935b: 161, as *T. angustata*) to Veracruz, Mexico (Naviaux 2007: 144).

**Records. USA:** TX – Mexico

**Note.** This species has passed under the name *T. angustata* (Chevrolat, 1841) or *T. affinis angustata* in the North American literature until recently.

### **Tribe CICINDELINI Latreille, 1802**

Cicindeletae Latreille, 1802: 77. Type genus: *Cicindela* Linnaeus, 1758.

**Diversity.** Worldwide, with more than 1,710 species arrayed in five subtribes: Apterioessina (one species from south India known only from three partial specimens collected in the early XIX Century), Cicindelina (more than 1,090 species), Iresina (about 45 species, most in the Neotropical and Australian Regions), Dromicina [= Prothymina] (about 475 species in the Neotropical, Australian, Oriental, Asian Palearctic, and Afrotropical Regions), and Theratina (about 100 Asian species in the genus *Therates* Latreille).

**Subtribe CICINDELINA Latreille, 1802**

Cicindeletae Latreille, 1802: 77. Type genus: *Cicindela* Linnaeus, 1758.

**Diversity.** Worldwide, with about 1,090 species. The North American fauna is represented by 98 species (about 9% of the world fauna). The number of genera recognized varies greatly depending on the approach used (lumper versus splitter).

**Identification.** Willis (1968) published a simplified key based on external characters for 91 North American forms, representing all the current recognized species except for the following 11: *Cicindela albissima*, *C. arida*, *C. cazieri*, *C. highlandensis*, *C. nigrrior*, *C. ohlone*, *C. scabrosa*, *C. waynei*, *Habroscelimorpha fulgoris*, *Cylindera lunalonga*, and *Dromochorus velutinigrens*. Pearson et al. (2006: 24-42) field guide to the North American tiger beetles included a key to all currently recognized species, except *Cylindera lunalonga* which has been raised to species level very recently, and a few subspecies. The key is based on external characters and distribution ranges.

**Genus CYLINDERA Westwood, 1831**

*Cylindera* Westwood, 1831: 300. Type species: *Cicindela germanica* Linnaeus, 1758 by monotypy. Etymology. From the Greek *cylindros* (cylinder), probably alluding to the more cylindrical shape of the sole species known to Westwood [feminine].

**Diversity.** About 210 species in all zoogeographical regions. The North American fauna includes eight species (about 4% of the world fauna) placed in the nominotypical subgenus.

**Taxonomic Note.** Lorenz (2005: 54-58) listed the following taxa as subgenera of *Cylindera*: *Apterodela* Rivalier (four species), *Conidera* Rivalier (two species), *Eriodera* Rivalier (one species), *Eugrapha* Rivalier (32 species), *Gaymara* Freitag and Barnes (five Neotropical species), *Glomera* Acciavatti and Pearson (two species), *Ifasina* Jeannel (67 species), *Leptinomera* Rivalier (25 species), *Oligoma* Rivalier (two species), *Plectographa* Rivalier (19 species), *Setinteridenta* Acciavatti (one species), and *Verticina* Rivalier (six species). *Cicindelina* Jeannel (one Madagascan species) was transferred from the genus *Cicindela* to *Cylindera* by Moravec (2010: 198).

**Subgenus *Cylindera* Westwood, 1831**

*Cylindera* Westwood, 1831: 300. Type species: *Cicindela germanica* Linnaeus, 1758 by monotypy.

*Eumecus* Motschulsky, 1850a: 4. Type species: *Cicindela germanica* Linnaeus, 1758 designated by Motschulsky (1862b: 22).

*Cicindosa* Motschulsky, 1864: 173. Type species: *Cicindosa obliquealba* Motschulsky, 1864 (= *Cicindela morio* Klug, 1834) designated by Horn (1915: 236). Synonymy established by Freitag and Barnes (1989: 317).



*Cylindrodera* Bedel, 1879: 6. Unjustified emendation of *Cylindera* Westwood, 1831.

NOTE. Bedel (1879) used the spelling *Cylindera* in the key (page 3) and *Cylindrodera* in the text (page 6), both as valid.

*Cylindella* Jacobson, 1924: 238. Unnecessary replacement name for *Cylindera* Westwood, 1831.

**Diversity.** About 45 species (Lorenz 2005: 55–56) in the Nearctic (eight species, 14 species-group taxa), Neotropical (about 15 species), Oriental (four species), Palaearctic (14 species), and Afrotropical (six species) Regions.

### *Cylindera celeripes* (LeConte, 1846)

*Cicindela celeripes* LeConte, 1846b: 183. Type locality: «ad fluminis Kansas Republican Fork [Kansas]» (original citation). Syntype(s) in MCZ [# 4]. NOTE. According to MacRae and Brown (2011b: 231), the type locality is the area occupied by present day Fort Riley Military Reservation in the Flint Hills near Junction City, Riley County, Kansas, at the confluence of the Kansas and Republican Rivers.

**Distribution.** This species, also known as the “Swift Tiger Beetle,” has been recorded from Nebraska and western Iowa south to north-central Texas and north-central Arkansas [see MacRae and Brown 2011b: Fig. 8]. The record from Indiana (Montgomery and Montgomery 1931: 359) was based on misidentified *C. cursitans* (Knisley et al. 1990: 279); those from “Illinois,” and “Dakota” (Leng 1902: 117) are in error or based on strays. According to MacRae and Brown (2011b: 230), once abundant in Nebraska, western Iowa, and eastern Kansas, the species has declined below detectable levels in much of this area during the past century.

**Records. USA:** AR, IA, KS, MO, NE, OK, TX

### *Cylindera cursitans* (LeConte, 1856)

*Cicindela cursitans* LeConte, 1856a: 60. Type locality: «Fort Riley [junction of Republican and Smoky Hill Rivers, Kansas]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 10].

*Cicindela alata* Liljeblad, 1932: 215. Type locality: «Chicago [Cook County], Illinois» (original citation). Holotype (♂) in FMNH (Kippenhan 1996b: 52). Synonymy established by Horn (1935: 66). NOTE. Kippenhan (1996b: 53) reported that the original specimens of Liljeblad were “introduced” into Chicago since *C. cursitans* is unknown from the vicinity of the city.

**Distribution.** The range of this species, also known as the “Ant-like Tiger Beetle,” extends from North Dakota and west-central Minnesota (Tinerella and Rider 2000: 367) to the Ohio River Valley in West Virginia (Kirchner and Kondratieff 1999: 84), south to western Alabama (Löding 1945: 10), Louisiana, and northern Kansas (Popenoe 1877: 22) [see Pearson et al. 2006: Map 90]; also recorded from “Montana” (Erwin and Pearson 2008: 207).

**Records. USA:** AL, AR, IA, IL, IN, KS, KY, LA, MN, MO, MS, ND, NE, OH, SD, TN, WV [MT]

***Cylindera debilis* (Bates, 1890)**

*Cicindela debilis* Bates, 1890: 509. Type locality: «Ciudad in Durango [Mexico]» (original citation). Three syntypes in DEI (Döbler 1973: 372).

*Cicindela debilis* var. *segnis* E.D. Harris, 1913: 69. Type locality: «Sonoita [Santa Cruz County], Ariz[ona]» (original citation). Syntype(s) in MCZ [# 23553]. Synonymy established by Cazier (1954: 287).

**Distribution.** This species, also known as the “Grass-runner Tiger Beetle,” ranges from southeastern Arizona to southwestern Texas [see Pearson et al. 2006: Map 87], south to Durango (Cazier 1954: 287).

**Records. USA:** AZ, NM, TX – Mexico

***Cylindera lemniscata lemniscata* (LeConte, 1854)**

*Cicindela lemniscata* LeConte, 1854d: 220. Type locality not stated; cited from «probably the valley of the Gila [River]» by LeConte (1856a: 59). Holotype [by monotypy] (♂) in MCZ [# 19].

**Distribution.** This subspecies, also known as the “White-striped Tiger Beetle,” ranges from southern California to southwestern New Mexico, as far north as southwestern Utah (Tanner 1929a: 86), south to Nayarit (Cazier 1960: 12) [see Shook 1989: Fig. 1].

**Records. USA:** AZ, CA, NM, NV, UT – Mexico

***Cylindera lemniscata rebaptisata* (Vaurie, 1951)**

*Cicindela lemniscata rufipes* Vaurie, 1950: 5 [primary homonym of *Cicindela rufipes* Klug, 1825]. Type locality: «Van Horn, Culberson County, Texas» (original citation). Holotype (♂) in AMNH [# 1209].

*Cicindela lemniscata rebaptisata* Vaurie, 1951: 12. Replacement name for *Cicindela lemniscata rufipes* Vaurie, 1950.

**Distribution.** This subspecies, the “Rouged Tiger Beetle,” is known from northeastern New Mexico south to southern Durango and Tamaulipas [see Shook 1989: Fig. 1].

**Records. USA:** NM, TX – Mexico

**Note.** Intergrades between the two subspecies of *C. lemniscata* occur over a small area in south-central New Mexico and northern Chihuahua [see Shook 1989: Fig. 1]. On the Baja California Peninsula, this species is represented by *C. lemniscata bajacalifornica* (Shook).

***Cylindera lunalonga* (Schaupp, 1884)**

*Cicindela lunalonga* Schaupp, 1884b: 122. Type locality: «Sierra Nevada, Cal[ifornia]» (original citation), herein restricted to near Westwood, Lassen County (see Kippenhan and Knisley 2009: 30). Holotype [by monotypy] (♀) apparently destroyed.

*Cicindela lunalonga* var. *tuolumnae* Leng, 1902: 157. Type locality: «Hetch Hetchy Valley, Tuolumne Co[unty], Cal[ifornia]» (original citation). Lectotype (♀), designated by Dahl (1941: 191), in AMNH [# 1228]. Synonymy established (as aberration) by Horn (1905: 23), confirmed by Kippenhan and Knisley (2009: 30).

*Cicindela tularensis* Casey, 1914: 19. Type locality: «Tulare Co[unty], California» (original citation). Four syntypes [4 originally cited] in USNM [# 45919]. Synonymy established by Horn (1915: 444), confirmed by Kippenhan and Knisley (2009: 31).

*Cicindela pusilla wagneri* Cazier, 1937c: 117. Type locality: «Friant, Freno Co[unty], Cal[ifornia]» (original citation). Holotype (♀) in AMNH [# 1203]. Synonymy established by Cazier (1948: 17), confirmed by Kippenhan and Knisley (2009: 31).

**Distribution.** This species, also known as the “Meadow Tiger Beetle,” is restricted to the western and northern slopes of the Sierra Nevada and adjacent eastern portion of the San Joaquin Valley of California (Woodcock et al. 2006: 869). Specimens labeled from Riverside in California, Prescott in Arizona (see Cazier 1939: 28), and Olmito and San Benito in Texas are doubtful or in error (Woodcock et al. 2006: 869); the records from San Pedro Mártir Mountains in Baja California (Cazier 1948: 18) and “Nevada” (Boyd 1982: 16) need confirmation. Extensive surveys in the past 20 years have produce a sole extant population, near Westwood in Lassen County leading Woodcock et al. (2006: 875) to suggest that the species should be considered as a candidate for listing as a Threatened and Endangered species by the U.S. Fish and Wildlife Service.

**Records. USA:** CA [NV]

**Note.** This form has been considered a subspecies of *C. terricola* (Say) or a full species depending on the author until mitochondrial DNA analysis indicates that it is a distinct species (Woodcock et al. 2006).

### *Cylindera terricola cinctipennis* (LeConte, 1846)

*Cicindela cinctipennis* LeConte, 1846b: 182. Type locality: «apud Rocky Mountains» (original citation), cited from «Platte and Arkansas River» by LeConte (1856a: 46). Syntype(s) in MCZ [# 6].

*Cicindela cyanella* LeConte, 1856a: 46. Type locality: «Yellowstone River, Upper Missouri [probably in northeastern Montana]» (original citation). Holotype [by monotypy] in MCZ [# 11]. Synonymy established (as aberration) by Horn (1905: 23).

**Distribution.** The range of the “Belted-winged Tiger Beetle” is disputed. According to Johnson (1990b: Fig. 1), it ranges from west-central Alberta to southeastern Saskatchewan, south to central New Mexico and central Arizona; isolated in southwestern Utah and southwestern Yukon Territory. According to Pearson et al. (2006: 153), it is found in “lower elevations of Colorado, New Mexico, and Arizona.” Erwin and Pearson (2008: 222) recorded the subspecies from the same states as Pearson et al. (2006: 153) and added Kansas (also cited by Leng 1902: 155).

**Records. CAN:** AB, SK, YT **USA:** AZ, CO, MT, ND, NE, NM, SD, UT, WY

***Cylindera terricola continua* (Knaus, 1923)**

*Cicindela pusilla imperfecta* form *continua* Knaus, 1923: 195. Type locality: «Baldwin Lake near Pine Knot (8,500 feet), San Bernardino Mountains [San Bernardino County], California» (original citation). Holotype probably in KSUC. NOTE. This taxon was clearly proposed as an infrasubspecific entity by Knaus (1923: 195) but since it was adopted as the valid name of a subspecies before 1985 (e.g., Boyd 1982: 16), it is deemed to be subspecific from its original publication (ICZN 1999: Article 45.6.4.1). The subspecies is credited to Pearson, Knisley and Kazilek (2006: 153) by some authors (e.g., Kippenhan 2007: 7; Erwin and Pearson 2008: 222) but since these authors failed to indicate explicitly that the taxon was intentionally new, a mandatory requirement (ICZN 1999: Article 16.1), the name could not be credited to them even if Knaus' name was unavailable.

**Distribution.** This subspecies, the “Interior Tiger Beetle,” is known from Nye County in western Nevada and from the Traverse Mountain Range in western Ventura County eastwards to the San Bernardino Mountains in San Bernardino County and the southern tip of the Sierra Nevada in Kern County, California (Kippenhan 2007: 14, Fig. 8). The record from “NE” (Erwin and Pearson 2008: 222) is probably an error for “NV.”

**Records. USA:** CA, NV

**Note.** Freitag (1999: 87) listed this taxon as a junior synonym of *C. terricola imperfecta* (LeConte) but Pearson et al. (2006: 153) and Kippenhan (2007: 7) retained it as a valid subspecies.

***Cylindera terricola imperfecta* (LeConte, 1851)**

*Cicindela imperfecta* LeConte, 1851: 171. Type locality: «California borealis» (original citation), cited from «Sacramento» by LeConte (1856a: 45). One syntype in MCZ [# 17].

**Distribution.** This subspecies, the “Imperfect Tiger Beetle,” ranges from westernmost Alberta and British Columbia, as far north as Fort Saint John along the Peace River (Catling 2007: 19), south to southern Utah, southern Nevada, and Mono County (Kippenhan 2007: 13) in west-central California [see Johnson 1990b: Fig. 1]; also recorded from “Arizona” and “Wyoming” by Erwin and Pearson (2008: 222). The record from New Mexico (Fall and Cockerell 1907: 155) must be in error.

**Records. CAN:** AB, BC **USA:** CA, ID, MT, NV, OR, UT, WA [AZ, WY]

***Cylindera terricola kaibabensis* (Johnson, 1990)**

*Cicindela pusilla kaibabensis* Johnson, 1990b: 4. Type locality: «8 miles north of Kaibab Lodge, Coconino Co[unty], Arizona» (original citation). Holotype (♂) in AMNH [# 1551].

**Distribution.** This subspecies, the “Kaibab Tiger Beetle,” is known only from the Kaibab Plateau of northern Arizona (Johnson 1990b: 1).

**Records. USA:** AZ





**Figure 10.** *Carabus nemoralis* Müller. This European species was first discovered on this continent in New Brunswick around 1890 and was recovered on the west side of Lake Ontario in 1919 and in south-eastern Wisconsin by 1934. Unless the species went undetected for a long period of time, these dates would suggest that the species spread westwards for an average of 38 km per year. This is highly improbable for a wingless species and therefore its spread on this continent was undoubtedly enhanced by human transport unless separate introductions occurred.

***Cylindera terricola susanagreae* (Kippenhan, 2007)**

*Cicindela terricola susanagreae* Kippenhan, 2007: 15. Type locality: «4 mi[les] N[orth] of Big Pine, Inyo Co[unty], Calif[ornia]» (original citation). Holotype (♂) in CAS.

**Distribution.** This subspecies, the “Susan’s Tiger Beetle,” is restricted to the valleys east of the Sierra Nevada Mountains in Mono and Inyo Counties, California [see Kippenhan 2007: Fig. 8].

**Records. USA:** CA

***Cylindera terricola terricola* (Say, 1824)**

*Cicindela pusilla* Say, 1817b: 21 [primary homonym of *Cicindela pusilla* Schreber, 1759]. Type locality: «the Missouri, above the confluence of the river Platte» (original citation, see page 19 for *Cicindela formosa*). Syntype(s) lost.

*Cicindela terricola* Say, 1824: 269. Type locality: «North-west Territory» (original citation). Syntype(s) lost. Synonymy established by Horn (1915: 390). NOTE. In the late 1810s and early 1820s, the Northwest Territory consisted of Ohio and parts of Michigan and Minnesota. Say’s specimen(s) was collected during the expedition to Saint Peter’s River which extended also into southeastern Manitoba and western Ontario. Say’s specimen(s) of *C. terricola* was probably collected in Manitoba.

*Cicindela pusilla sayanella* Casey, 1914: 19. Type locality: «Monroe Cañon, Sioux Co[unty], Nebraska» (original citation). One syntype in USNM [# 45920]. Synonymy established by Horn (1915: 444).

**Distribution.** This subspecies, also known as the “Variable Tiger Beetle,” ranges from northwestern Ontario (Lawton 2008: 73) to southeastern Saskatchewan, south to northwestern Nebraska [see Johnson 1990b: Fig. 1]. The record from Minnesota (Horn 1928: 12) needs confirmation.

**Records. CAN:** MB, ON, SK **USA:** ND, NE, SD [MN]

***Cylindera unipunctata* (Fabricius, 1775)**

*Cicindela unipunctata* Fabricius, 1775: 225. Type locality: «America» (original citation), herein restricted to “Brown’s Woods”, near Pittsburgh, Allegheny County, Pennsylvania (see Leng 1902: 119). Lectotype [as type], designated by Staig (1931: 8), in HMUG.

**Distribution.** The range of this species, also known as the “One-spotted Tiger Beetle,” extends from northeastern New York to central Georgia and southern Mississippi, west to western Missouri [see Pearson et al. 1997: Fig. 19]. The record from “Texas” (Horn 1915: 389) is probably in error or based on a stray.

**Records. USA:** AL, AR, DC, GA, IA, IL, IN, KY, MD, MN, MO, MS, NC, NJ, NY, OH, PA, SC, TN, VA, WV

***Cylindera viridisticta arizonensis* (Bates, 1884)**

*Cicindela viridisticta* var. *arizonensis* Bates, 1884: 260. Type locality: «Arizona; northern Sonora, Mexico» (original citation). Syntype(s) in BMNH.

**Distribution.** This subspecies, the “Pygmy Tiger Beetle,” ranges from central Arizona (Pearson et al. 2006: 156) south to Durango (Cazier 1954: 285).

**Records. USA:** AZ – Mexico

**Note.** The subspecies *C. viridisticta viridisticta* (Bates) and *C. viridisticta interjecta* (Horn) are Mexican endemics.

**Genus *ELLIPSOPTERA* Dokhtouroff, 1883**

*Ellipsoptera* Dokhtouroff, 1883b: 70. Type species: *Cicindela hirtilabris* LeConte, 1875 designated by Horn (1915: 236). Etymology. From the Latin *ellipsis* (lack, defect) and the Greek *pteron* (wing) [feminine].

**Diversity.** Thirteen North American species (27 species-group taxa), of which five extend into Mexico, as far south as the state of Yucatan, and one into the Bahamas and Cuba.

[**marginata group**]

***Ellipsoptera blanda* (Dejean, 1831)**

*Cicindela blanda* Dejean, 1831: 238. Type locality: «Amérique septentrionale» (original citation), herein restricted to Lynches River State Park, Florence County, South Carolina (see Cartwright 1935: 75). Syntype(s) in MHNP.

*Cicindela tarsalis* LeConte, 1852b: 66. Type locality: «Canootche river, Georgia» (original citation). Holotype [by monotypy] (♂) in MCZ [# 39]. Synonymy established by LeConte (1856a: 49).

**Distribution.** This species, also known as the “Sandbar Tiger Beetle,” is endemic to the Coastal Plain ranging from southeastern North Carolina to the Florida Panhandle west to southeastern Mississippi and southwestern Louisiana [see Pearson et al. 2006: Map 97].

**Records. USA:** AL, FL, GA, LA, MS, NC, SC

***Ellipsoptera cuprascens* (LeConte, 1852)**

*Cicindela cuprascens* LeConte, 1852b: 65. Type locality: «Arkansas river» (original citation), cited from «Missouri and Kansas» by LeConte (1856a: 49). Syntype(s) in MCZ [# 9].

*Cicindela cuprascens amnicola* Casey, 1913: 37. Type locality: «Kentucky, Illinois and Missouri» (original citation). Four syntypes in USNM [# 45956]. Synonymy established by Horn (1915: 395).

*Cicindela mundula* Casey, 1913: 37. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). One syntype in USNM [# 45957]. Synonymy established by Horn (1915: 395).

**Distribution.** This species, also known as the “Coppery Tiger Beetle,” ranges from southern Ohio to southwestern Manitoba and central Montana, south to east-central New Mexico, eastern Texas, and southern Alabama [see Pearson et al. 2006: Map 100]; also known from one locality in northern Georgia. The record from “Wisconsin” (Bousquet and Laroche 1993: 68) is likely in error (Peter W. Messer pers. comm. 2007).

**Records.** CAN: MB USA: AL, AR, CO, GA, IA, IL, IN, KS, KY, LA, MN, MO, MS, MT, ND, NE, NM, OH, OK, SD, TN, TX, WV, WY

***Ellipsoptera gratiosa* (Guérin-Ménéville, 1840)**

*Cicindela gratiosa* Guérin-Ménéville, 1840: 37. Type locality: Pensacola, Escambia County, Florida (inferred from title of the paper). One syntype in MCZ (collection LeConte).

**Distribution.** This species, also known as the “Whitish Tiger Beetle,” inhabits the Coastal Plain ranging from Virginia (Hoffman et al. 2006: 17) to the Florida Panhandle, west to southwestern Alabama (Löding 1945: 10) [see Pearson et al. 2006: Map 106]; also recorded from “Mississippi” (Erwin and Pearson 2008: 229). The record from Louisiana (Boyd 1982: 17) is probably in error or based on a stray.

**Records.** USA: AL, FL, GA, NC, SC, VA [MS]

***Ellipsoptera hamata lacerata* (Chaudoir, 1854)**

*Cicindela lacerata* Chaudoir, 1854: 115. Type locality: «Floride» (original citation), herein restricted to Cedar Key, Levy County (see Leng 1915: 561, as *C. hamata*). Syntype(s) in MHNP.

**Distribution.** This subspecies, the “Gulf Beach Tiger Beetle,” is found along the Gulf coast of Florida, including the Keys (Choate 2003: Map 61), and Alabama (Löding 1945: 10). The record from Horn Island, Mississippi (Richmond 1968: 234), is in error for *E. hamata monti* (Graves and Pearson 1973: 187); those from “North Carolina,” “South Carolina,” “Georgia,” and “Louisiana” (Erwin and Pearson 2008: 229) are probably in error or based on strays.

**Records.** USA: AL, FL

**Note.** The nominotypical subspecies is known from the states of Tabasco and Veracruz and *E. hamata pallifera* (Chaudoir) from the states of Quintana Roo and Yucatán (Erwin and Pearson 2008: 229-230).

***Ellipsoptera hamata monti* (Vaurie, 1951)**

*Cicindela hamata monti* Vaurie, 1951: 4. Type locality: «Ten miles southwest of Sabine, Jefferson County, Texas» (original citation). Holotype (♂) in AMNH [# 1213].

**Distribution.** This subspecies, the “Coastal Tiger Beetle,” is found along the Gulf Coast from Mississippi (Graves and Pearson 1973: 187) to the state of Veracruz in Mexico (Erwin and Pearson 2008: 230).



**Records. USA:** LA, MS, TX – Mexico

***Ellipsoptera hirtilabris* (LeConte, 1875)**

*Cicindela hirtilabris* LeConte, 1875a: 161. Type locality: «near Hogarth’s landing, and near Spring Cove, Florida» (original citation), herein restricted to Hogarths Landing, Saint Johns County. Syntype(s) in MCZ [# 15].

**Distribution.** This species, also known as the “Moustached Tiger Beetle,” ranges from east-central Georgia (Beaton 2008: 42) to southern Florida (Choate 2003: Map 63; Pearson et al. 2006: 174). The record from “North Carolina” (Erwin and Pearson 2008: 230) is probably in error or based on a stray.

**Records. USA:** FL, GA

***Ellipsoptera lepida* (Dejean, 1831)**

*Cicindela lepida* Dejean, 1831: 255. Type locality: «Amérique septentrionale» (original citation), herein restricted to Trenton, Mercer County, New Jersey (see LeConte 1846b: 181). Syntype(s) in MHNP.

*Cicindela lepida insomnis* Casey, 1913: 35. Type locality: «Seward Co[unty], Kansas» (original citation). One syntype in USNM [# 46000]. Synonymy established by Horn (1915: 395).

**Distribution.** This species, also known as the “Ghost Tiger Beetle,” ranges from southern Quebec to southeastern Alberta (Hilchie 1985: 333), south to Chihuahua (Cazier 1954: 297), central Texas, southern Louisiana, and eastern North Carolina, west to western Arizona and eastern Nevada [see Pearson et al. 1997: Fig. 17]. The record from South Carolina, based on a specimen in CMNH, is probably in error (Knisley and Schultz 1997: 113). According to Erwin and Pearson (2008: 231), the Ghost Tiger Beetle has been extirpated over much of its former range due to habitat loss.

**Records. CAN:** AB, MB, ON, QC, SK **USA:** AL, AR, AZ, CO, CT, DE, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NV, NY, OH, OK, PA, SD, TN, TX, UT, VA, WI, WY – Mexico

***Ellipsoptera macra ampliata* (Vaurie, 1951)**

*Cicindela macra ampliata* Vaurie, 1951: 10. Type locality: «Denton County, Texas» (original citation). Holotype (♂) in AMNH [# 1214].

**Distribution.** This subspecies, the “Denton Tiger Beetle,” is known from Dallas, Denton, and Kaufman Counties in northern Texas (Vaurie 1951: 10) [see Willis 1967: Fig. 137].

**Records. USA:** TX

***Ellipsoptera macra fluviatilis* (Vaurie, 1951)**

*Cicindela macra fluviatilis* Vaurie, 1951: 8. Type locality: «Red River, north of Quanah, Hardeman County, Texas» (original citation). Holotype (♂) in AMNH [# 1215].

**Distribution.** This subspecies, the “Panhandle Tiger Beetle,” is found in Oklahoma, northern Texas, and northeastern New Mexico [see Pearson et al. 2006: Map 101]. The records from “Arkansas” and “Kansas” (Boyd 1982: 17) need confirmation.

**Records. USA:** NM, OK, TX [AR, KS]

**Note.** Willis (1967) indicated the presence of narrow zones of intergradation between this subspecies and the other two.

***Ellipsoptera macra macra* (LeConte, 1856)**

*Cicindela macra* LeConte, 1856a: 50. Type locality: «Wisconsin and Minnesota» (original citation), herein restricted to Jordan, Scott County, Minnesota (see Horn 1928: 13). Syntype(s) in MCZ [# 21].

*Cicindela macra mercurialis* Casey, 1913: 36. Type locality: «Iowa» (original citation). One syntype in USNM [# 45955]. Synonymy established by Horn (1915: 395).

*Cicindela macra topekana* Casey, 1916: 31. Type locality: «M[oun]t Hope, Kansas» (original citation). Three syntypes [3 originally cited] in USNM [# 45954]. Synonymy established by Horn (1926: 299).

**Distribution.** This subspecies, also known as the “Sandy Stream Tiger Beetle,” ranges from Beaver Islands in northern Michigan (Dunn 1987: 11) to southern Wyoming, south to north-central Colorado (Kippenhan 1990: 314), Arkansas, and Tennessee [see Pearson et al. 2006: Map 101]. The record from “Ohio” (Willis 1967: 269) needs confirmation (see Graves and Brzoska 1991: 28); that from “Texas” (Freitag 1999: 94) probably refers to the *fluviatilis* form; those from central and southeastern New Mexico (Fall and Cockerell 1907: 155) are probably in error.

**Records. USA:** AR, CO, IA, IL, IN, KS, KY, LA, MI, MN, MO, NE, OK, SD, TN, WI, WY [OH]

**Note.** Intergrades between this and the *fluviatilis* forms occur in southern Kansas and eastern Oklahoma (Pearson et al. 2006: 169).

***Ellipsoptera marginata* (Fabricius, 1775)**

*Cicindela marginata* Fabricius, 1775: 226. Type locality: «Virginia» (original citation), herein restricted to Cobbs Island, Chesterfield County (see Harris 1911: 57). One syntype in ZMUC (Zimsen 1964: 65).

*Cicindela variegata* Dejean, 1825: 84. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Say (1830a: 68).

**Distribution.** This species, also known as the “Margined Tiger Beetle,” is found along the Atlantic Coast from Kings County in Nova Scotia (Neil and Majka 2008:

4) to the Florida Keys and along the Gulf Coast in Florida [see Pearson et al. 2006: Map 96]; it is also recorded from the Bahamas and Cuba (Peck 2005: 27). According to Dunn (1983: 4), the species has declined significantly along the New Hampshire coast.

**Records.** CAN: NS USA: CT, DC, DE, FL, GA, MA, MD, ME, NC, NH, NJ, NY, RI, SC, VA – Bahamas, Cuba

***Ellipsoptera puritana* (Horn, 1871)**

*Cicindela puritana* G.H. Horn, 1871: 325. Type locality: «N[ew] H[ampshire]» (lectotype label). Lectotype (♂), designated by Ward (1982: 61), in MCZ [# 16273].

**Distribution.** This species, also known as the “Puritan Tiger Beetle,” is now restricted to two areas, one along the Connecticut River in southern Massachusetts and Connecticut, the other one along the Chesapeake Bay in Maryland (Pearson et al. 2006: 170, 193). It formerly occurred along the Connecticut River as far north as central New Hampshire.

**Records.** USA: CT, MA, MD, NH, NJ, NY, VA, VT

**Note.** This species has been listed as threatened by the U.S. Fish and Wildlife Service in August 1990.

***Ellipsoptera wapleri* (LeConte, 1875)**

*Cicindela wapleri* LeConte, 1875a: 158. Type locality: «Mississippi» (original citation). Holotype [by monotypy] (♂) in MCZ [# 44]. Etymology. The specific name was proposed for Émile Wapler, a French from Mulhouse, who collected insects in southern United States.

**Distribution.** This species, also known as the “White-sand Tiger Beetle,” is found along a small area within the Coastal Plain from south-central Georgia to eastern Louisiana [see Pearson et al. 2006: Map 98]. Beaton (2008: 42) did not find this species at any historical sites in Georgia during his survey of the tiger beetles of the state.

**Records.** USA: AL, FL, GA, LA, MS

[sperata group]

***Ellipsoptera nevadica citata* (Rumpp, 1977)**

*Cicindela nevadica citata* Rumpp, 1977: 175. Type locality: «8 kilometers west-southwest of Willcox [Cochise County, Arizona]» (original citation). Holotype (♂) in CAS [# 12528].

**Distribution.** This subspecies, the “Chiracahua Tiger Beetle,” is known from southeastern Arizona and Sonora, Mexico (Spomer 2004: 409); also recorded from “New Mexico” (Erwin and Pearson 2008: 233).

**Records.** USA: AZ [NM] – Mexico

***Ellipsoptera nevadica knausii* (Leng, 1902)**

*Cicindela knausii* Leng, 1902: 166. Type locality: «near Kackley, Belvidere, and Great Spirit Springs, Kansas» (original citation). Syntype(s) location unknown. Etymology. This taxon was proposed in honor of Warren Knaus [1858-1937], amateur coleopterist and founder, owner, and editor of *The Democrat* in McPherson, Kansas which became, after the purchase of *The Opinion* in 1912, the *Democratic Opinion* until the time of his death. Knaus made several collecting trips to western United States and assembled a collection of nearly 90,000 specimens which he donated to the Kansas State University (at the time the Kansas State College) in Manhattan, March 1917. The collection was transferred to the university only in July 1937, shortly after Knaus' death.

**Distribution.** This subspecies, the “Knaus’s Tiger Beetle,” ranges from southern Manitoba to southeastern Alberta, south to central New Mexico and central Texas [see Willis 1967: Fig. 143].

**Records.** CAN: AB, MB, SK USA: CO, KS, MT, ND, NE, NM, OK, SD, TX, WY

***Ellipsoptera nevadica lincolniana* (Casey, 1916)**

*Cicindela lincolniana* Casey, 1916: 32. Type locality: «Lincoln [Lancaster County], Nebraska» (original citation). Two syntypes in USNM [# 45959].

**Distribution.** This subspecies, also known as the “Salt Creek Nevada Tiger Beetle,” has been reported yet only from around the type locality in eastern Nebraska [see Willis 1967: Fig. 143]. Population estimates vary yearly from a few hundred to under a thousand specimens (Spomer et al. 2008a: 43).

**Records.** USA: NE

**Note.** This species has been listed as endangered by the U.S. Fish and Wildlife Service in October 2005.

***Ellipsoptera nevadica makosika* (Spomer, 2004)**

*Cicindela nevadica makosika* Spomer, 2004: 410. Type locality: «Indian Creek, Pennington Co[unty], S[outh]D[akota]» (original citation). Holotype (♂) in USNM.

**Distribution.** This subspecies, the “Indian Creek Tiger Beetle,” is known only from the type locality in the South Dakota Badlands (Spomer 2004: 410).

**Records.** USA: SD

***Ellipsoptera nevadica nevadica* (LeConte, 1875)**

*Cicindela nevadica* LeConte, 1875a: 159. Type locality: «Nevada» (original citation), herein restricted to Ash Meadows, Nye County (see Willis 1967: 280). Syntype(s) in MCZ [# 26].



**Distribution.** This subspecies, also known as the “Nevada Tiger Beetle,” is found in the Great Basin region of Nevada and California south to northern Sonora [see Willis 1967: Fig. 143].

**Records. USA:** CA, NV – Mexico

**Note.** Another subspecies, *E. nevadica metallica* (Sumlin), is known from the state of Coahuila.

***Ellipsoptera nevadica olmosa* (Vaurie, 1951)**

*Cicindela nevadica olmosa* Vaurie, 1951: 6. Type locality: «Los Olmos, Kenedy County, Texas» (original citation). Holotype (♂) in AMNH [# 1216].

**Distribution.** This subspecies, the “Olmos Creek Tiger Beetle,” ranges from southeastern Arizona to southeastern Texas, including northern Coahuila [see Willis 1967: Fig. 143].

**Records. USA:** AZ, NM, TX – Mexico

***Ellipsoptera nevadica tubensis* (Cazier, 1939)**

*Cicindela nevadica tubensis* Cazier, 1939: 25. Type locality: «Tuba City, Coconino Co[unty], Arizona» (original citation). Holotype (♀) probably in AMNH.

**Distribution.** This subspecies, the “Tube Tiger Beetle,” ranges from northeastern Utah to central Arizona and northwestern New Mexico [see Willis 1967: Fig. 143].

**Records. USA:** AZ, CO, NM, UT

***Ellipsoptera rubicunda* (Harris, 1911)**

*Cicindela cuprascens sperata* var. *rubicunda* E.D. Harris, 1911 [before 31 May]: 55. Type locality: «Albuquerque and Deming, New Mex[ico]» (original citation). Syntype(s) in MCZ [# 25613]. NOTE. 1. Even if Harris (1911: 55) expressly gave this name an infrasubspecific rank, it is subspecific because it was adopted as the valid name of a subspecies before 1985 (e.g., Rumpp 1977: 176) (ICZN 1999: Article 45.6.4.1). 2. This name has been listed as a junior synonym of *E. marutha* (Dow) since Cazier (1954: 296). However, Harris’ name is older than Dow’s name. Indeed *E. marutha* was made available by Dow in the June 1911 (page 272) issue of volume 22 of the *Entomological News* mailed on 31 May. In the same issue (page 283), Henry Skinner reviewed Harris’ catalogue where the name *rubicunda* was proposed. Furthermore, Dow (1911: 271) reported “I have a good share of the color forms recognized in the E.D. Harris catalogue” indicating that he had Harris’ catalogue at the time. The statement of Harris (1911: 55) that “*marutha* is the brilliant green form lately described by Dow” was certainly in error. There is no precise date on Harris’ catalogue except that the “introduction” is dated February 1911. 3. *Cicindela cuprascens sperata* var. *marutha* was first described by Harris (1911: 55) in the same catalogue. However, his name was not adopted as the valid name

of a subspecies since, to my knowledge, *marutha* has always been subsequently attributed to Dow.

*Cicindela sperata* var. *marutha* Dow, 1911 [31 May]: 272. Type locality: «[possibly] F[or]t Wingate [McKinley County], New Mexico» (original citation). Syntype(s) [2 originally cited] in AMNH [# 1204]. Synonymy established by Cazier (1954: 296). NOTE. Dow (1911: 271) did not formerly state a locality for his syntypes but simply wrote that he received the material “from Mr. John Woodgate, Ft. Wingate, New Mexico.”

**Distribution.** This species, also known as the “Aridland Tiger Beetle,” is found from northern Utah to southern Colorado, south to Chihuahua (Cazier 1954: 297) [see Pearson et al. 1997: Fig. 29]. The record from “Arkansas” (Boyd 1982: 17) is in error or based on a stray.

**Records. USA:** AZ, CO, NM, TX, UT – Mexico

**Note.** Rumpp (1977: 176) recognized *marutha* and *rubicunda* as distinct subspecies under the specific name *E. marutha*. I have followed Freitag (1999: 95) in considering the two taxa as synonyms.

### *Ellipsoptera sperata inquisitor* (Casey, 1897)

*Cicindela inquisitor* Casey, 1897: 298. Type locality: «Austin [Travis County], Texas» (original citation). One syntype in USNM [# 45958].

**Distribution.** This subspecies, the “Inquisitor Tiger Beetle,” is found in central Texas (Pearson et al. 2006: 171).

**Records. USA:** TX

### *Ellipsoptera sperata sperata* (LeConte, 1856)

*Cicindela sperata* LeConte, 1856a: 50. Type locality: «Rio Grande, at various places» (original citation), herein restricted to El Paso, El Paso County, Texas (see Harris 1911: 55). Syntype(s) in MCZ [# 36].

**Distribution.** This subspecies, also known as the “Rio Grande Tiger Beetle,” ranges from northern Utah to northeastern New Mexico [see Pearson et al. 2006: Map 103], south to Durango and Tamaulipas (Cazier 1954: 296). The records from western Kansas (Popenoe 1877: 22; Snow 1878: 63) and “Oklahoma” (Boyd 1982: 17) need confirmation; that from Yuma, California (Leng 1902: 167) is likely in error.

**Records. USA:** AZ, CO, NM, TX, UT [KS, OK] – Mexico

**Note.** Another subspecies, *E. sperata vauriei* (Cazier), is known from the state of Sonora in Mexico.

### Genus *MICROTHYLAX* Rivalier, 1954

*Microthylax* Rivalier, 1954: 260. Type species: *Cicindela digueti* Horn, 1897 by original designation. Etymology. From Greek *micros* (small, little) and *thylax* (bag, sack,

pouch), alluding to the small size of the endophallus (“*pénis ... avec un sac interne très peu développé et occupant seulement la portion subterminale du pénis*”) [masculine].

**Diversity.** Three species (five species-group taxa) in United States and Cuba (one species) and Mexico (two species), including Baja California.

***Microthylax olivaceus* (Chaudoir, 1854)**

*Cicindela olivacea* Chaudoir, 1854: 118. Type locality: «Cuba» (original citation). Syntype(s) [2 originally cited] in MHNP.

**Distribution.** This species, also known as the “Olive Tiger Beetle,” is found in Cuba and southern Florida, including the Keys [see Woodruff and Graves 1963: Fig. 3]. Apparently the species has not been sighted in Florida since the 1980s (Pearson et al. 2006: 149).

**Records. USA:** FL – Cuba

**Genus *OPILIDIA* Rivalier, 1954**

*Opilidia* Rivalier, 1954: 261. Type species: *Cicindela macrocnema* Chaudoir, 1852 by original designation. Etymology. Unknown [feminine].

**Diversity.** Six Neotropical species, of which one is represented by a distinct subspecies in southeastern Texas.

***Opilidia chlorocephala smythi* (Harris, 1913)**

*Cicindela smythi* E.D. Harris, 1913: 67. Type locality: «ocean side of Padre Island [Kennedy County], Texas» (original citation). Syntype(s) in MCZ [# 23551]. Etymology. This species was named after Eugene Graywood Smyth [1886-1975], economic entomologist with the United States Department of Agriculture. Smyth had an interest in tiger beetles.

**Distribution.** This subspecies, the “Smyth’s Beach Tiger Beetle,” is known only from the type locality in southeastern Texas. No specimens have been collected since the original ones (over 80 specimens) in June 1912.

**Records. USA:** TX

**Note.** The nominotypical subspecies is found along the Gulf Coast of Mexico, as far south as Veracruz, and from Honduras (Erwin and Pearson 2008: 290).

**Genus *BRASIELLA* Rivalier, 1954**

*Brasiella* Rivalier, 1954: 261. Type species: *Cicindela argentata* Fabricius, 1801 by original designation. Etymology. Unknown [feminine].

**Diversity.** Thirty-eight Neotropical species (Lorenz 2005: 58), of which one extends into southwestern North America.

**Faunistic Note.** The Cuban *B. viridicollis* (Dejean) is known in North America from a single specimen, probably a stray, collected in the Florida Keys in 1983 (Schiefer 2005: 551; Pearson et al. 2006: 151). The species is not considered here as a North American entity.

***Brasiella wickhami* (Horn, 1903)**

*Cicindela wickhami* W. Horn, 1903a: 182. Type locality: «Tucson, S[üd] Arizona» (original citation). Three syntypes in DEI (Döbler 1973: 418).

**Distribution.** This species, also known as the “Sonoran Tiger Beetle,” ranges from southern Arizona south to Sinaloa; it is also found in southern Baja California Peninsula (Cazier 1954: 286). The record from “California” (Erwin and Pearson 2008: 118) needs confirmation.

**Records. USA:** AZ [CA] – Mexico

**Genus *DROMOCHORUS* Guérin-Méneville, 1849**

*Dromochorus* Guérin-Méneville, 1849: [plate 162] 1. Type species: *Dromochorus pilatei* Guérin-Méneville, 1849 by monotypy. Etymology (original). From the Greek *dromos* (running) and *choros* (land, country, by extension field), probably alluding to the circumstance upon which the holotype of *C. pilatei* was found [masculine]. *Dromeochora* Gistel, 1850: 75. Unnecessary replacement name for *Dromochorus* Guérin-Méneville, 1849.

**Diversity.** Four North American species, one of them extending into northern Mexico.

***Dromochorus belfragei* Sallé, 1877**

*Dromochorus belfragei* Sallé, 1877: 6. Type locality: «Dallas, Wasco, sur les bords de la Trinity-River, Texas» (original citation). Syntype(s) probably in MHNP. Etymology. The specific name honors Gustav Wilhelm Belfrage [1834-1882], a professional insect collector in Texas. Belfrage was born in Stockholm, Sweden, and moved to the United States in his 20s. During Belfrage’s time, the standard rate was five cents per specimen (Sorensen 1995: 37).

*Dromochorus bellefragei* Heyne, 1893: 3. Unjustified emendation for *Dromochorus belfragei* Sallé, 1877.

*Dromochorus sericeus* Casey, 1897: 294. Type locality: «Texas» (original citation). Two syntypes [3 originally cited] in USNM [# 45894] and one in DEI (Döbler 1973: 409). Synonymy established by Leng (1902: 110).

**Distribution.** This species, also known as the “Loamy-ground Dromo Tiger Beetle,” ranges from central and coastal Texas (Pearson et al. 2006: 160) south to Tamaulipas (Cazier 1954: 297); it was also recorded from southeastern Colorado (Michels et al. 2008).

**Records. USA:** CO, TX – Mexico



***Dromochorus pilatei* Guérin-Méneville, 1849**

*Dromochorus pilatei* Guérin-Méneville, 1849: [plate 162] 2. Type locality: «Velasco [Brazoria County], Texas» (original citation). Holotype [by monotypy] (♂) probably in MHNP (collection J. Thomson, see Schaupp 1884a: 85). Etymology. The specific name honors Louis Pilate [1816-1852], a French naturalist traveller who collected in Alabama, Louisiana, Texas, and the state of Yucatán in Mexico. Pilate died at the age of 36 of hypertrophy of the heart.

*Cicindela maga* LeConte, 1875a: 161. Type locality: «near Lake Ponchartrain [Jefferson Parish], Louisiana» (original citation). Syntype(s) [3 originally cited] in MCZ [# 22]. Synonymy established by Sallé (1877: 5).

**Distribution.** This species, also known as the “Cajun Dromo Tiger Beetle,” is found along and near the Gulf Coast in southern Louisiana (Schaupp 1884a: 85) and north-eastern Texas [see Pearson et al. 2006: Map 92].

**Records. USA:** LA, TX

***Dromochorus pruininus* Casey, 1897**

*Dromochorus pruininus* Casey, 1897: 294. Type locality: «Kansas» (original citation), herein restricted to Onaga, Pottawatomie County (see Harris 1911: 51, as *C. belfragei*). Three syntypes [3 originally cited] in USNM [# 45893].

**Distribution.** This species, also known as the “Frosted Dromo Tiger Beetle,” ranges from northern Kansas and central Missouri (MacRae and Brown 2011a) south to Nueces and Webb Counties in southern Texas and west into the Texas Panhandle (Pearson et al. 2006: 160). There is also one record from east-central Nebraska (Pearson et al. 2006: 160).

**Records. USA:** KS, MO, OK, TX [NE]

***Dromochorus velutinigrens* Johnson, 1992**

*Dromochorus velutinigrens* Johnson, 1992 [5 February]: 50. Type locality: «10 km east of Riviera, Kleberg Co[unty], Texas» (original citation). Holotype (♂) in CMN.

*Dromochorus venetavelutinus* Gage, 1992 [“31 December”]: 4. Type locality: «Port Mansfield, Willacy County, Texas» (original citation). Holotype (♀) in TME. Synonymy established by Pearson et al. (1997: 37).

**Distribution.** This species, also known as the “Velvet Dromo Tiger Beetle,” is found only in southern Texas, primarily along the coast [see Pearson et al. 2006: Map 94].

**Records. USA:** TX

**Genus *HABROSCELIMORPHA* Dokhtouroff, 1883**

*Habroscelimorpha* Dokhtouroff, 1883b: 69. Type species: *Cicindela dorsalis* Say, 1817 designated by Horn (1915: 236). Etymology. From the generic name *Habroscelis*

(an unjustified emendation of *Abroscelis*) and the Greek *morphe* (form), probably alluding to the resemblance of the adults to those of *Abroscelis* [feminine].

*Habroscelidomorpha* Bertkau, 1884: 266. Unjustified emendation of *Habroscelimorpha* Dokhtouroff, 1883.

**Diversity.** Western Hemisphere, with 18 species (33 species-group taxa) in the Nearctic (nine species, 18 species-group taxa) and Neotropical (14 species) Regions.

***Habroscelimorpha californica mojavi* (Cazier, 1937)**

*Cicindela californica mojavi* Cazier, 1937c: 116. Type locality: «Mojave, Cal[ifornia]» (holotype label). Holotype (♂) in AMNH [# 1200].

**Distribution.** This subspecies, the “California Tiger Beetle,” ranges from the Mojave Desert of southern California (Pearson et al. 2006: 138) south to northeastern Baja California Peninsula and northwestern Sonora (Cazier 1954: 289).

**Records. USA:** CA – Mexico

**Note.** This form intergrades with the *pseudoerronea* form at Soda Lake in northeastern San Bernardino County, California (Pearson et al. 2006: 139).

***Habroscelimorpha californica pseudoerronea* (Rumpp, 1958)**

*Cicindela californica pseudoerronea* Rumpp, 1958: 150. Type locality: «seven miles north of Furnace Creek (260 feet), Death Valley, Inyo County, California» (original citation). Holotype (♂) in CAS [# 17194].

**Distribution.** This subspecies, the “Inland Tiger Beetle,” is found only in the Death Valley in Inyo and San Bernardino Counties, California (Rumpp 1958: 151).

**Records. USA:** CA

**Note.** The nominotypical subspecies is found in the Baja California Peninsula and *H. californica brevihamata* (Horn) occurs in the states of Sinaloa and Sonora in Mexico.

***Habroscelimorpha circumpicta circumpicta* (LaFerté-Sénectère, 1841)**

*Cicindela circumpicta* LaFerté-Sénectère, 1841a: 39. Type locality: Texas (inferred from title of the paper), herein restricted to Brownsville, Cameron County (see Willis 1967: 243). Syntype(s) probably in MHNP (collection Chaudoir).

*Cicindela circumpicta inspicimens* Casey, 1913: 33. Type locality: «Point Isabel [Cameron County], Texas» (original citation). One syntype in USNM [# 45997]. Synonymy established by Horn (1915: 390).

**Distribution.** This subspecies, also known as the “Cream-edged Tiger Beetle,” is found from southeastern Oklahoma to northeastern Mexico [see Johnson 1993b: Fig. 1].

**Records. USA:** OK, TX – Mexico

**Note.** This form intergrades with the *johnsonii* form along the Oklahoma-Texas border (Pearson et al. 2006: 140).

***Habroscelimorpha circumpicta johnsonii* (Fitch, 1857)**

*Cicindela johnsonii* Fitch, 1857: 487. Type locality: «prairies west of Arkansas» (original citation). Syntype(s) location unknown (no original specimens have been located by Barnes 1988: 107). Etymology. The specific name was proposed for Benjamin P. Johnson [1793–1869], lawyer, politician, office holder, and for more than 20 years Secretary of the New York State Agricultural Society.

*Cicindela circumpicta ambiens* Casey, 1913: 33. Type locality: «Kansas» (original citation). One syntype in USNM [# 45996]. Synonymy established by Drew and Van Cleave (1962: 108).

*Cicindela circumpicta salinae* Vaurie, 1951: 3. Type locality: «Lincoln (Salt Basin), Lancaster County, Nebraska» (original citation). Holotype (♂) in AMNH [# 1212]. Synonymy established by Willis (1967: 250).

**Distribution.** This subspecies, the “Johnson’s Tiger Beetle,” ranges from central Missouri to southeastern Colorado, north to west-central Nebraska (Spomer et al. 2008a: 58), south to New Mexico and southwestern Texas [see Johnson 1993b: Fig. 1]. The taxon is also found in Coahuila in northern Mexico (Murray 1979: 55). The records from “North Dakota” (Boyd 1982: 14; Freitag 1999: 77) probably refer to the *pembina* form.

**Records. USA:** CO, KS, MO, NE, NM, OK, TX – Mexico

***Habroscelimorpha circumpicta pembina* (Johnson, 1993)**

*Cicindela circumpicta pembina* Johnson, 1993b: 55. Type locality: «near Pembina, Pembina County, North Dakota» (original citation). Holotype in AMNH [# 1550].

**Distribution.** This subspecies, the “Pembina Tiger Beetle,” is known only from a small area in northeastern North Dakota [see Johnson 1993b: Fig. 1].

**Records. USA:** ND

***Habroscelimorpha dorsalis dorsalis* (Say, 1817)**

*Cicindela dorsalis* Say, 1817b: 20. Type locality: «New Jersey» (original citation), herein restricted to Ocean City, Cape May County (see Boyd 1978: 231). Syntype(s) lost.

*Cicindela signata* Dejean, 1825: 124. Type locality: «Amérique septentrionale» (original citation). Syntype(s) in MHNP. Synonymy established by Dejean (1826: 414).

*Cicindela dorsalis semipicta* Casey, 1897: 299 [primary homonym of *Cicindela semipicta* Fairmaire, 1871]. Type locality not stated. One syntype in USNM [# 45994]. Synonymy established by Leng (1902: 161).

*Cicindela munifica* Casey, 1913: 31. Type locality: «Rhode Island» (original citation). Two syntypes in USNM [# 45993]. Synonymy established by Horn (1915: 392).

*Cicindela dorsalis lineoscripta* Casey, 1924: 16. Replacement name for *Cicindela dorsalis semipicta* Casey, 1897.

**Distribution.** This subspecies, also known as the “Eastern Beach Tiger Beetle,” once occurred along the Atlantic Coast from Cape Cod, Massachusetts to the Chesapeake Bay. It is now found at two isolated sites on the coast of Massachusetts and along both shores of the Chesapeake Bay in Maryland and Virginia (Boyd and Rust 1982: 234; Pearson et al. 2006: 144). The subspecies was successfully reintroduced at Sandy Hook, New Jersey (Pearson et al. 2006: 192). The records from “Delaware” (Bousquet and Laroche 1993: 65) and from near Lancaster, Pennsylvania (Cresson 1861: 12) are probably based on strays.

**Records. USA:** CT, MA, MD, NJ, NY, RI, VA

**Note.** This subspecies is listed as threatened under the Endangered Species Act by the U.S. Fish and Wildlife in 1990 (Pearson et al. 2006: 191).

***Habroscelimorpha dorsalis media* (LeConte, 1856)**

*Cicindela media* LeConte, 1856a: 47. Type locality: «sea coast of Georgia and South Carolina» (original citation), herein restricted to Hilton Head Island, Beaufort County, South Carolina (see Cartwright 1935: 75). Syntype(s) in MCZ [# 23].

**Distribution.** This subspecies, the “Eastern Beach Tiger Beetle,” is found along the Atlantic Coast from Ocean County in New Jersey to southern Florida (Boyd and Rust 1982: 234).

**Records. USA:** DE, FL, GA, MD, NC, NJ, SC, VA

**Note.** According to Knisley and Schultz (1997: 103), the ranges of this form and of the *dorsalis* form are contiguous in southern New Jersey, the southern tip of coastal Virginia, and near the mouth of the Chesapeake Bay on the Virginia side and little intergradation can be observed on those sites.

***Habroscelimorpha dorsalis saulcyi* (Guérin-Ménéville, 1840)**

*Cicindela saulcyi* Guérin-Ménéville, 1840: 37. Type locality: Pensacola, Escambia County, Florida (inferred from title of the paper). Two syntypes in IRSN. Etymology. The specific name honors Ernest de Saulcy [1803-1899], a French naval officer who sailed to many places including America. Saulcy was interested in natural history and collected insects. He was the older brother of the archaeologist and numismatist Louis-Félicien-Joseph [Félix] de Saulcy [1807-1880] who also collected beetles and uncle of Félicien de Saulcy [1832-1912], who worked on the systematics of Coleoptera, particularly those of small size.

*Cicindela castissima* Bates, 1884: 260. Type locality: «Arcas Islets [off the coast of Campeche], Gulf of Mexico» (original citation). Syntype(s) in BMNH. Synonymy established by Horn (1905: 23).

*Cicindela apricoidea* Casey, 1913: 32. Type locality: «seabeaches of Louisiana and Mississippi» (original citation). Four syntypes [4 originally cited] in USNM [# 45995]. Synonymy established by Horn (1915: 393).



**Distribution.** This subspecies, the “Saulcy’s Beach Tiger Beetle,” ranges from the Gulf Coast of Florida to the Mississippi River delta in Louisiana (Pearson et al. 2006: 144); it is also known from the Isla Arcas in Campeche (Bates 1884: 260). The records from Cuba (Leng and Mutchler 1916: 697, as *Cicindela dorsalis* var. *venusta*; Cazier 1954: 294; Erwin and Pearson 2008: 247) are based on mislabeled specimens (Valdés 1999: 13).

**Records. USA:** AL, FL, LA, MS – Mexico

***Habroscelimorpha dorsalis venusta* (LaFerté-Sénectère, 1841)**

*Cicindela venusta* LaFerté-Sénectère, 1841a: 37. Type locality: Texas (inferred from title of the paper). Syntype(s) probably in MHNP (collection Chaudoir).

**Distribution.** This subspecies, the “Gulf Beach Tiger Beetle,” is found from coastal Mississippi (Lago et al. 2002: 201) south along the Gulf to the state of Tamaulipas (Cazier 1954: 294). The record from east-central Colorado (Snow 1877: 16) is probably in error.

**Records. USA:** LA, MS, TX – Mexico

***Habroscelimorpha fulgoris albilata* (Acciavatti, 1981)**

*Cicindela fulgoris albilata* Acciavatti, 1981: 238. Type locality: «2 miles east at playa lakes, Salt Flat, Hudspeth County, Texas» (original citation). Holotype (♂) in AMNH [# 1473].

**Distribution.** This subspecies, the “Pale Tiger Beetle,” is known from the Salt Basin of western Texas and adjacent New Mexico and from a single site in Dawson County, Texas (Acciavatti 1981: 239).

**Records. USA:** NM, TX

***Habroscelimorpha fulgoris erronea* (Vaurie, 1951)**

*Cicindela californica viridicyanea* Vaurie, 1950: 1 [primary homonym of *Cicindela viridicyanea* Audouin and Brullé, 1839]. Type locality: «Wil[l]cox, Cochise County, Arizona» (original citation). Holotype (♂) in AMNH [# 1208].

*Cicindela californica erronea* Vaurie, 1951: 12. Replacement name for *Cicindela californica viridicyanea* Vaurie, 1950.

**Distribution.** This subspecies, the “Willcox Tiger Beetle,” is known only from the type locality in southeastern Arizona (Acciavatti 1981: 238).

**Records. USA:** AZ

***Habroscelimorpha fulgoris fulgoris* (Casey, 1913)**

*Cicindela praetextata fulgoris* Casey, 1913: 34. Type locality: «El Paso [El Paso County], Texas» (original citation). Lectotype (♂), designated by Acciavatti (1981: 237), in USNM [# 45998].

*Cicindela praetextata stringens* Casey, 1913: 34. Type locality: «El Paso [El Paso County], Texas» (original citation). One syntype in USNM [# 45999]. Synonymy established by Acciavatti (1981: 237)

**Distribution.** This subspecies, also known as the “Glittering Tiger Beetle,” is found from east-central Arizona to north-central New Mexico, south to the Rio Grande area in westernmost Texas and southeastern New Mexico [see Acciavatti 1981: Fig. 1]; also recorded from Chihuahua in Mexico (Murray 1979: 55).

**Records. USA:** AZ, NM, TX – Mexico

**Note.** This subspecies intergrades with the *albilata* form in southeastern New Mexico (Pearson et al. 2006: 143).

***Habroscelimorpha gabbii* (Horn, 1867)**

*Cicindela gabbii* G.H. Horn, 1867a: 395. Type locality: «near Wilmington (San Pedro) [Los Angeles County], California» (original citation). Lectotype (♂), designated by Ward (1982: 62), in MCZ [# 35316]. Etymology. The specific name honors the American paleontologist William More Gabb [1839-1878] who worked for the California Geological Survey.

**Distribution.** This species, also known as the “Western Tidal Flat Tiger Beetle,” occurs along the Pacific Coast from southern California to central Baja California Peninsula, and along the Gulf of California Coast from northern Sonora to Sinaloa (Cazier 1954: 291) [see Pearson et al. 1997: Fig. 28]. According to Pearson et al. (2006: 139), this species is now found in the United States only in three or four protected areas in Ventura, Orange, and San Diego Counties.

**Records. USA:** CA – Mexico

***Habroscelimorpha pamphila* (LeConte, 1873)**

*Cicindela pamphila* LeConte, 1873b: 321. Type locality: «Texas» (original citation), herein restricted to Corpus Christi, Nueces County (see LeConte 1881: xxxvi). Syntype(s) in MCZ [# 29].

**Distribution.** This species, also known as the “Gulfshore Tiger Beetle,” is found along the Gulf Coast from eastern Mississippi (Grammer 2009) to northern Tamaulipas in Mexico (Pearson et al. 2006: 145).

**Records. USA:** LA, MS, TX – Mexico

***Habroscelimorpha praetextata pallidofemora* (Acciavatti, 1981)**

*Cicindela praetextata pallidofemora* Acciavatti, 1981: 236. Type locality: «Virgin River, S[ain]t George, Washington County, Utah» (original citation). Holotype (♂) in AMNH [# 1474].

**Distribution.** This subspecies, the “Virgin River Tiger Beetle,” is found only along the Virgin River in southwestern Utah and southeastern Nevada [see Acciavatti 1981: Fig. 1].

**Records. USA:** NV, UT

***Habroscelimorpha praetextata praetextata* (LeConte, 1854)**

*Cicindela praetextata* LeConte, 1854d: 220. Type locality: «San Diego to El Paso» (original citation); «probably found in the valley of the Gila» (LeConte 1856a: 58), herein restricted to Phoenix, Maricopa County, Arizona (see Harris 1911: 53). Lectotype (♂), designated by Acciavatti (1981: 233), in MCZ [# 32].

**Distribution.** This subspecies, also known as the “Riparian Tiger Beetle,” is found from the Gila River Basin in eastern Arizona westwards to the Salton Sea Basin in California, north to southern Nevada [see Pearson et al. 2006: Map 74]. The record from New Mexico (Fall and Cockerell 1907: 155) needs confirmation. According to Erwin and Pearson (2008: 251), the species has been extirpated from many of its historic sites.

**Records. USA:** AZ, CA, NV [NM]

***Habroscelimorpha severa* (LaFerté-Sénectère, 1841)**

*Cicindela severa* LaFerté-Sénectère, 1841a: 41. Type locality: Texas (inferred from title of the paper), herein restricted to Port Isabel, Cameron County (see Leng 1902: 173, as “Point Isabel”). Syntype(s) probably in MHNP (collection Chaudoir).

*Cicindela yucatana* W. Horn, 1897a: 354 (as *yukatana*). Type locality: «Yucatan mer.» (syntype label). One syntype in MHNP (Cassola 1994: 2). Synonymy established by Horn (1897a: 354), confirmed by Cassola (1994: 2). NOTE. This taxon was briefly described by Horn (1897a: 354) but treated as a junior synonym of *C. severa*. It was redescribed and treated as a valid taxon by Horn (1903b: 219), Cazier (1954: 261), and Johnson (1993a: 42), the first and last authors based on misidentified specimens of *C. wellingi* Cassola and Sawada (see Cassola 1994). Therefore the name was first published as a junior synonym but treated as an available name before 1961. In such case, the name is available but dates from its first publication as a synonym (ICZN 1999: Article 50.7).

*Cicindela severa alabamae* Casey, 1920: 134. Type locality: «Codan [Mobile County], Alabama» (original citation). Three syntypes in USNM [# 45963]. Synonymy established by Horn (1926: 284).

**Distribution.** This subspecies, also known as the “Saltmarsh Tiger Beetle,” is found along the Gulf Coast from the Florida Keys to Tamaulipas in Mexico (Cazier 1954: 261) [see Pearson et al. 1997: Fig. 4]; also recorded from Yucatán (Horn 1897a: 354).

**Records. USA:** AL, FL, LA, MS, TX – Mexico

**Note.** *Habroscelimorpha yucatana* (Horn) from Yucatán is considered a subspecies of *H. severa* by some authors, including Erwin and Pearson (2008: 253).

***Habroscelimorpha striga* (LeConte, 1875)**

*Cicindela striga* LeConte, 1875a: 160. Type locality: «Lake Harvey [Hillsborough County], Florida» (original citation). Syntype(s) in MCZ [# 38].

**Distribution.** This species, also known as the “Elusive Tiger Beetle,” is found along the Atlantic Coast from southern South Carolina (Cartwright 1935: 73; Ciegler 1997: 191) to central Florida, and along the Gulf Coast of Florida [see Pearson et al. 1997: Fig. 10].

**Records. USA:** FL, GA, SC

**Genus *EUNOTA* Rivalier, 1954**

*Eunota* Rivalier, 1954: 259. Type species: *Cicindela togata* LaFerté-Sénéctère, 1841 by original designation. Etymology. From the Greek *eu* (good, beautiful) and *notos* (back, dorsum), probably alluding to the nice coloration of the adults [feminine].

**Diversity.** One North American species which extends into northern Mexico.

***Eunota togata fascinans* (Casey, 1914)**

*Cicindela fascinans* Casey, 1914: 23. Type locality: «Santa Rosa [Guadalupe County], New Mexico» (original citation). One syntype in USNM [# 45953].

**Distribution.** This subspecies, the “Salt Flat Tiger Beetle,” is known only from Torrance and Guadalupe Counties in central New Mexico and Hudspeth County in western Texas (Pearson et al. 2006: 148).

**Records. USA:** NM, TX

***Eunota togata globicollis* (Casey, 1913)**

*Cicindela togata* var. *apicalis* W. Horn, 1897b: 17 [primary homonym of *Cicindela apicalis* Chaudoir, 1843]. Type locality: «Nebraska; Ka[c]kley, Kansas» (original citation). Three syntypes in DEI (Döbler 1973: 358).

*Cicindela globicollis* Casey, 1913: 35. Type locality: «Clark Co[unty], Kansas» (original citation). Three syntypes [3 originally cited] in USNM [# 45952]. Synonymy established by Horn (1915: 396).

*Cicindela togata latilabris* Willis, 1967: 286. Replacement name for *Cicindela togata apicalis* Horn, 1897.

**Distribution.** This subspecies, the “Alkali Tiger Beetle,” ranges from eastern Nebraska (Carter 1989: 15) and central Colorado (Kippenhan 1990: 312) south to northern Texas (Gaumer and Murray 1971: 10) and southeastern New Mexico (Acciavatti et al. 1980: 31) [see Pearson et al. 2006: Map 80]. The record from north-central Utah (Tanner 1929a: 87) is probably in error.

**Records. USA:** CO, KS, NE, NM, OK, TX



***Eunota togata togata* (LaFerté-Sénectère, 1841)**

*Cicindela togata* LaFerté-Sénectère, 1841a: 40. Type locality: Texas (inferred from title of the paper), herein restricted to Port Isabel, Cameron County (see Harris 1911: 57). Syntype(s) probably in MHNP (collection Chaudoir).

**Distribution.** This subspecies, also known as the “White-cloaked Tiger Beetle,” is known from scattered localities from southern South Carolina (Cartwright 1935: 75) to northeastern Texas, south to northern Florida (Choate 2003: Map 48) and Tamaulipas (Cazier 1954: 297) [see Pearson et al. 2006: Map 80]. Ciegler (1997: 191) reported that the last specimen seen from South Carolina was collected in 1935 and that the species may be extinct in the state.

**Records. USA:** AL, FL, LA, MS, SC, TX – Mexico

**Genus *CICINDELA* Linnaeus, 1758**

*Cicindela* Linnaeus, 1758: 407. Type species: *Cicindela campestris* Linnaeus, 1758 designated by Latreille (1810: 425). Etymology. From the Latin *cicindela* (glow-worm in Pliny the Elder) [feminine].

*Cicindella* Gistel, 1850: 75. Unnecessary replacement name for *Cicindela* Linnaeus, 1758.

**Diversity.** Worldwide, with about 340 species described by 2005 assigned to 24 subgenera (Lorenz 2005: 41–51). The North American fauna is represented by 60 species (about 18% of the world fauna) placed in two subgenera.

**Taxonomic Note.** The genus is employed here in a restricted sense as used by most taxonomists working on the Palearctic and African faunas and recently by Erwin and Pearson (2008) for the North American fauna.

**Subgenus *Cicindelidia* Rivalier, 1954**

*Cicindelidia* Rivalier, 1954: 255. Type species: *Cicindela carthagena* Dejean, 1831 by original designation. Etymology. From the generic name *Cicindela* [q.v.] and the Latin suffix *-idia* (little, small), probably alluding to the small size (“*toutes les espèces sont de taille petite ou moyenne*”) of adults of these tiger beetles [feminine].

**Diversity.** Western Hemisphere, with about 65 species (Lorenz 2005: 48–49) in the Nearctic (21 species, 42 species-group taxa) and Neotropical (about 55 species).

**Faunistic Note.** 1. *Cicindela fera* Chevrolat is known north of Mexico from a single specimen collected in the 1950s at the southern border of Arizona and New Mexico (Pearson et al. 2006: 125). The specimen was probably a stray and the species is not listed here as a North American entity. 2. *Cicindela sommeri* Mannerheim is known from the Sierra Madre Occidental of western Mexico and from several specimens labeled from San Diego County, California (Leng 1902: 181; Pearson et al. 2006: 136). However, there is serious doubt about the origin of the California specimens and the species is not included here as a North American entity.



**Figure 11.** *Omus dejeanii* Reiche. The Greater Night-stalking Tiger Beetle is one of the few species-group taxa currently recognized in the genus *Omus* although over one hundred taxa have been described, particularly by Thomas Casey. Even today, taxonomists do not agree on the number of valid taxa that should be recognized in *Omus*. The difficulty of defining the species-group taxa is not unusual among old, apterous carabid lineages because they tend to form small, local populations.

***Cicindela abdominalis* Fabricius, 1801**

*Cicindela abdominalis* Fabricius, 1801: 237. Type locality: «Carolina» (original citation), herein restricted to McClellanville, Charleston County, South Carolina (see Cartwright 1935: 74). One syntype in ZMUC (Zimsen 1964: 64).

*Cicindela ventralis* Newman [in Doubleday], 1838: 414 [primary homonym of *Cicindela ventralis* Dejean, 1825]. Type locality: «S[ain]t John's Bluff [Duval County], Florida» (original citation). Syntype(s) [9 originally cited] location unknown. Synonymy established by Harris and Leng (1916: 18).

*Cicindela abdominalis faceta* Casey, 1913: 38. Type locality not stated. Holotype [by monotypy] (♀) in USNM [# 45969]. Synonymy established by Horn (1915: 385), confirmed by Choate (1984: 75).

**Distribution.** This species, also known as the “Eastern Pinebarrens Tiger Beetle,” is found mainly along the Coastal Plain and Piedmont Plateau from Long Island in southeastern New York (Leng 1928: 206) to central Florida, west to southeastern Louisiana [see Pearson et al. 1997: Fig. 11].

**Records. USA:** AL, DE, FL, GA, LA, MD, MS, NC, NJ, NY, PA, SC, VA

***Cicindela amargosae amargosae* Dahl, 1939**

*Cicindela willistoni amargosae* Dahl, 1939: 221. Type locality: «four miles north of Furnace Creek, Death Valley, Inyo County, California» (original citation). Holotype (♂) in CAS [# 8152].

**Distribution.** This subspecies, also known as the “Great Basin Tiger Beetle,” is found in the Death Valley area in eastern California (Leffler 1987: 8).

**Records. USA:** CA

**Note.** 1. Rumpp (1956: 141) reported the presence of intergrade populations between this subspecies and the *nyensis* form at places located between the type localities of *amargosae* and *nyensis*. 2. *Cicindela amargosae* has been regarded as a subspecies of *C. senilis* LeConte by some authors (e.g., Willis 1968) or *C. willistoni* LeConte (e.g., Kippenhan 1996b: 56) but treated as a closely related but distinct species by Leffler (1987: 8) and Pearson et al. (2006: 117).

***Cicindela amargosae nyensis* Rumpp, 1956**

*Cicindela amargosae nyensis* Rumpp, 1956: 140. Type locality: «1.6 miles south of Springdale, Nye County, Nevada» (original citation). Holotype (♂) in CAS [# 17193].

**Distribution.** This subspecies, also known as the “Nye Tiger Beetle,” is found in southeastern Oregon (Leffler 1979a: Fig. 60) and western Nevada (Rumpp 1956: 140).

**Records. USA:** NV, OR

**Note.** Kippenhan (2005) indicated from an analysis of populations that the variation in the dorsal coloration in *C. amargosae* did not coincide with the accepted



subspecific criteria. Probably the form *nyensis* should not be recognized as a valid entity. Kippenhan (2005: Fig. 1) provided a detailed map of the known populations of *C. amargosae*.

***Cicindela cazieri* Vogt, 1949**

*Cicindela cazieri* Vogt, 1949: 6. Type locality: «ten miles north of Rio Grande City, Starr County, Texas» (original citation). Holotype (♂) in USNM [# 59057].

**Distribution.** This species, also known as the “Cazier’s Tiger Beetle,” is found along a small area in Jim Hogg and Starr Counties, southeastern Texas [see Pearson et al. 2006: Map 63], and in Tamaulipas, Mexico (Erwin and Pearson 2008: 127).

**Records. USA:** TX – Mexico

**Note.** This taxon is listed as a subspecies of *C. politula* LeConte by some authors (e.g., Murray and Acciavatti 1976).

***Cicindela floridana* Cartwright, 1939**

*Cicindela abdominalis* var. *floridana* Cartwright, 1939: 364. Type locality: «Miami [Dade County], Florida» (original citation). Holotype (♂) in USNM [# 53417].

**Distribution.** This species is known only from a few sites in the Richmond Heights area of Miami (Brzoska et al. 2011: 5).

**Records. USA:** FL

***Cicindela hemorrhagica arizonae* Wickham, 1899**

*Cicindela rufiventris* var. *arizonae* Wickham, 1899: 226. Type locality: «Cañon of the Colorado River [Arizona]» (original citation). One syntype in USNM [# 56137].

**Distribution.** This subspecies, also known as the “Grand Canyon Tiger Beetle,” is restricted to the Colorado River at the bottom of the Grand Canyon in northern Arizona and along the Virgin River in adjacent Utah and Nevada (Pearson et al. 2006: 135).

**Records. USA:** AZ, NV, UT

***Cicindela hemorrhagica hemorrhagica* LeConte, 1851**

*Cicindela hemorrhagica* LeConte, 1851: 171. Type locality: «San Diego [San Diego County, California]» (original citation). Syntype(s) in MCZ [# 14].

*Cicindela bisignata* Dokhtouroff, 1883a: 12. Type locality: «Californie» (original citation). Syntype(s) location unknown (possibly in DEI). Synonymy established by Horn (1905: 22).

*Cicindela haemorrhagica* var. *pacifica* Schaupp, 1884a: 106. Type locality: «San Diego [San Diego County], Cal[ifornia]» (original citation). Syntype(s) apparently destroyed. Synonymy established (as aberration) by Horn (1905: 22).



*Cicindela woodgatei* Casey, 1913: 40. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Sixteen syntypes in USNM [# 45965]. Synonymy established by Cazier (1948: 11).

*Cicindela pacifica nevadiana* Casey, 1924: 16. Type locality: «Las Vegas [Clark County], Nevada» (original citation). Two syntypes [2 originally cited] in USNM [# 45964]. Synonymy established by Horn (1926: 290).

**Distribution.** The range of this subspecies, also known as the “Wetsalts Tiger Beetle,” extends from central Washington to northwestern Wyoming, south to western Texas and along the Pacific Coast to the northern parts of the Baja California Peninsula (Cazier 1948: 11) [see Pearson et al. 1997: Fig. 35].

**Records. USA:** AZ, CA (CHI), CO, ID, NM, NV, OR, TX, UT, WA, WY – Mexico

**Note.** 1. Some authors (e.g., Nagano 1982: 39) have treated *C. pacifica* Schaupp as a valid subspecies of *C. hemorrhagica* LeConte. 2. Freitag (1999: 62), Pearson et al. (2006: 135), and Erwin and Pearson (2008: 141) considered *C. woodgatei* Casey as a valid subspecies of *C. hemorrhagica* LeConte despite the fact that there seem to be no consistent characters to separate the adults from those of the nominate form. 3. Another subspecies, *C. hemorrhagica hentziana* Leng, is found in Baja California; its record from “Utah” (Leng 1920: 42) is in error.

### *Cicindela highlandensis* Choate, 1984

*Cicindela highlandensis* Choate, 1984: 74. Type locality: «0.25 mi[les] south of Josephine Creek, 4.3 mi[les] north of junction of Rt. S-17 and 621, Highlands Co[unty], Florida» (original citation). Holotype (♀) in FSCA.

**Distribution.** This species, also known as the “Highlands Tiger Beetle,” is found in Highlands and Polk Counties, central Florida (Choate 2003: 84; Pearson et al. 2006: 126).

**Records. USA:** FL

### *Cicindela hornii hornii* Schaupp, 1883

*Cicindela anthracina* G.H. Horn, 1880a: 139 [primary homonym of *Cicindela anthracina* Klug, 1834]. Type locality: «Fort Bayard [Grant County], New Mexico» (original citation). Lectotype (♀), designated by Ward (1982: 60), in MCZ [# 33470].

*Cicindela hornii* Schaupp, 1883d: 80. Replacement name for *Cicindela anthracina* Horn, 1880. NOTE. There is no indication on page 80 that Schaupp proposed this name as a replacement name but this is evident on page 88 published in 1884.

*Cicindela ritteri* Bates, 1890: 496. Type locality: «Villa Lerdo in Durango [Mexico]» (original citation). Holotype [by monotypy] (♀) in BMNH. Synonymy established (as aberration) by Horn (1905: 21).

**Distribution.** This species, also known as the “Horn’s Tiger Beetle,” ranges from southern Arizona to southwestern Texas, south to Durango (Cazier 1954: 248) [see Pearson et al. 1997: Fig. 25].

**Records. USA:** AZ, NM, TX – Mexico

**Note.** The subspecies *C. hornii scotina* Bates is known from the states of Chihuahua, Durango, and Zacatecas in Mexico (Erwin and Pearson 2008: 146).

***Cicindela marginipennis* Dejean, 1831**

*Cicindela marginipennis* Dejean, 1831: 260. Type locality: «Amérique septentrionale» (original citation), herein restricted to the banks of the Susquehanna below the bridge at Harrisburg, Dauphin County, Pennsylvania (see Leng 1902: 179). Syntype(s) in MHNP.

**Distribution.** The range of this species, also known as the “Cobblestone Tiger Beetle,” is disjunct: one population is known from New Brunswick (Sabine 2005: 53) south to central New Jersey (Boyd 1978: Fig. 28), northwestern West Virginia (Allen and Acciavatti 2002: 26), southeastern Kentucky (Laudermilk et al. 2010: 28), and southeastern Indiana; the second is found in northeastern Mississippi and western Alabama [see Pearson et al. 2006: Map 67]. The record from “South Carolina” (Choate 2003: Map 30) needs confirmation.

**Records. CAN:** NB **USA:** AL, IN, KY, ME, MS, NH, NJ, NY, OH, PA, VT, WV [SC]

**Note.** This species is listed on the IUCN Red List of Threatened Species (IUCN 2007) and has been extirpated from many historical sites (Erwin and Pearson 2008: 155).

***Cicindela nigrocoerulea bowditchi* Leng, 1902**

*Cicindela bowditchi* Leng, 1902: 124. Type locality: «vicinity of Durango [La Plata County], Colo[rado]» (original citation). Lectotype (♀), designated by Dahl (1941: 190), in MCZ [# 16272]. Etymology. The specific name was proposed for Frederick Channing Bowditch [c. 1853-1925], a conveyancer by profession and amateur coleopterist. Bowditch accompanied Samuel Hubbard Scudder in Colorado and Wyoming to collect fossils from Florissant shales.

**Distribution.** This subspecies, the “Bowditch’s Tiger Beetle,” is known from southwestern Colorado (Kippenhan 1994: 65) and northwestern New Mexico (Rumpp 1962: 172). The record from “Arizona” (Boyd 1982: 11) is in error or based on a stray.

**Records. USA:** CO, NM

**Note.** This subspecies intergrades with the nominate form in north-central New Mexico (Pearson et al. 2006: 119).

***Cicindela nigrocoerulea nigrocoerulea* LeConte, 1846**

*Cicindela nigrocoerulea* LeConte, 1846b: 181. Type locality: «ad flumen Arkansas» (original citation); cited from «near Bent’s Fort [Colorado] on the Arkansas River» by LeConte (1856a: 35). Syntype(s) in MCZ [# 27]. **NOTE.** According to Leng (1902: 124), LeConte’s original specimens consisted of “one pair found near Bent’s

Fort on the Arkansas River, about 100 miles east of Pueblo, Col., and between Upper Dry Creek and Lower Dry Creek.”

*Cicindela robusta* Leng, 1902: 124. Type locality: «Alpine [Brewster County], Tex[as]» (original citation for the lectotype). Lectotype (♀), designated by Dahl (1941: 190), in AMNH [# 1231]. Synonymy established (as aberration) by Horn (1905: 21).

*Cicindela [nigrocoerulea] feminalis* Casey, 1909: 269. Type locality: «Las Animas [Bent County], Colorado» (original citation). Three syntypes in USNM [# 45906]. Synonymy established by Horn (1915: 381).

*Cicindela snowi* Casey, 1909: 269. Type locality: «Congress Junction [Yavapai County], Arizona» (original citation). One syntype in USNM [# 45908]. Synonymy established by Horn (1915: 381).

*Cicindela [snowi] triplicans* Casey, 1909: 270. Type locality: «Robinson [probably Robinson Place, Moffat County], Colorado» (original citation). One syntype in USNM [# 45907]. Synonymy established by Horn (1915: 381).

*Cicindela [snowi] velutoidea* Casey, 1909: 270. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 45909]. Synonymy established by Horn (1915: 381).

**Distribution.** This subspecies, also known as the “Black Sky Tiger Beetle,” occurs from Salton Sea in southern California (LaRue 1991: 49) and southernmost Nevada (Kippenhan 2002: 381) to western Texas (Gaumer and Murray 1971: 10), north to southwestern Utah (Tanner 1929a: 85) and northeastern Colorado (Kippenhan 1990: 311), south to Aguascalientes and San Luis Potosí in Mexico (Cazier 1960: 8).

**Records. USA:** AZ, CA, CO, KS, NM, NV, OK, TX, UT – Mexico

### *Cicindela nigrocoerulea subtropica* Vogt, 1949

*Cicindela nigrocoerulea subtropica* Vogt, 1949: 2. Type locality: «five miles southwest of Mission, S[outh]W[est] Hidalgo Co[unty], Texas» (original citation for the holotype, see Bellamy 1991: 736). Holotype (♀) in USNM [# 59055].

**Distribution.** This subspecies, the “Subtropic Tiger Beetle,” is confined to Hidalgo and Cameron Counties in southern Texas (Pearson et al. 2006: 119).

**Records. USA:** TX

### *Cicindela obsoleta neojuvenilis* Vogt, 1949

*Cicindela obsoleta neojuvenilis* Vogt, 1949: 4. Type locality: «five miles southwest of Mission, S[outh]W[est] Hidalgo County, Texas» (original citation). Holotype (♂) in USNM [# 59056].

**Distribution.** This subspecies, the “Rio Grande Grassland Tiger Beetle,” is known from the lower Rio Grande Valley in southern Texas from Maverick County to Hidalgo County (Pearson et al. 2006: 122), north to Kimble County in central Texas (Mawdsley 2009: 9).

**Records. USA: TX*****Cicindela obsoleta obsoleta* Say, 1823**

*Cicindela obsoleta* Say, 1823b: 143. Type locality: «banks of the Arkansa river, near the mountains, Missouri Territory [= probably Colorado]» (original citation). Syntype(s) lost.

*Cicindela prasina* LeConte, 1856a: 31. Type locality: «Arkansas River below Bent's Fort [Colorado]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 33]. Synonymy established by Cresson (1861: 15), confirmed by Mawdsley (2009: 5).

**Distribution.** This subspecies, also known as the “Large Grassland Tiger Beetle,” ranges from western Kansas to central Arizona, north to northern Colorado (Kippenhan 1994: 66), south to southern New Mexico and southwestern Texas; also known from one locality in eastern Kansas [see Mawdsley 2009: Fig. 18]. The record from “Utah” (Boyd 1982: 11) is likely in error.

**Records. USA: AZ, CO, KS, NM, OK, TX**

**Note.** This subspecies intergrades with the *santaclarae* form in New Mexico and western Texas (Mawdsley 2009: 6). Two other subspecies of this species are found in Mexico, *C. obsoleta juvenilis* Horn from the states of Jalisco, Nayarit, Sonora, and Sinaloa and *C. obsoleta latemaculata* Becker from the state of Durango (Erwin and Pearson 2008: 159, 160).

***Cicindela obsoleta santaclarae* Bates, 1890**

*Cicindela obsoleta* var. or race *santaclarae* Bates, 1890: 493. Type locality: «Santa Clara in Chihuahua [Mexico]» (original citation). One syntype in BMNH (Mawdsley 2009: 6) and one in SIM (Hennessey 1990: 467).

*Cicindela santaclarae* var. *anita* Dow, 1911: 271. Type locality: «F[or]t Wingate, N[ew] Mex[ico]» (syntype label). One syntype in AMNH [# 1205] (Mawdsley 2009: 6) and one in CUI. Synonymy established by Horn (1915: 382), confirmed by Mawdsley (2009: 6).

**Distribution.** This subspecies, the “Santa Clara Grassland Tiger Beetle,” ranges from southern Colorado (Kippenhan 1994: 67) south to northern Durango (Cazier 1954: 251), including southwestern Texas and western Arizona [see Mawdsley 2009: Fig. 18].

**Records. USA: AZ, CO, NM, TX – Mexico**

***Cicindela obsoleta vulturina* LeConte, 1853**

*Cicindela vulturina* LeConte, 1853b: 439. Type locality: «Eagle Pass [Maverick County, Texas]» (original citation). One syntype in MCZ [# 43].

**Distribution.** This subspecies, the “Prairie Tiger Beetle,” ranges from southern Missouri and north-central Arkansas to north-central Texas, south to southeastern Texas [see Mawdsley 2009: Fig. 18] and Coahuila in Mexico (Cazier 1954: 250). The record



from central New Mexico (Fall and Cockerell 1907: 154) is suspect (Mawdsley 2009: 8); that from “Colorado” (Wickham 1902: 228) is probably in error.

**Records. USA:** AR, LA, MO, OK, TX [NM] – Mexico

### *Cicindela ocellata ocellata* Klug, 1834

*Cicindela flavo-punctata* Chevrolat, 1834 [8 March]: [no. 28] [primary homonym of *Cicindela flavopunctata* Audouin, 1832]. Type locality: Mexico (inferred from title of the book). Syntype(s) location unknown (possibly in UMO).

*Cicindela ocellata* Klug, 1834 [19 November]: 33. Type locality: «Jalapa [=Jalapa Enríquez, Veracruz, Mexico]» (original citation). Holotype [by monotypy] (♂) location unknown. Synonymy established by Gemminger and Harold (1868a: 15).

*Cicindela incerta* Chevrolat, 1835c: [no. 127]. Type locality: «Tutepec, Vera-Cruz? [Mexico]» (original citation). Holotype [by monotypy] location unknown (possibly in UMO). Synonymy established, under the name *C. flavopunctata* Chevrolat, by Gemminger and Harold (1868a: 15).

*Cicindela humeralis* Chevrolat, 1841: [plate 59] 13. Type locality: Mexico (inferred from title of the paper). Syntype(s) location unknown (possibly in UMO). Synonymy established, under the name *C. flavopunctata* Chevrolat, by Gemminger and Harold (1868a: 15).

*Cicindela flavopunctata* var. *chiapana* Bates, 1890: 505. Type locality: «Tapachula in Chiapas; La Noria in Sinaloa; Guatemala, near the city» (original citation), restricted to «Tapachula, Chiapas» by Freitag (1999: 66). Two syntypes in DEI (Döbler 1973: 368). Synonymy established, under the name *C. flavopunctata humeralis* Chevrolat, by Horn (1915: 387).

**Distribution.** This subspecies, also known as the “Ocellated Tiger Beetle,” occurs from southeastern Arizona and adjacent New Mexico (Pearson et al. 2006: 133) south to Costa Rica (Blackwelder 1944: 18); also recorded from “Texas” (Erwin and Pearson 2008: 162).

**Records. USA:** AZ, NM [TX] – Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua

### *Cicindela ocellata rectilatera* Chaudoir, 1843

*Cicindela rectilatera* Chaudoir, 1843b: 693. Type locality: «Mexique» (original citation). Syntype(s) in MHNP.

*Cicindela texana* LeConte, 1863b: 1. Type locality: «Fredericksburg, Texas; Tampico, Mexico; Rio Bravo» (original citation for *C. decostigma* Chevrolat *sensu* LeConte, 1856). Syntype(s) probably in MCZ. Synonymy established by LeConte (1867b: 363). NOTE. This name was proposed for *Cicindela decostigma* Chevrolat, 1835 *sensu* LeConte (1856a: 54).

**Distribution.** This subspecies, the “Dark-abdomened Tiger Beetle,” ranges from western Louisiana (Graves and Pearson 1973: 180) to northern New Mexico [see Pearson

et al. 2006: Map 66], including southern Oklahoma (Schmidt 2004: 5), south to southern Tamaulipas (Cazier 1954: 278).

**Records. USA:** LA, NM, OK, TX – Mexico

***Cicindela politula barbaraannae* Sumlin, 1976**

*Cicindela politula barbaraannae* Sumlin, 1976b: 523. Type locality: «Hueco Mountains, 18.6 mi[les] E[ast] El Paso, Hudspeth Co[unty], Texas» (original citation). Holotype (♂) in CAS [# 13147].

**Distribution.** This subspecies, the “Barbaraann’s Tiger Beetle,” occurs in the Hueco, Sierra Diablo, and Apache mountains in western Texas (Gage 1988: 146-147) and in the Sacramento Mountains of southern New Mexico (Pearson et al. 2006: 129) where it is found above 1500 m.

**Records. USA:** NM, TX

***Cicindela politula petrophila* Sumlin, 1985**

*Cicindela politula petrophila* Sumlin, 1985: 223. Type locality: «Guadalupe Mountains National Park, Culberson Co[unty], Texas» (original citation). Holotype (♂) in SMEK.

**Distribution.** This subspecies, the “Rock-loving Tiger Beetle,” is known only from above 1670 m in the Guadalupe Mountains in western Texas and southeastern New Mexico (Gage 1988: 146).

**Records. USA:** NM, TX

***Cicindela politula politula* LeConte, 1875**

*Cicindela politula* LeConte, 1875a: 159. Type locality: «Texas» (original citation), herein restricted to Signal Mountains, Howard County (see Cazier 1939: 24 as *C. alleni*). Syntype(s) in MCZ [# 31].

*Cicindela politula cribrum* Casey, 1913: 39. Type locality: «Texas» (original citation). One syntype in USNM [# 45968]. Synonymy established by Horn (1915: 385).

*Cicindela alleni* Cazier, 1939: 24 [primary homonym of *Cicindela alleni* Horn, 1908]. Type locality: «Signal M[oun]t[ain]s, Howard Co[unty], Texas» (original citation). Holotype (♀) in AMNH [# 1199]. Synonymy established by Sumlin (1985: 221).

*Cicindela alleniana* Mandl, 1961: 25. Replacement name for *Cicindela alleni* Cazier, 1939.

**Distribution.** This subspecies, also known as the “Limestone Tiger Beetle,” occurs from Carter and Murray Counties in southern Oklahoma (Pearson et al. 2006: 128) south to Coahuila and Nuevo León (Sumlin 1985: Fig. 9).

**Records. USA:** OK, TX – Mexico

**Note.** Another subspecies, *C. politula laetipennis* Horn, is known from the state of Coahuila in Mexico.

***Cicindela politula viridimonticola* Gage, 1988**

*Cicindela politula viridimonticola* Gage, 1988: 143. Type locality: «129.16 kilometers south of Artesia (above 2192.8 m), Eddy County, New Mexico» (original citation). Holotype (♂) in FSCA.

**Distribution.** This subspecies, the “Green Mountain Tiger Beetle,” is known only from the type locality in southeastern New Mexico.

**Records. USA:** NM

***Cicindela punctulata chihuahuae* Bates, 1890**

*Cicindela punctulata* var. *chihuahuae* Bates, 1890: 500. Type locality: «Arizona; Mexico: Santa Clara in Chihuahua, and Chihuahua City» (original citation). Syntype(s) in BMNH.

*Cicindela fontinaria* Casey, 1916: 33. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). One syntype in USNM [# 45960]. Synonymy established by Boyd (1982: 11).

**Distribution.** This subspecies, the “Chihuahua Tiger Beetle,” is known from north-eastern Colorado to west-central Nevada [see Pearson et al. 2006: Map 56], south to Chihuahua (Cazier 1954: 253). The records from Oklahoma (Drew and Van Cleave 1962: 113), “Nebraska,” “Kansas,” and “Texas” (Freitag 1999: 68) apparently refer to intergrades and these records are registered under the nominotypical subspecies.

**Records. USA:** AZ, CO, NM, NV, UT – Mexico

**Note.** Bertholf (1983: 21) listed this form in synonymy with the nominotypical subspecies.

***Cicindela punctulata punctulata* Olivier, 1790**

*Cicindela punctulata* Olivier, 1790a: [No. 33] 27. Type locality: «Nouvelle-Jersey» (original citation), herein restricted to Bay Head, Ocean County (see Harris 1911: 39). Syntype(s) location unknown (possibly in MHNP).

*Cicindela micans* Fabricius, 1798: 61. Type locality: «America boreali» (original citation). One syntype in ZMUC (Zimsen 1964: 64). Synonymy established by Schönherr (1806: 245).

*Cicindela punctulata* var. *jenisonii* Gistel, 1837: 55. Type locality: «America septentrionali» (original citation). Syntype(s) lost. Synonymy established by Horn (1905: 22).

*Cicindela boulderensis* Casey, 1909: 271. Type locality: «Boulder Co[unty], Colorado» (original citation). One syntype in USNM [# 45961]. Synonymy established by Horn (1915: 383).

*Cicindela prolixa* Casey, 1916: 33. Type locality: «Akron [Washington County], Colorado» (original citation). One syntype in USNM [# 45962]. Synonymy established by Leng (1920: 41).

**Distribution.** This subspecies, also known as the “Punctured Tiger Beetle,” ranges from New Brunswick to southern Alberta, south to southern Texas and southern Florida [see Pearson et al. 2006: Map 56].

**Records.** **CAN:** AB, MB, NB, ON, QC, SK **USA:** AL, AR, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY

**Note.** The two subspecies of *C. punctulata* intergrade over a large area in southwestern United States (Pearson et al. 2006: 123) and northern Mexico (Murray 1979: 51). Another subspecies, *C. punctulata catharinae* Chevrolat, is endemic to Mexico.

### *Cicindela roseiventris tascosaensis* Davis, 1918

*Cicindela roseiventris linearis* W. Horn, 1905: 22 [primary homonym of *Cicindela linearis* Chaudoir, 1843]. Type locality: «San Carlos [= Ciudad Quesada], Costa Rica» (original citation). Five syntypes in DEI (Döbler 1973: 406).

*Cicindela tascosaensis* W.T. Davis, 1918: 34. Type locality: «Tascosa [Oldham County], Texas» (original citation). Holotype (♂) location unknown. Synonymy established by Horn (in Davis 1922: 130). **NOTE.** The holotype was in W.T. Davis’ collection but is not at AMNH (Lee Herman pers. comm. 2009) or SIM (Hennessey 1990). One syntype exists in DEI (Döbler 1973: 414).

**Distribution.** This subspecies, also known as the “Tascoa Tiger Beetle,” has been recorded from Oldham County in northwestern Texas (Davis 1918: 34), Alajuela province in Costa Rica (Horn 1905: 22), and Panama (Erwin and Pearson 2008: 178).

**Records.** **USA:** TX – Costa Rica, Panama

**Note.** 1. No specimens of this subspecies have been collected in United States since the original ones in 1917 and the subspecies has never been found in Mexico. Cazier (1954: 279) believed that the US specimens of *C. tascosaensis* were probably mislabeled. However, Davis (1922: 130) wrote to the collector of the Texan specimens, Miss Mildred McGill, who replied on December 1920 that she remembered well collecting the tiger beetles “on the sandy, grassy spots of the ground, and on the wide floors of white sand rocks” about “a mile or a little more” of the house she lived in. 2. Two other subspecies, *C. roseiventris mexicana* Klug and *C. roseiventris roseiventris* Chevrolat, are found in Mexico and in Central America.

### *Cicindela rufiventris cumatilis* LeConte, 1851

*Cicindela cumatilis* LeConte, 1851: 173. Type locality: «Louisiana» (original citation), herein restricted to Shreveport, Caddo Parish (see Chevrolat, 1852: 419 as *C. guexiana*). Syntype(s) in MCZ [# 8].

*Cicindela guexiana* Chevrolat, 1852: 419. Type locality: «Shreveport [Caddo Parish], Louisiane» (original citation). Syntype(s) location unknown (possibly in UMO). Synonymy established by Melsheimer (1853: 2). Etymology. The specific name



was proposed for John A. Guex [?-1858]. Born in Geneva in Switzerland, Guex came to America as a young man and settled in New York. He was interested in Coleoptera and provided many European correspondents with specimens from America. His collection of beetles, containing over 17,000 species, was presented to the Academy of Natural Sciences in Philadelphia in 1854.

**Distribution.** This subspecies, the “Mexican Red-bellied Tiger Beetle,” ranges from Louisiana (Pearson et al. 2006: 131) south through Texas to Queretaro and Veracruz (Murray 1979: 53). The records from “Georgia” (Boyd 1982: 12) and western Alabama (Löding 1945: 9) probably refer to the nominotypical subspecies; those from “Mississippi,” “Arkansas” (Boyd 1982: 12), and Oklahoma (Drew and Van Cleave 1962: 114) are probably based on intergrades and these records are listed under the nominotypical subspecies.

**Records. USA:** LA, TX – Mexico

### *Cicindela rufiventris hentzii* Dejean, 1831

*Cicindela haemorrhoidalis* T.W. Harris, 1828a: 91 [primary homonym of *Cicindela haemorrhoidalis* Wiedemann, 1823]. Type locality not stated. Two possible syntypes in MCZ (collection Harris). NOTE. Gould (1834: 53) reported that this species was first discovered by Harris on the “summit of Blue Hill, in Milton [Norfolk County, Massachusetts].”

*Cicindela haemorrhoidalis* Hentz, 1830: 254 [primary homonym of *Cicindela haemorrhoidalis* Wiedemann, 1823]. Type locality: «Massachusetts» (original citation). Syntype(s) lost. Synonymy established with *C. hentzii* Dejean by Dejean (1833: 4).

*Cicindela hentzii* Dejean, 1831: 248 (as *heutzii*). Type locality: «Amérique septentrionale» (original citation), herein restricted to Stoneham, Middlesex County, Massachusetts (see Frost, 1920: 230 as *C. hentzi* var. *niveihamata*). Syntype(s) probably in MHNP. Synonymy established by Gould (1834: 52). Etymology. The specific name honors Nicholas Marcellus Hentz [1797-1856], the first authority on spiders in the United States. In his early years, Hentz published on beetles and described new species from Massachusetts and Pennsylvania. His collection, consisting of about 1,500 species, most of them Coleoptera from all parts of the United States, was purchased for \$550 by friends and presented to the Boston Society of Natural History in 1836 (Weiss 1936: 280); little was left of the collection by 1861 (Wilson 1973: 71). NOTE. This name was originally proposed under the spelling *heutzii* because Dejean believed the name of the collector was Heutz. LeConte (1856a: 55) emended Dejean’s name to *hentzii* since the name of the collector was Hentz. This is an unjustified emendation. However since the emendation is in prevailing usage and attributed to the original author and date, it is deemed to be a justified emendation (ICZN 1999: Article 33.2.3.1) and the spelling becomes the correct original spelling (ICZN 1999: Article 32.2.2).

*Cicindela erythrogaster* T.W. Harris [in Scudder], 1891: 138. Type locality not stated. Holotype [by monotypy] lost. Synonymy established by Horn (1915: 386).

*Cicindela hentzi* var. *niveihamata* Frost, 1920: 230. Type locality: «Middlesex Fells Reservation near the shore of Spot Pond in the town of Stoneham [Middlesex County], Mass[achusetts]» (original citation). Holotype (♂) in MCZ [# 34727]. Synonymy established by Horn (1926: 287).

**Distribution.** This subspecies, the “Hentz’s Tiger Beetle,” is found only along eastern Massachusetts [see Leonard and Bell 1999: Fig. 111]. The record from “Rhode Island” (Bousquet and Larochelle 1993: 64) is in error or based on a stray.

**Records. USA:** MA

### *Cicindela rufiventris rufiventris* Dejean, 1825

*Cicindela rufiventris* Dejean, 1825: 102. Type locality: «Saint-Domingue [= Dominican Republic or Hispaniola]» (original citation), which is incorrect; East Plains, a desert tract of stunted pines and oaks, near Brookville, about ten miles inland from Barnegat, Ocean County, New Jersey (see Leng 1902: 177) herein selected. Syntype(s) in MHNP.

*Cicindela rufiventris collusor* Casey, 1913: 39. Type locality not stated. Holotype [by monotypy] (♀) in USNM [# 45967]. Synonymy established by Horn (1915: 386).

**Distribution.** This subspecies, also known as the “Eastern Red-bellied Tiger Beetle,” ranges from southwestern Vermont (Leonard and Bell 1999: 104) to southwestern Missouri, south to east-central Texas and the Florida Panhandle [see Pearson et al. 2006: Map 64].

**Records. USA:** AL, AR, CT, DC, DE, FL, GA, IL, IN, KY, LA, MA, MD, MO, MS, NC, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WV

**Note.** This subspecies intergrades with the *cumatilis* form through southern Missouri, Arkansas, and Louisiana (Pearson et al. 2006: 131). Another subspecies, *C. rufiventris reducens* Horn, is known from the states of Jalisco and Colima in Mexico.

### *Cicindela scabrosa* Schaupp, 1884

*Cicindela abdominalis* var. *scabrosa* Schaupp, 1884a: 108. Type locality: «Fl[orid]a» (original citation), herein restricted to Crescent City, Putnam County (see Casey 1913: 38, as *C. extenuata*). Syntype(s) apparently destroyed.

*Cicindela extenuata* Casey, 1913: 38. Type locality: «Crescent City [Putnam County], Florida» (original citation). Two syntypes in USNM [# 45970]. Synonymy established by Leng (1915: 563) and Horn (1915: 385), confirmed by Choate (1984: 76).

**Distribution.** This species, also known as the “Scabrous Tiger Beetle,” is found from southeastern Georgia to southern Florida [see Pearson et al. 2006: Map 61].

**Records. USA:** FL, GA

***Cicindela schauppii* Horn, 1876**

*Cicindela schauppii* G.H. Horn, 1876a: 240. Type locality: «Corsicana [Navarro County], eastern Texas» (original citation). Lectotype (♂), designated by Ward (1982: 62), in MCZ [# 10042]. Etymology. This species was named after Franz G. Schaupp [1840?-1904], a German immigrant who settled in New York City but spent his last twenty years in Texas. Schaupp sustained himself mostly by teaching languages and as a hobby collected and studied beetles. He was instrumental in the establishment of the Brooklyn Entomological Society.

**Distribution.** This species, also known as “Schaupp’s Tiger Beetle,” occurs from southeastern Kansas and northwestern Arkansas [see Pearson et al. 2006: Map 69] south to Nuevo León (Cazier 1954: 287). The record from “Missouri” (Erwin and Pearson 2008: 181) needs confirmation.

**Records. USA:** AR, KS, OK, TX [MO] – Mexico

***Cicindela sedecimpunctata sedecimpunctata* Klug, 1834**

*Cicindela 16-punctata* Klug, 1834: 32. Type locality: «Mexico» (original citation). Holotype [by monotypy] (♂) location unknown.

*Cicindela rufiventris* var. *ventanasa* Bates, 1890: 503. Type locality: «Ventanas in Durango, and La Noria in Sinaloa [Mexico]» (original citation). One syntype in DEI (Döbler 1973: 416) and two in IRSN. Synonymy established by Horn (1905: 21).

*Cicindela sedecimpunctata sonorana* Casey, 1913: 40. Type locality: «Arizona, New Mexico and southward to Durango» (original citation). Twenty-five syntypes in USNM [# 45966]. Synonymy established by Horn (1915: 386).

**Distribution.** This subspecies, also known as the “Western Red-bellied Tiger Beetle,” ranges from northeastern New Mexico to central Arizona [see Pearson et al. 2006: Map 65], south to Guanajuato in Mexico (Cazier 1954: 271).

**Records. USA:** AZ, NM, TX – Mexico

**Note.** Besides the nominotypical subspecies, four other subspecies are known, ranging collectively from Mexico to Costa Rica (see Pearson et al. 2006: 132; Erwin and Pearson 2008: 185-186).

***Cicindela senilis* Horn, 1867**

*Cicindela senilis* G.H. Horn, 1867a: 395. Type locality: «California» (original citation), herein restricted to San Rafael, Alameda County (see Leng 1902: 142). Lectotype (♂), designated by Ward (1982: 60), in MCZ [# 33471].

*Cicindela senilis exoleta* Casey, 1909: 272. Type locality: «Oakland [Alameda County], California» (original citation). One syntype in USNM [# 45927]. Synonymy established by Harris (1911: 22).

*Cicindela senilis frosti* Varas Arangua, 1928: 174. Type locality: «Manhattan, Los Angeles Co[unty], California» (original citation). Syntype(s) [2 ♂ originally cited]

in CAS [# 8149]. Synonymy established by Cazier (1937a: 159). Etymology. The subspecific name was proposed in honor of Charles Albert Frost [1872-1962], a civil engineer with the Waterworks Division of the Metropolitan District Commission in Massachusetts and amateur coleopterist. Frost left his collection of more than 50,000 specimens to the Museum of Comparative Zoology.

**Distribution.** This species, also known as the “Senile Tiger Beetle,” is found along western California, as far north as Sonoma and Lake Counties, and the northern part of the Baja California Peninsula. According to Pearson et al. (2006: 116), it is now known in the United States only from a few protected coastal populations and two interior populations, one near Lake Elsinore in western Riverside County and one near Jacumba in San Diego County.

**Records. USA:** CA (CHI) – Mexico

### *Cicindela tenuisignata* LeConte, 1851

*Cicindela tenuisignata* LeConte, 1851: 171. Type locality: «ad flumen Novum [= New River, Imperial County], in desertis fluminis Colorado [California]» (original citation). Syntype(s) in MCZ [# 40].

*Cicindela psilogramma* Bates, 1890: 507. Type locality: «Villa Lerdo in Durango [Mexico]» (original citation). Two syntypes in DEI (Döbler 1973: 403) and four in IRSN. Synonymy established by Horn (1892b: 97).

**Distribution.** This species, also known as the “Thin-lined Tiger Beetle,” ranges from western Nebraska (Brust 2007: 9) to southern California [see Pearson et al. 1997: Fig. 38], south to northern Sinaloa and southern Tamaulipas (Cazier 1954: 257).

**Records. USA:** AZ, CA, CO, KS, NE, NM, NV, OK, TX, UT – Mexico

### *Cicindela trifasciata ascendens* LeConte, 1851

*Cicindela ascendens* LeConte, 1851: 172. Type locality: «Georgia» (original citation), herein restricted to Saint Simons Island, Glynn County (see Beaton 2008: 41). Holotype [by monotypy] in MCZ [# 2].

*Cicindela serpens* LeConte, 1851: 173. Type locality: «Key West [Monroe County], Florida» (original citation). Syntype(s) in MCZ [# 34]. Synonymy established by Leng (1902: 160).

**Distribution.** This highly vagile subspecies, also known as the “Ascendant Tiger Beetle,” is found primarily along the Atlantic and Gulf Coasts from Virginia to southern Florida, west to eastern Texas [see Pearson et al. 2006: Map 70], south to Panama (Erwin and Pearson 2008: 197). This form has also been found inland as far north as north-central Kansas (Charlton and Kopper 2000: 266) and along the Atlantic Coast as far north as Massachusetts (Comboni and Schultz 1989: 151); however there is no known established populations inland anywhere in North America (Pearson and Vogler 2001: 105). The record from the “West Indies” (LeConte 1856a: 51) needs confirmation.



**Records. USA:** AL, AR, FL, GA, KS, LA, MA, MD, MO, MS, NC, NJ, OK, SC, TN, TX, VA – Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama.

**Note.** Besides the two subspecies found in North America, six other subspecies are recognized among this polymorphic species in Middle and South America and the West Indies.

### *Cicindela trifasciata sigmoidea* LeConte, 1851

*Cicindela sigmoidea* LeConte, 1851: 172. Type locality: «San Diego [San Diego County, California]» (original citation). Syntype(s) in MCZ [# 35] and MHNP (collection Chaudoir).

**Distribution.** This subspecies, the “Sigmoid Tiger Beetle,” is found along the Pacific Coast from southern California (Nagano 1982: 38) to the Baja California Peninsula (Cazier 1954: 291); it is occasionally found inland, as far as the Salton Sea in Imperial County (see LaRue 1991). The record from “Arizona” (Freitag 1999: 74) needs confirmation.

**Records. USA:** CA (CHI) [AZ] – Mexico

### *Cicindela willistoni echo* Casey, 1897

*Cicindela echo* Casey, 1897: 298. Type locality: «Great Salt Lake, Utah» (original citation). Four syntypes in USNM [# 45923].

*Cicindela echo amedeensis* Casey, 1909: 272 (as *amadeensis*). Type locality: «Amedee, Cal[ifornia]» (original citation). Two syntypes in USNM [# 45924]. Synonymy established by Harris (1911: 23).

*Cicindela spaldingi* Casey, 1924: 14. Type locality: «Callao [Juab County], Utah» (original citation). One syntype in USNM [# 45922]. Synonymy established by Boyd (1982: 10). Etymology. The specific name was proposed in honor of Thomas Utting Spalding [1866-1929]. Born in England, Spalding came to America and headed west in search of gold. He eventually settled in Utah and became an excellent collector of Lepidoptera and Coleoptera which he sold to students in the east. In 1918 alone, his Lepidoptera sales amounted to \$1,150 (Tanner 1929b: 344). At that time he started selling beetles to Thomas Casey who bought in all 820 specimens from him.

**Distribution.** This subspecies, the “Echo Tiger Beetle,” is found mainly within the Great Basin from Wyoming to southern Oregon, south to east-central California, southern Nevada, and southern Utah (Pearson et al. 2006: 114).

**Records. USA:** CA, ID, NV, OR, UT, WY

### *Cicindela willistoni estancia* Rumpp, 1962

*Cicindela willistoni estancia* Rumpp, 1962: 166. Type locality: «7.0 miles east of Willard, Torrance County, New Mexico» (original citation). Holotype (♂) in CAS [# 17199].

**Distribution.** This subspecies, the “Torrance Tiger Beetle,” is known only from Torrance County in central New Mexico (Pearson et al. 2006: 114).

**Records. USA:** NM

***Cicindela willistoni funaroi* Rotger, 1972**

*Cicindela willistoni funaroi* Rotger, 1972: 25. Type locality: «4.2 miles from the Catholic Church building of San Ysidro, Sandoval County, New Mexico» (original citation). Holotype (♂) in Ronald L. Huber collection (Bloomington, Minnesota).

**Distribution.** This subspecies, the “Funaro’s Tiger Beetle,” is known only from the type locality in northwestern New Mexico.

**Records. USA:** NM

***Cicindela willistoni hirtifrons* Willis, 1967**

*Cicindela willistoni hirtifrons* Willis, 1967: 301. Type locality: «Big Salt Marsh, 11 mi[les] N[orth]E[ast] of Hudson, Stafford Co[unty], Kansas» (original citation). Holotype (♂) in SMEK.

**Distribution.** This subspecies, the “Hairy-fronted Tiger Beetle,” is found in central Kansas, western Oklahoma, west-central Texas, and east-central New Mexico (Willis 1967: 302); also recorded from “Arizona” (Erwin and Pearson 2008: 202).

**Records. USA:** KS, NM, OK, TX [AZ]

***Cicindela willistoni praedicta* Rumpp, 1956**

*Cicindela willistoni praedicta* Rumpp, 1956: 135. Type locality: «3.5 miles south of Shoshone, Inyo County, California» (original citation). Holotype (♂) in CAS [# 17200].

**Distribution.** This subspecies, the “Augured Tiger Beetle,” is known from Inyo County in eastern California and Nye County in Nevada (Rumpp 1956: 135).

**Records. USA:** CA, NV

***Cicindela willistoni pseudosenilis* Horn, 1900**

*Cicindela pseudosenilis* W. Horn, 1900: 117. Type locality: «Owen’s lake, Inyo Co[unty], California» (original citation). Syntype(s) in DEI (Döbler 1973: 418) and MCZ [# 23808].

**Distribution.** This subspecies, the “Owens Lake Tiger Beetle,” is restricted to Owens and adjacent Panamint Valley of east-central California (Pearson et al. 2006: 115).

**Records. USA:** CA

***Cicindela willistoni sulfontis* Rumpp, 1977**

*Cicindela willistoni sulfontis* Rumpp, 1977: 170. Type locality: «5.6 kilometers west-southwest of Willcox [Cochise County, Arizona]» (original citation). Holotype (♂) in CAS [# 12530].

**Distribution.** This subspecies, the “Sulphur Valley Tiger Beetle,” is endemic to the Sulphur Springs Valley in southeastern Arizona.

**Records. USA:** AZ

***Cicindela willistoni willistoni* LeConte, 1879**

*Cicindela willistoni* LeConte, 1879d: 507. Type locality: «Lake Como [Carbon County], Wyoming Territory» (original citation). Syntype(s) in MCZ [# 45]. Etymology. The specific name honors Samuel Wendell Williston [1852-1918], well known American paleontologist, dipterist, and teacher.

**Distribution.** This subspecies, also known as the “Williston’s Tiger Beetle,” is endemic to the Laramie Plain of Wyoming (Rumpp 1962: 168).

**Records. USA:** WY

**Note.** This subspecies intergrades with the *echo* form to the west (Pearson et al. 2006: 114). In a cladistic analysis based on molecular data by Vogler and Welsh (1997), *C. willistoni* clearly embedded within the subgenus *Cicindela* while morphological characters suggest that it belongs to the subgenus *Cicindelidia*.

**Subgenus *Cicindela* Linnaeus, 1758**

*Cicindela* Linnaeus, 1758: 407. Type species: *Cicindela campestris* Linnaeus, 1758 designated by Latreille (1810: 425).

*Pachydela* Rivalier, 1954: 253. Type species: *Cicindela scutellaris* Say, 1823 by original designation. Synonymy established by Boyd (1982: 6).

*Tribonia* Rivalier, 1954: 254. Type species: *Cicindela tranquebarica* Herbst, 1806 by original designation. Synonymy established by Boyd (1982: 6).

**Diversity.** Northern Hemisphere, with about 75 species (Lorenz 2005: 43-48) in the Nearctic (38 species, of which four extend into northern Mexico; 92 species-group taxa) and Palearctic (36 species) Regions.

**[decemnotata group]*****Cicindela ancocisconensis* Harris, 1852**

*Cicindela ancocisconensis* T.W. Harris, 1852: 305. Type locality: «mountain streams near the White M[oun]t[ain]s, N[ew] H[ampshire]» (original citation), herein restricted to Conway, Carroll County (see Wilson and Larochelle 1980: 33). Syntypes in MCZ [# 24] (collection LeConte, see LeConte 1856a: 38). NOTE.

- According to his son, Edward, Thaddeus William Harris originally collected this species at Conway, on an island in the river (see Wilson and Laroche 1980: 33). *Cicindela catharina* T.W. Harris [in Scudder], 1869: 229. Unnecessary replacement name for *Cicindela ancocisconensis* Harris, 1852.
- Cicindela ancocisconensis dowiana* Casey, 1914: 23. Type locality: «De Bruce [Sullivan County], New York» (original citation). Two syntypes in USNM [# 45975]. Synonymy established by Horn (1915: 444).
- Cicindela ancocisconensis carolinae* Casey, 1916: 28. Type locality: «North Carolina» (original citation). One syntype in USNM [# 45974]. Synonymy established by Horn (1926: 267).
- Cicindela ancocisconensis eriensis* Casey, 1916: 29. Type locality: «Buffalo [Erie County], New York» (original citation). Two syntypes [2 originally cited] in USNM [# 45976]. Synonymy established by Horn (1926: 267).

**Distribution.** This eastern species, also known as the “Appalachian Tiger Beetle,” ranges from southwestern New Brunswick (Webster and Bousquet 2008: 16) south to northeastern Georgia, west at least to eastern Kentucky (Laudermilk et al. 2010: 28) [see Pearson et al. 1997: Fig. 15]. Old records from Indiana, northern Illinois, and western Missouri (see Wilson and Laroche 1980: 37-38) suggest that the species was more widely distributed at one time. Beaton (2008: 40) did not find the species in Georgia during his intensive survey of tiger beetles in the state.

**Records.** CAN: NB, QC USA: GA, KY, MA, MD, ME, NC, NH, NJ, NY, OH, PA, TN, VA, VT, WV [IL, IN, MO]

### *Cicindela arida* Davis, 1928

- Cicindela denverensis* var. *propinqua* Knaus, 1923: 194 [primary homonym of *Cicindela propinqua* Chaudoir, 1835]. Type locality: «Ash Meadow (2,050 feet), Nye County, Nevada» (original citation). Holotype (♂) location unknown (possibly in KSUC).
- Cicindela arida* A.C. Davis, 1928: 65. Type locality: «Death Valley Junction [Inyo County], California» (original citation). Holotype (♂) in USNM [# 56263]. Synonymy established by Nicolay and Weiss (1932: 352).

**Distribution.** This species, the “Death Valley Tiger Beetle,” is known from the Death Valley region (Kritsky and Horner 1998: 17) in Inyo County, California, and Nye County, Nevada.

**Records.** USA: CA, NV

**Note.** This form has been listed as a subspecies of *Cicindela tranquebarica* Herbst by most authors, including Erwin and Pearson (2008: 191), but Kritsky and Horner (1998: 17) found enough structural differences to substantiate that it represents a distinct species.



***Cicindela decemnotata bonnevillensis* Knisley and Kippenhan, 2012**

*Cicindela decemnotata bonnevillensis* Knisley and Kippenhan [in Knisley et al.], 2012: 19. Type locality: «playa south of Delle, Tooele Co[unty], Utah» (original citation). Holotype (♂) in MCZ.

**Distribution.** This subspecies is restricted to the area of ancient Lake Bonneville in north-central Utah [see Knisley et al. 2012: Fig. 23].

**Records. USA:** UT

***Cicindela decemnotata decemnotata* Say, 1817**

*Cicindela decemnotata* Say, 1817a: [25]. Type locality: «sandy alluvions of the Missouri, above the confluence of the river Platte» (original citation). Holotype [by monotypy] (♀) lost.

*Cicindela decemnotata albertina* Casey, 1913: 24. Type locality: «Lethbridge, Alberta» (original citation). Two syntypes [2 originally cited] in USNM [# 45937]. Synonymy established by Horn (1915: 374).

*Cicindela lantzi* E.D. Harris, 1913: 68. Type locality: «Jefferson [Park County], Col[orado]» (original citation). Syntype(s) in MCZ [# 23552]. Synonymy established by Horn (1915: 374). Etymology. The specific name honors David Ernest Lantz [1855-1918], a naturalist and teacher whose main field of study was economic mammology.

**Distribution.** This subspecies, also known as the “Badlands Tiger Beetle,” ranges in patchy colonies from eastern Alaska south through the Rocky Mountains to north-eastern New Mexico and southern Utah, east to western North Dakota and western Nebraska [see Knisley et al. 2012: Figs 23, 24]. The records from “Kansas” (Leng 1902: 134) and “Manitoba” (Knisley et al. 2012: 14) need confirmation.

**Records. CAN:** AB, SK, YT **USA:** AK, CO, ID, MT, ND, NE, NM, UT, WY [KS, MB]

***Cicindela decemnotata meriwetheri* Knisley and Kippenhan, 2012**

*Cicindela decemnotata meriwetheri* Knisley and Kippenhan [in Knisley et al.], 2012: 15. Type locality: «Grand Coulee Dam Airport, Grant Co[unty], Washington» (original citation). Holotype (♂) in MCZ. Etymology. The subspecific name was proposed for Meriwether Lewis [1774-1809], American explorer, soldier, and public administrator, well-known for his role as leader of the Lewis and Clark Expedition, 1804-06, the first American expedition to the Pacific Coast.

**Distribution.** This subspecies ranges from south-central British Columbia to south-eastern Washington [see Knisley et al. 2012: Fig. 23].

**Records. CAN:** BC **USA:** WA

***Cicindela decemnotata montevolans* Knisley and Kippenhan, 2012**

*Cicindela decemnotata montevolans* Knisley and Kippenhan [in Knisley et al.], 2012: 22. Type locality: «1.2 mi S[outh] H[igh]w[a]y 89 @ Cache-Rich Co[unty] line, Cache Co[unty], Utah» (original citation). Holotype (♂) in MCZ.

**Distribution.** This subspecies is restricted to high elevations of the Bear River Mountains of southeastern Idaho and northeastern Utah [see Knisley et al. 2012: Fig. 23].

**Records. USA:** ID, UT

***Cicindela denverensis* Casey, 1897**

*Cicindela denverensis* Casey, 1897: 297. Type locality: «Denver [Denver County], Colorado» (original citation). One syntype in USNM [# 45939].

*Cicindela purpurea* var. *ludoviciana* Leng, 1902: 132. Type locality: «Vowell's Mill, Natchitoches Parish, in the northwestern part of Louisiana» (original citation). Lectotype (♂), designated by Dahl (1941: 171), in AMNH [# 1222]. Synonymy established by Schincariol and Freitag (1991: 1347).

*Cicindela denverensis conquisita* Casey, 1914: 357. Type locality: «Sioux Co[unty], Nebraska» (original citation). One syntype in USNM [# 45940]. Synonymy established by Horn (1915: 444).

*Cicindela denverensis oreada* Casey, 1914: 358. Type locality: «Benkelman [Dundy County], Nebraska» (original citation). One syntype in USNM [# 45941]. Synonymy established by Horn (1915: 444).

*Cicindela plattensis* Smyth, 1933: 202. Type locality: «valley of the South Platte» (original citation). Syntype(s) location unknown. Synonymy established, under the name *C. denverensis conquisita* Casey, by Nicolay (1934: 154).

**Distribution.** This species, also known as the “Green Claybank Tiger Beetle,” inhabits the Great Plains from eastern Montana and North Dakota south to northern Louisiana, northern Texas, and northeastern New Mexico [see Schincariol and Freitag 1991: Fig. 13].

**Records. USA:** AR, CO, KS, LA, MT, ND, NE, NM, OK, SD, TX, WY

**Note.** According to Pearson et al. (2006: 92), individuals with green elytra and blue head and thorax from northwestern Louisiana and southwestern Arkansas (originally described under the name *ludoviciana*) may be either an isolated population of this species or a local green morph of *C. splendida*. They also added that based on the ecology, behavior, and distribution, the greenish population is more likely a local variant of *C. splendida*.

***Cicindela fulgida fulgida* Say, 1823**

*Cicindela fulgida* Say, 1823b: 141. Type locality: «near the mountains on the Nebraska (Platte) and Arkansa rivers, Missouri Territory» (original citation). Syntype(s) lost.



**Figure 12.** *Cicindela marginata* Fabricius. This species is a typical coastal species inhabiting mudflats and salt marshes from New Brunswick to southern Florida and along the Florida Gulf coast; it is also known from the Bahamas and the coast of Cuba. The breeding populations in New Brunswick were discovered only recently. Whether the species had been in the area for some time but went unnoticed, or extended its range in recent years, is the subject of speculation.

*Cicindela fulgida subnitens* Calder, 1922a: 62. Type locality: «Lincoln [Lancaster County], Nebr[aska]» (original citation). Holotype location unknown (possibly in UMAA). Synonymy established by Horn (1926: 275).

*Cicindela fulgida williamlarsi* Knudsen, 1985: 182. Type locality: «San Ysidro, Sandoval Co[unty], N[ew]M[exico]» (original citation). Holotype (♂) in CAS [# 17196]. Synonymy established implicitly by Kippenhan (1994: 52).

*Cicindela fulgida winonae* Knudsen, 1985: 184. Type locality: «Grants, Valencia Co[unty], N[ew]M[exico]» (original citation). Holotype (♂) in CAS [# 15836]. Synonymy established implicitly by Kippenhan (1994: 52).

*Cicindela fulgida rumppi* Knudsen, 1985: 185. Type locality: «Laguna del Perro, 7.2 mi[les] E[ast] of Willard, Torrance Co[unty], New Mexico» (original citation). Holotype (♂) in CAS [# 17195]. Synonymy established implicitly by Kippenhan (1994: 52). Etymology. The subspecific name was proposed for Norman L. Rumpp [1913-1991], an engineer for the Navy Department at the U.S. Naval Weapons Center in China Lake, California, by profession and a cicindelophile by avocation.

**Distribution.** This subspecies, also known as the “Crimson Saltflat Tiger Beetle,” ranges from Minnesota to southern Alberta (Hilchie 1985: 330), south to northeastern Arizona and northern Texas [see Pearson et al. 1997: Map 11]. The record from “Saskatchewan” (Freitag 1999: 27) needs confirmation.

**Records.** CAN: AB USA: AZ, CO, KS, MN, MT, ND, NE, NM, OK, SD, TX, UT, WY [SK]

**Note.** Pearson et al. (2006: 99), followed by Erwin and Pearson (2008: 138), considered *C. f. williamlarsi* Knudsen and *C. f. winonae* Knudsen as synonyms of *C. f. pseudowillistoni* Horn. They also listed *C. f. rumppi* Knudsen as a valid subspecies restricted to the Laguna del Perro area in Torrance County, central New Mexico.

### *Cicindela fulgida pseudowillistoni* Horn, 1938

*Cicindela fulgida pseudo-willistoni* W. Horn, 1938: 13. Type locality: «Como-See (8000 Fuß hoch) [Carbon County], Süd-Wyoming» (original citation). Lectotype (♀), designated by Kippenhan (1996a: 38), in DEI.

**Distribution.** This subspecies, also known as the “Alkaline Tiger Beetle,” is found in southern Wyoming and northwestern Colorado (Kippenhan 1996a: 42).

**Records.** USA: CO, WY

**Note.** Pearson et al. (2006: 99) recorded this subspecies from a much larger area, throughout the western Great Plains and intermontane southern Rocky Mountains.

### *Cicindela fulgida westbournei* Calder, 1922

*Cicindela fulgida elegans* Calder, 1922a: 62 [primary homonym of *Cicindela elegans* Fischer von Waldheim, 1823]. Type locality: «Westbourne, Man[itoba]» (original citation). Holotype location unknown (possibly in UMAA).



*Cicindela westbournei* Calder, 1922b: 191. Replacement name for *Cicindela elegans* Calder, 1922.

**Distribution.** This subspecies, also known as the “Westbourne’s Tiger Beetle,” is found in southern Manitoba, southern Saskatchewan (Wallis 1961: 51), north-central North Dakota, and northwestern Minnesota (Knudsen 1985: 186); also recorded from “Montana” (Erwin and Pearson 2008: 139).

**Records.** CAN: MB, SK USA: MN, ND, UT [MT]

### *Cicindela latesignata latesignata* LeConte, 1851

*Cicindela latesignata* LeConte, 1851: 172. Type locality: «San Diego [San Diego County, California]» (original citation). Syntype(s) in MCZ [# 18].

*Cicindela latesignata obliviosa* Casey, 1913: 20. Type locality: «San Diego [San Diego County], California» (original citation). Three syntypes in USNM [# 45925]. Synonymy established by Horn (1915: 376).

**Distribution.** This subspecies, also known as the “Western Beach Tiger Beetle,” is found along the Pacific Coast from southern California to the central parts of the Baja California Peninsula (Cazier 1948: 14) and also along the Gulf of California coast in northern Sonora [see Pearson et al. 1997: Fig. 27]. According to Pearson et al. (2006: 195), this taxon is now gone from most of its former sites in southern California.

**Records.** USA: CA – Mexico

**Note.** Some authors (e.g., Nagano 1982: 37) consider *C. obliviosa* Casey as a valid subspecies. *Cicindela latesignata parkeri* Cazier is found in Sonora and Baja California in Mexico.

### *Cicindela lengi jordai* Rotger, 1974

*Cicindela lengi jordai* Rotger, 1974: 9. Type locality: «Heart Canyon, four miles north of Aztec, San Juan Co[unty], New Mexico» (original citation). Holotype (♂) in Ronald L. Huber collection (Bloomington, Minnesota).

**Distribution.** This subspecies, the “Jorda’s Tiger Beetle,” is known from northeastern Arizona (Bertholf 1983: 12) and northern New Mexico (Acciavatti et al. 1980: 30). Based on Pearson et al. (2006: Map 47), it is also found in southern Utah and southwestern Colorado. The record from “Wyoming” (Boyd 1982: 9) probably refers to the nominotypical subspecies.

**Records.** USA: AZ, CO, NM, UT

### *Cicindela lengi lengi* Horn, 1908

*Cicindela venusta* LeConte, 1846b: 179 [primary homonym of *Cicindela venusta* LaFerté-Sénectère, 1841]. Type locality: «apud flumen Platte» (original citation); cited from «near the Forks of Platte River» by LeConte (1856a: 39). Syntype(s) in MCZ [# 42].

*Cicindela lengi* W. Horn, 1908b: 738. Replacement name for *Cicindela venusta* LeConte, 1846.

**Distribution.** This subspecies, also known as the “Blowout Tiger Beetle,” ranges from western South Dakota (Spomer et al. 2008a: 57) and southern Wyoming, south to northern New Mexico, extreme northwestern Texas, and southern Oklahoma [see Pearson et al. 2006: Map 47]. The records from “Montana” (Horn 1915: 372) and “Iowa” (Boyd 1982: 9) need confirmation.

**Records. USA:** CO, KS, MO, NE, NM, OK, SD, TX, WY [IA, MT]

**Note.** This subspecies intergrades with the *jordai* form in the southwestern part of its range and with the *versuta* form in the northern part of its range.

### *Cicindela lengi versuta* Casey, 1913

*Cicindela venusta versuta* Casey, 1913: 24. Type locality: «Aweme, Manitoba» (original citation). Four syntypes in USNM [# 45973].

*Cicindela venusta gracilentata* Casey, 1913: 25. Type locality: «Montana» (original citation). One syntype in USNM [# 45972]. Synonymy established by Bousquet and Larochelle (1993: 57).

**Distribution.** This subspecies, the “Adroit Tiger Beetle,” ranges from southern Manitoba to northern Alberta (Wallis 1961: 56), south to Wyoming and northwestern South Dakota (Spomer et al. 2008a: 34).

**Records. CAN:** AB, MB, SK **USA:** MT, ND, SD, WY

### *Cicindela limbalis* Klug, 1834

*Cicindela limbalis* Klug, 1834: 29. Type locality: «Nord-Amerika» (original citation), herein restricted to Eastport, Washington County, Maine (see LeConte, 1846b: 177, as *C. spreata*). Holotype [by monotypy] (♀) location unknown.

*Cicindela amoena* LeConte, 1846b: 177. Type locality: «prope provinciae Missouri terminum occidentalem» (original citation). Holotype [by monotypy] (♀) in MCZ [# 1]. Synonymy established by LeConte (1863b: 1).

*Cicindela spreata* LeConte, 1846b: 177. Type locality: «Eastport [Washington County], Maine» (original citation). Syntype(s) in MCZ. Synonymy established by LeConte (1863b: 1). NOTE. According to Frost (1920: 229), there is one syntype of this taxon in the LeConte collection and another one in the Harris collection labeled “Eastport, Me” and the manuscript number “1502.” The syntype in the LeConte collection is probably mixed with LeConte’s specimens of *Cicindela limbalis*.

*Cicindela purpurea* var. *transversa* Leng, 1902: 131. Type locality: «Ill[inois]» (original citation for the lectotype). Lectotype (♂), designated by Dahl (1941: 171), in AMNH [# 1221]. Synonymy established by Schincariol and Freitag (1991: 1346).

*Cicindela limbalis awemeana* Casey, 1913: 23. Type locality: «Aweme, Manitoba» (original citation). Four syntypes in USNM [# 45932]. Synonymy established by Horn (1915: 374).

*Cicindela limbalis eldorensis* Casey, 1913: 23. Type locality: «Eldora [Boulder County], Colorado» (original citation). One syntype in USNM [# 45933]. Synonymy established by Horn (1915: 374).

*Cicindela purpurea limbalis* f. *militaris* Varas Arangua, 1929: 242. Type locality: «West Point, Ramsey y Peekskill [New York], Hartford, Conn[ecticut], Warwick, R[hode] I[sland], Rock City, N[ew] Y[ork]» (original citation). Syntype(s) location unknown. Synonymy established by Nicolay and Weiss (1932: 347). NOTE. Even if this taxon was originally proposed at an infrasubspecific rank, it is deemed to be subspecific from its original publication because it was adopted as the valid name of a subspecies before 1985 (e.g., Leng and Mutchler 1933: 9) (see ICZN 1999: Article 45.6.4.1).

*Cicindela sedalia* Smyth, 1933: 201. Type locality: «Sedalia [Douglas County, Colorado]» (original citation). Syntype(s) location unknown. Synonymy established by Kippenhan (1994: 47).

**Distribution.** This species, also known as the “Common Claybank Tiger Beetle,” ranges from Newfoundland to eastern British Columbia, north to northern Yukon Territory (Eagle River, Sydney G. Cannings pers. comm. 2009), south to eastern Utah, northern New Mexico, central Missouri, southern Pennsylvania, and New Jersey [see Schincariol and Freitag 1991: Fig. 13; Pearson et al. 1997: Fig. 3]. According to Knisley and Schultz (1997: 114), the literature records from Virginia, western North Carolina, and northwestern Georgia could refer instead to *C. splendida*. The record from the District of Columbia (Boyd 1982: 8) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), NT, ON, QC, SK, YT USA: CO, CT, IA, IL, IN, KS, KY, MA, ME, MI, MN, MO, MT, ND, NE, NH, NJ, NM, NY, OH, PA, RI, SD, UT, VT, WI, WY [DC, GA, NC, VA]

**Note.** Spomer et al. (2008a: 25) noted that this species intergrades occasionally with *C. denverensis*, rarely with *C. splendida*. Based on results from a limited mitochondrial DNA analysis, Woodcock and Knisley (2010) concluded that *C. limbalis*, *C. splendida*, and *C. denverensis* may represent a single species.

### *Cicindela nigrior* Schaupp, 1884

*Cicindela scutellaris* var. *nigrior* Schaupp, 1884a: 87. Type locality: «G[eorgi]a» (original citation). Syntype(s) apparently destroyed in the San Francisco earthquake of 1906 (Horn et al. 1990b: 345).

**Distribution.** This species, also known as the “Autumn Tiger Beetle,” is confined to the Coastal Plain and Piedmont Plateau ranging from “North Carolina” (Knisley and Schultz 1997: 116) to the Florida Panhandle (Choate 2003: Map 13), west to southeastern Mississippi (George County, Drew A. Hildebrandt pers. comm. 2009).

**Records.** USA: AL, FL, GA, MS, NC, SC

***Cicindela ohlone* Freitag and Kavanaugh, 1993**

*Cicindela ohlone* Freitag and Kavanaugh [in Freitag et al.], 1993: 114. Type locality: «Soquel, Santa Cruz Co[unty], Calif[ornia]» (original citation). Holotype (♂) in CAS [# 17109].

**Distribution.** This species, the “Ohlone Tiger Beetle,” is known only from remnant stands of native grassland on coastal terraces in Santa Cruz County, California (Freitag et al. 1993: 117). According to Pearson et al. (2006: 193), it is known from only nine sites where populations range from less than 100 to several hundreds.

**Records. USA:** CA

**Note.** This species has been listed as endangered under the Endangered Species Act by the U.S. Fish and Wildlife Service in October 2001. Collection of specimens is illegal (Pearson et al. 2006: 88).

***Cicindela parowana parowana* Wickham, 1905**

*Cicindela parowana* Wickham, 1905: 165. Type locality: «beaches of Little Salt Lake, near Parowan [Iron County], Utah» (original citation). Syntype(s) in DEI (Döbler 1973: 379), MCZ [# 23809], and USNM [# 56136].

*Cicindela parowana remittens* Casey, 1924: 14. Type locality: «Callao [Juab County], Utah» (original citation). Holotype [by monotypy] (♀) in USNM [# 56136]. Synonymy established by Horn (1926: 275).

**Distribution.** This subspecies, also known as the “Dark Saltflat Tiger Beetle,” occurs from southeastern Oregon and southwestern Idaho to southwestern Utah (Leffler 1987: 7). The record from “Washington” (Freitag 1999: 39) probably refers to the *wallisi* form.

**Records. USA:** ID, NV, OR, UT

**Note.** Some authors, including Freitag (1999: 39), consider *C. remittens* Casey as a valid subspecies of *C. parowana* Wickham. According to Pearson et al. (2006: 100), all three subspecies of *C. parowana* intergrade in a narrow zone in southeastern Oregon.

***Cicindela parowana platti* Cazier, 1937**

*Cicindela parowana platti* Cazier, 1937a: 161. Type locality: «Benton’s Crossing, Mono Co[unty], Calif[ornia]» (original citation). Holotype (♂) in AMNH [# 1202].

**Distribution.** This subspecies, the “Platt Tiger Beetle,” occurs in southeastern Oregon, east-central California, and western Nevada [see Pearson et al. 2006: Map 42].

**Records. USA:** CA, NV, OR

***Cicindela parowana wallisi* Calder, 1922**

*Cicindela azurea* Calder, 1922a: 62 [primary homonym of *Cicindela azurea* Krausse, 1910]. Type locality: «Penticton, B[ritish]C[olumbia]» (original citation). Holotype (♂) in CNC [# 7315].



*Cicindela wallisi* Calder, 1922b: 191. Replacement name for *Cicindela azurea* Calder, 1922. Etymology. Although not indicated, the specific name was likely proposed for John Braithwaite Wallis [1877-1962], assistant superintendent of the Winnipeg Public Schools. Wallis wrote “The Cicindelidae of Canada” published in 1961.

**Distribution.** This subspecies, the “Wallis’ Tiger Beetle,” ranges from south-central British Columbia south to southeastern Oregon (Leffler 1987: 7), including southwestern Idaho (Shook 1984: 159).

**Records.** CAN: BC USA: OR, WA

### *Cicindela pimeriana* LeConte, 1867

*Cicindela pimeriana* LeConte, 1867b: 363. Type locality: «Sonora» (original citation for *C. viatica* Chevrolat *sensu* LeConte, 1856). Holotype [by monotypy] (♀) in MCZ [# 30]. NOTE. This name was proposed for *Cicindela viatica* Chevrolat, 1835 *sensu* LeConte (1856a: 62).

*Cicindela cochisensis* Casey, 1909: 274. Type locality: «Douglas [Cochise County], Arizona» (original citation). Six syntypes in USNM [# 45921]. Synonymy established by Harris (1911: 24).

**Distribution.** This species, also known as the “Cochise Tiger Beetle,” is restricted to southeastern Arizona, southwestern New Mexico [see Pearson et al. 1997: Fig. 31] and adjacent regions in Sonora, Mexico (LeConte 1856a: 62, as *C. viatica* Chevrolat).

**Records.** USA: AZ, NM – Mexico

### *Cicindela plutonica* Casey, 1897

*Cicindela* [*purpurea*] *plutonica* Casey, 1897: 296. Type locality: «Placer Co[unty], California» (original citation). One syntype in USNM [# 45948].

*Cicindela plutonica leachi* Cazier, 1936: 124. Type locality: «Warner M[oun]t[ain]s (9,000 to 10,000 feet), Modoc Co[unty], Calif[ornia]» (original citation). Holotype (♀) in AMNH [# 1523]. Synonymy established by Bousquet and Laroche (1993: 59) based on Leffler (1979a: 367) unpublished thesis. Etymology. The subspecific name was proposed in honor of Edwin R. Leach [1878-1971], an amateur coleopterist living in California who was chiefly interested in scarabaeids. Leach donated his collection, estimated at 40-50,000 specimens, to the California Academy of Sciences.

**Distribution.** This rare species, also known as the “Alpine Tiger Beetle,” ranges from southern Idaho to south-central Oregon, south to east-central California and west-central Utah [see Pearson et al. 2006: Map 31]. The record from one locality in northern Montana (see Pearson et al. 2006: Map 31) is possibly based on a stray.

**Records.** USA: CA, ID, NV, OR, UT [MT]

***Cicindela pugetana* Casey, 1914**

*Cicindela pugetana* Casey, 1914: 20. Type locality: «British Columbia» (original citation). Holotype [by monotypy] (♂) in USNM [# 45942].

**Distribution.** This species, also known as the “Sagebrush Tiger Beetle,” is found from southern British Columbia south to north-central Oregon [see Pearson et al. 1997: Fig. 32].

**Records.** CAN: BC USA: OR, WA

**Note.** According to Pearson et al. (2006: 89), further studies may show that this taxon is rather a subspecies of *C. plutonica* Casey.

***Cicindela purpurea audubonii* LeConte, 1845**

*Cicindela audubonii* LeConte, 1845a: 201. Type locality: «flum[inis] Yellow-Stone» (original citation), cited from «ad ripas fluminis Yellowstone, apud Fort Union [Roosevelt County, northeastern Montana]» by LeConte (1845b: 207). Syntype(s) in MCZ [# 3]. Etymology. The species name honors John James Audubon [1785-1851], celebrated American ornithologist, naturalist, hunter, and painter.

*Cicindela purpurea* var. *graminea* Schaupp, 1884a: 89. Type locality: «Kans[as], Cal[ifornia]» (original citation). Syntype(s) apparently destroyed. Synonymy established by Nicolay and Weiss (1932: 346).

*Cicindela purpurea auguralis* Casey, 1913: 21. Type locality: «Colorado» (original citation). Three syntypes [3 originally cited] in USNM [# 45929]. Synonymy established, under the name *C. purpurea graminea* Schaupp, by Horn (1915: 373).

*Cicindela purpurea inducta* Casey, 1913: 22. Type locality: «Colorado» (original citation). One syntype in USNM [# 45931]. Synonymy established, under the name *C. purpurea graminea* Schaupp, by Horn (1915: 373).

*Cicindela purpurea* var. *nigerrima* Leng, 1919a: 139. Type locality: «at the West» (original citation for *C. purpurea audubonii* LeConte *sensu* LeConte, 1856), restricted to «Chimney Gulch, Golden, Colorado» by Dahl (1941: 170). Syntype(s) probably in MCZ. Synonymy established by Hatch (1953: 37). NOTE. This name was proposed for *Cicindela purpurea* var. *audubonii* LeConte, 1845 *sensu* LeConte (1856a: 37). Therefore the type series consists of the specimen(s) which had been misidentified (ICZN 1999: Article 72.4.2). The specimen in AMNH [# 1220] designated as lectotype by Dahl (1941: 170) is not a syntype.

**Distribution.** This subspecies, the “Audubon’s Tiger Beetle,” ranges from southern Manitoba to central British Columbia, south to east-central California, Arizona, and northern Texas [see Pearson et al. 2006: Map 28]. The records from “Wisconsin,” “Illinois,” “Kentucky,” “Tennessee” and “Arkansas” (Boyd 1982: 7) apparently refer to the nominate form.

**Records.** CAN: AB, BC, MB, SK USA: AZ, CA, CO, IA, ID, KS, MN, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WY

***Cicindela purpurea cimarrona* LeConte, 1868**

*Cicindela cimarrona* LeConte, 1868a: 49. Type locality: «south of Raton Mountain [= Barela Mesa, Colfax County, New Mexico]» (original citation). Syntype(s) [6 originally cited] in MCZ [# 5].

*Cicindela purpurea ardelio* Casey, 1913: 21. Type locality: «New Mexico» (original citation). Holotype [by monotypy] (♂) in USNM [# 45930]. Synonymy established by Horn (1915: 374).

**Distribution.** This subspecies, the “Cimarron Tiger Beetle,” is known from north and central Colorado (Kippenhan 1994: 44–45), much of New Mexico (Acciavatti et al. 1980: 30), and southeastern Arizona (Bertholf 1983: 22) [see Pearson et al. 2006: Map 28]. The records from northern (Tanner 1929a: 79) and southwestern (Horn 1926: 266) Utah need confirmation.

**Records. USA:** AZ, CO, NM [UT]

***Cicindela purpurea hatchi* Leffler, 1980**

*Cicindela mirabilis* Casey, 1914: 358 [primary homonym of *Cicindela mirabilis* Laporte, 1835]. Type locality: «Dutch Flat, Placer Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 45936].

*Cicindela purpurea hatchi* Leffler, 1980: 128. Replacement name for *Cicindela purpurea mirabilis* Casey, 1914.

**Distribution.** This subspecies, also known as the “Hatch’s Tiger Beetle,” ranges from Vancouver Island to the central region of the Sierra Nevada in California (Leffler 1987: 4).

**Records. CAN:** BC (VCI) **USA:** CA, OR, WA

**Note.** This subspecies intergrades with the *lauta* form in the Willamette Valley of Oregon south to Shasta and Modoc Counties in northwestern California (Pearson et al. 2006: 87).

***Cicindela purpurea lauta* Casey, 1897**

*Cicindela* [*purpurea*] *lauta* Casey, 1897: 296. Type locality: «Siskiyou Co[unty], California» (original citation), restricted to «Dunsmuir, Shasta Co[unty]» by Leffler (1987: 5). Two syntypes in USNM [# 45734].

*Cicindela lauta franciscana* Casey, 1913: 23. Type locality: «California» (original citation). One syntype in USNM [# 45935]. Synonymy established by Horn (1915: 373), confirmed by Leffler (1980: 128).

**Distribution.** This subspecies, the “Elegant Tiger Beetle,” ranges from the Columbia River in southern Washington to northwestern California (Leffler 1987: 4).

**Records. USA:** CA, OR, WA

***Cicindela purpurea purpurea* Olivier, 1790**

*Cicindela purpurea* Olivier, 1790a: [No. 33] 14. Type locality: «Géorgie» (original citation). Syntype(s) location unknown (possibly in MHNP).

*Cicindela marginalis* Fabricius, 1801: 240. Type locality: «Canada» (original citation). One syntype in ZMUC (Zimsen 1964: 64). Synonymy established with doubt by Say (1818: 419).

*Cicindela purpurea* var. *ramosa* Gistel, 1837: 31. Type locality: «America septentrionali, Canada» (original citation). Syntype(s) lost. Synonymy established by Horn (1915: 373).

**Distribution.** This subspecies, also known as the “Cow Path Tiger Beetle,” ranges from southern Quebec to Minnesota, south to central Arkansas and northern Georgia [see Pearson et al. 2006: Map 28]. Beaton (2008: 39) indicated that despite extensive search he was unable to find any population of this species in Georgia, including at all known historical sites, and Ciegler (1997: 189) noted that it has not been collected in South Carolina since 1936. The record from “Nova Scotia” (Bousquet and Larochelle 1993: 59) was based on a misidentified specimen (see Majka et al. 2007: 6); that from “New Brunswick” (Erwin and Pearson 2008: 175) needs confirmation.

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, VA, VT, WI, WV [NB]

**Note.** This subspecies intergrades with the *audubonii* form over a wide area from North Dakota to Oklahoma (Pearson et al. 2006: 86).

***Cicindela scutellaris flavoviridis* Vaurie, 1950**

*Cicindela scutellaris flavoviridis* Vaurie, 1950: 2. Type locality: «Forestburg, Montague County, Texas» (original citation). Holotype (♂) in AMNH [# 1210].

**Distribution.** This subspecies, the “Chartreuse Tiger Beetle,” is known only from north-central Texas (Pearson et al. 2006: 102).

**Records.** USA: TX

***Cicindela scutellaris lecontei* Haldeman, 1853**

*Cicindela lecontei* Haldeman, 1853: 361. Type locality: «Wisconsin» (original citation). One possible syntype, a ♀ labeled “[yellow disc] / C. Lecontei Hald. [handwritten],” in MCZ (collection LeConte).

*Cicindela criddlei* Casey, 1913: 19. Type locality: «Aweme, Manitoba» (original citation). Four syntypes [4 originally cited] in USNM [# 45916]. Synonymy established by Wallis (1961: 35).

**Distribution.** This subspecies, the “LeConte’s Tiger Beetle,” ranges from southern Quebec to southern Manitoba (Wallis 1961: 35-36), south to Kansas, northern Mississippi, West Virginia, and Connecticut [see Pearson et al. 2006: Map 43]. The records



from “Saskatchewan” and “Alberta” (Bousquet and Larochelle 1993: 60) refer to the nominotypical subspecies.

**Records. CAN:** MB, ON, QC **USA:** CT, IA, IL, IN, KS, MA, ME, MI, MN, MO, MS, ND, NE, NH, NY, OH, PA, SD, TN, VT, WI, WV

**Note.** This subspecies intergrades with the nominate form over a broad area in the Great Plains and with the *unicolor* form in northern Missouri and Tennessee (Pearson et al. 2006: 102, 103).

### *Cicindela scutellaris rugata* Vaurie, 1950

*Cicindela varians* Ljungh, 1799: 147 [*nomen oblitum*, see Boyd (2000)]. Type locality: «extra Europam» (original citation). Lectotype (♀), designated by Cassola (1999: 76), in ZMLS.

*Cicindela scutellaris rugata* Vaurie, 1950: 3 [*nomen protectum*]. Type locality: «Vowell’s Mill, Natchitoches [Parish] County, Louisiana» (original citation). Holotype (♂) in AMNH [# 1211]. Synonymy established by Cassola (1999: 76).

**Distribution.** This subspecies, the “Rugate Tiger Beetle,” is known from southwestern Arkansas (Ward 1972: 70), western Louisiana (Graves and Pearson 1973: 175), and eastern Texas (Vaurie 1950: 4). The record from “Oklahoma” (Erwin and Pearson 2008: 183) needs confirmation.

**Records. USA:** AR, LA, TX [OK]

**Note.** This subspecies intergrades with the nominate form in the northwestern part of its range and with the *lecontei* form in the northeastern part of its range (Pearson et al. 2006: 103).

### *Cicindela scutellaris rugifrons* Dejean, 1825

*Cicindela rugifrons* Dejean, 1825: 51. Type locality: «Amérique septentrionale» (original citation), herein restricted to Cambridge, Middlesex County, Massachusetts (see Harris 1828a: 90, as *C. denticulata*). Holotype [by monotypy] (♀) probably in MHNP.

*Cicindela modesta* Dejean, 1825: 52. Type locality: «Saint-Domingue» (original citation), which is incorrect (see Dejean 1831: 210). Syntype(s) in MHNP. Synonymy established by LeConte (1856a: 35). **NOTE.** This name is listed in synonymy with *C. scutellaris lecontei* Haldeman by Horn (1928: 12).

*Cicindela denticulata* T.W. Harris, 1828a: 90. Type locality: «near Sweet Auburn in Cambridge [Middlesex County, Massachusetts]» (original citation). Syntype(s) presumably lost. Synonymy established by LeConte (1846b: 175).

*Cicindela denticulata* Hentz, 1830: 253 [primary homonym of *Cicindela denticulata* Harris, 1828]. Type locality: «Massachusetts» (original citation). Syntype(s) lost. Synonymy established by Gould (1834: 46).

*Cicindela denticulata* var. *oberleitneri* Gistel, 1837: 55. Type locality: «America boreali (Massachusetts)» (original citation). Syntype(s) lost. Synonymy established by Horn (1907a: 22).

*Cicindela scutellaris* var. *carolina* E.D. Harris, 1911: 28. Type locality: «neighborhood of Raleigh [Wake County], N[orth] C[arolina]» (original citation). Syntype(s) in MCZ [# 25609]. Synonymy established by Horn (1915: 379). NOTE. Harris (1911: 28) stated that *carolina* is “a slightly differentiated race of *rugifrons* existing in the neighborhood of Raleigh, N.C.” but at the same time listed the variety from Surry and Newport News in Virginia as well as Raleigh, Southern Pines, Hamlet, Montague, and Manly in North Carolina.

**Distribution.** This subspecies, also known as the “Wrinkle-fronted Tiger Beetle,” ranges east of the Appalachians from Massachusetts (Leonard and Bell 1999: 133) to North Carolina (Harris 1911: 28, as *C. scutellaris* var. *carolina*). The records from South Carolina (Cartwright 1935: 72) and “Georgia” (J.E. LeConte 1849: 25) probably refer to the *unicolor* form.

**Records. USA:** CT, DC, DE, MA, MD, NC, NJ, NY, PA, RI, VA

**Note.** This form intergrades with the *lecontei* form in Massachusetts and Connecticut and with the *unicolor* form in North Carolina (Pearson et al. 2006: 103).

### *Cicindela scutellaris scutellaris* Say, 1823

*Cicindela scutellaris* Say, 1823b: 140 (as *scutellaris*). Type locality: «the Arkansa [River]» (original citation). Syntype(s) lost. NOTE. The incorrect subsequent spelling *scutellaris* is in prevailing usage and attributed to the publication of the original spelling; therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Cicindela scutellaris billingsi* Casey, 1924: 14. Type locality: «Billings [Yellowstone County], Montana» (original citation). Holotype [by monotypy] (♂) in USNM [# 45915]. Synonymy established by Horn (1926: 276).

*Cicindela shantzi* Casey, 1924: 14. Type locality: «Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 45914]. Synonymy established by Horn (1926: 276).

**Distribution.** This subspecies, also known as the “Festive Tiger Beetle,” ranges from southwestern Saskatchewan and southeastern Alberta (Wallis 1961: 35) south to east-central New Mexico (Acciavatti et al. 1980: 30), northern Texas (Gaumer and Murray 1971: 10), Arkansas (Graves and Pearson 1973: 175), and northwestern Mississippi (Bolivar County, Drew A. Hildebrandt pers. comm. 2009). The record from “Iowa” (Freitag 1999: 49) probably refers to the *lecontei* form.

**Records. CAN:** AB, SK **USA:** AR, CO, KS, MS, MT, ND, NE, NM, OK, SD, TX, WY

**Note.** According to Pearson et al. (2006: 102), this subspecies intergrades with the *lecontei* form over a broad zone in eastern South Dakota, Nebraska, and Kansas.

### *Cicindela scutellaris unicolor* Dejean, 1825

*Cicindela unicolor* Dejean, 1825: 52. Type locality: «Amérique septentrionale» (original citation), herein restricted to Wilmington, New Hanover County, North Carolina (see Leng 1902: 125). Syntype(s) in MHNP.

**Distribution.** This subspecies, the “Unicolored Tiger Beetle,” is known from eastern Tennessee and North Carolina (Pearson et al. 2006: 103) south to central Florida (Peck and Thomas 1998: 16; Choate 2003: Map 74), southern Alabama (Löding 1945: 9), and southern Mississippi (Graves and Pearson 1973: 174); also recorded from “Virginia” (Erwin and Pearson 2008: 184). The records from Texas (Tucker 1906: 85), “Louisiana,” “Colorado” (Leng 1902: 125), New Mexico (Fall and Cockerell 1907: 155), and Oklahoma (Drew and Van Cleave 1962: 115) could be based on strays, on intergrades, or be in error.

**Records. USA:** AL, FL, GA, MS, NC, SC, TN [VA]

**Note.** According to Pearson et al. (2006: 103), this form intergrades with the *rugifrons* form in North Carolina and with the *lecontei* form in northern Missouri and Tennessee.

### *Cicindela scutellaris yampae* Rumpp, 1986

*Cicindela scutellaris yampae* Rumpp, 1986: 140. Type locality: «Maybell Sand Hills (between two and 6 km east of Maybell), Moffat County, Colorado» (original citation). Holotype (♂) in AMNH [# 1526].

**Distribution.** This subspecies, the “Yampa Tiger Beetle,” is known only from the Maybell Sand Hills area in northwestern Colorado (Kippenhan 1994: 55).

**Records. USA:** CO

### *Cicindela splendida* Hentz, 1830

*Cicindela splendida* Hentz, 1830: 254. Type locality: «North Carolina» (original citation), herein restricted to Asheville, Buncombe County (see Harris 1911: 7). One possible syntype in MCZ [# 20].

*Cicindela purpurea splendida* f. *cycanocephala* Varas Arangua, 1929: 239 [primary homonym of *Cicindela cycanocephala* Fabricius, 1798]. Type locality: «Kansas, Nebraska» (original citation). Syntype(s) location unknown. Synonymy established by Schincariol and Freitag (1991: 1345). NOTE. Even if this taxon was originally proposed at an infrasubspecific rank, it is deemed to be subspecific from its original publication because it was adopted before 1985 as the valid name of a subspecies (e.g., Leng and Mutchler 1933: 9) (see ICZN 1999: Article 45.6.4.1).

*Cicindela splendida* var. *cycanocephalata* Eckhoff, 1939: 211. Replacement name for *Cicindela splendida* var. *cycanocephala* Varas Arangua, 1929.

*Cicindela splendida* var. *cycanocephalonota* Eckhoff, 1970: 32. Unnecessary replacement name for *Cicindela splendida* var. *cycanocephalata* Eckhoff, 1939.

**Distribution.** This species, also known as the “Splendid Tiger Beetle,” occurs from southern Pennsylvania to eastern Wyoming, north to southern Wisconsin, south to central Texas, northeastern Georgia, and northern South Carolina [see Schincariol and Freitag 1991: Fig. 13; Pearson et al. 1997: Fig. 20]; The records from “New York” (Schaupp 1884a: 90), “Minnesota” (Horn 1928: 10), and “New Mexico” (Freitag 1999: 50, 51) need confirmation.

**Records. USA:** AL, AR, CO, DC, GA, IA, IL, IN, KS, KY, LA, MD, MO, MS, NC, NE, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV, WY [MN, NM, NY]

**Note.** 1. The name *Cicindela discus*, credited to Klug (1834: 23), is often listed as a synonym of *C. splendida* Hentz but Klug did not apply the name to a new species. 2. According to Pearson et al. (2006: 91), recent DNA studies on this species, *C. denverensis* and *C. limbalis* suggest that members of all three could be conspecific. Spomer et al. (2008a: 23) noted that this species hybridizes with *C. denverensis* in a narrow zone in central Nebraska and possibly also with *C. limbalis*.

### ***Cicindela tenuicincta* Schaupp, 1884**

*Cicindela latesignata* var. *tenuicincta* Schaupp, 1884b: 122. Type locality: «Colorado» (original citation), which is probably incorrect (Freitag 1999: 55); Saltair, Salt Lake County, Utah (see Leng 1902: 138) herein selected. Holotype [by monotypy] (♀) in USNM [# 1204].

**Distribution.** This species, also known as the “Short-legged Tiger Beetle,” is found from southern Oregon to east-central California, east to southeastern Utah [see Pearson et al. 2006: Map 48]. The records from “Arizona” and “New Mexico” (Bousquet and Laroche 1993: 61) are in error or based on strays.

**Records. USA:** CA, NV, OR, UT

### ***Cicindela tranquebarica cibecuei* Duncan, 1958**

*Cicindela tranquebarica cibecuei* Duncan, 1958: 43. Type locality: «Cibecue Creek, near Cibecue, Gila County, Arizona» (original citation). Holotype (♂) in AMNH [# 1206].

**Distribution.** This subspecies is known only from east-central Arizona [see Kritsky and Horner 1998: Fig. 5].

**Records. USA:** AZ

**Note.** Bertholf (1983: 26) considered this form as a synonym of the *lassenica* form (= *C. tranquebarica parallelonota* Casey).

### ***Cicindela tranquebarica diffracta* Casey, 1909**

*Cicindela diffracta* Casey, 1909: 273. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). One syntype in USNM [# 45950].

*Cicindela admiscens* Casey, 1913: 25. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Thirteen syntypes in USNM [# 45951]. Synonymy established by Horn (1915: 376).

**Distribution.** This subspecies, the “Diffracted Tiger Beetle,” is found from southern Wyoming to New Mexico and eastern Arizona (Kritsky and Horner 1998: 25, Fig. 5). According to Pearson et al. (2006: 107), it occurs in southern Nevada, northern Ari-



zona, and New Mexico; also recorded from Utah (Tanner 1929a: 80) and “Nebraska” (Erwin and Pearson 2008: 192).

**Records. USA:** AZ, CO, NM, NV, WY [NE, UT]

***Cicindela tranquebarica joaquinensis* Knisley and Haines, 2007**

*Cicindela tranquebarica joaquinensis* Knisley and Haines, 2007: 112. Type locality: «near Guernsey, Kings Co[unty], Ca[lifornia]» (original citation). Holotype (♂) in CAS.

**Distribution.** This subspecies, the “Joaquin Tiger Beetle,” is known only from the San Joaquin Valley of California.

**Records. USA:** CA

**Note.** According to Knisley and Haines (2007: 109), this subspecies intergrades with the *vibex* form along the margins of the San Joaquin Valley.

***Cicindela tranquebarica kirbyi* LeConte, 1867**

*Cicindela kirbyi* LeConte, 1867b: 362. Type locality: northern parts of North America (inferred from title of Kirby’s 1837 book). Syntype(s) in BMNH. **NOTE.** This subspecies was described by the inclusion of a drawing of the left elytron as well as by indication to *Cicindela obliquata* Dejean, 1825 *sensu* Kirby (1837: 10).

**Distribution.** This subspecies, the “Kirby’s Tiger Beetle,” ranges from Manitoba to Alberta, north to southern Northwest Territories; its southern limit is debated. Kritsky and Horner (1998: Fig. 5) placed it at southern Wyoming and northern Nebraska while Pearson et al. (2006: Map 45) placed it at southeastern New Mexico and northern Texas. I have accepted the latest range for the records. The subspecies is also recorded from “British Columbia,” “Ontario,” “Arkansas,” “Iowa,” “Minnesota,” “Missouri,” “Utah,” and “Washington” by Erwin and Pearson (2008: 193).

**Records. CAN:** AB, MB, NT, SK **USA:** CO, KS, MT, ND, NE, NM, OK, SD, TX, WY [AR, BC, IA, MN, MO, ON, UT, WA]

**Note.** This subspecies intergrades with the nominotypical form over a large area in the Midwest (Pearson et al. 2006: 106).

***Cicindela tranquebarica parallelonota* Casey, 1914**

*Cicindela parallelonota* Casey, 1914: 21. Type locality: «Las Vegas [Clark County], Nevada» (original citation). One syntype in USNM [# 45943].

*Cicindela lassenica* Casey, 1914: 22. Type locality: «California» (original citation). One syntype in USNM [# 45946]. Synonymy established by Kritsky and Horner (1998: 25).

*Cicindela moapana* Casey, 1914: 22. Type locality: «McGill (6500 feet), White Pine Co[unty], Nevada» (original citation). One syntype in USNM [# 45949]. Synonymy established by Kritsky and Horner (1998: 25).

*Cicindela tranquebarica* var. *inyo* Fall, 1917: 106. Type locality: «Olancho [Inyo County], California» (original citation). Holotype (♀) in MCZ [# 23838]. Synonymy established by Kritsky and Horner (1998: 25).

*Cicindela tranquebarica* var. *owena* Fall, 1917: 106. Type locality: «Olancho [Inyo County], California» (original citation). Holotype (♂) in MCZ [# 23839]. Synonymy established implicitly with the name *C. tranquebarica inyo* Fall by Cazier (1939: 27).

*Cicindela kirbyi uintana* Casey, 1924: 15. Type locality: «Zion Cañon, Utah» (original citation). Holotype [by monotypy] (♀) in USNM [# 45938]. Synonymy established, under the name *C. tranquebarica owena* Fall, by Horn (1926: 272).

**Distribution.** This subspecies, also known as the “Opal Tiger Beetle,” occurs in Utah, Nevada, and eastern California (Kritsky and Horner 1998: 25).

**Records. USA:** CA, NV, UT

**Note.** Some authors, including Pearson et al. (2006: 107, 108), consider the forms *inyo* and *moapana* as distinct subspecies: the first one is confined to the Owens Valley of interior central California and adjacent Nevada and the second one is found in east-central Nevada and adjacent Utah. Freitag (1999: 57) and Erwin and Pearson (2008: 194) listed the *lassenica* form as a distinct subspecies and recorded it from “California,” “Nevada,” “Utah,” and “Arizona.”

### *Cicindela tranquebarica sierra* Leng, 1902

*Cicindela vulgaris* var. *sierra* Leng, 1902: 146. Type locality: «Sierra Co[unty], Cal[ifornia]» (original citation). Lectotype (♀), designated by Dahl (1941: 172), in AMNH [# 1224].

**Distribution.** This subspecies, the “Sierra Tiger Beetle,” is restricted to the Sierra Nevada in eastern California [see Kritsky and Horner 1998: Fig. 5].

**Records. USA:** CA

### *Cicindela tranquebarica tranquebarica* Herbst, 1806

*Cicindela tranquebarica* Herbst, 1806: 178. Type locality: «Trankenbar [= Tranquebar, Tamil Nadu, India]» (original citation), which is incorrect; herein restricted to Charlotte, Mecklenburg County, North Carolina (see Harris 1911: 18, as *C. tranquebarica* var. *vulgaris minor*). Syntype(s) location unknown (possibly in ZMHB).

*Cicindela vulgaris* Say, 1818: 409. Type locality: «North America» (original citation). Syntype(s) lost. Synonymy established by LeConte (1863b: 1).

*Cicindela obliquata* Dejean, 1825: 72. Type locality: «Amérique septentrionale» (original citation). Syntype(s) in MHNP. Synonymy established, under the name *C. vulgaris* Say, by Dejean (1826: 414).

*Cicindela vulgaris* var. *horiconensis* Leng, 1902: 145. Type locality: «Lake George [Warren County], N[ew] Y[ork] (original citation for the lectotype). Lectotype (♂),

designated by Dahl (1941: 172), in AMNH [# 1223]. Synonymy established by Horn (1905: 20).

*Cicindela tranquebarica* form *minor* Leng, 1910: 80. Type locality: «Louisiana; Georgia» (original citation). Syntype(s) location unknown. Synonymy established by Horn (1930: 81).

*Cicindela tranquebarica* var. *vulgaris-minor* E.D. Harris, 1911: 18. Type locality: «Charlotte, Goldsboro, High Point, Montague, Southern Pines, Jamestown, Manly [all in] No[rth] Car[olina]; Vowell's Mill, Louisiana» (original citation). Syntype(s) in MCZ [# 25603]. Synonymy established, under the name *C. tranquebarica minor* Leng, by Horn (1915: 376).

*Cicindela tranquebarica turbulenta* Casey, 1913: 25. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). One syntype in USNM [# 45944]. Synonymy established by Horn (1915: 376).

*Cicindela crinifrons* Casey, 1913: 26. Type locality: «Asheville and Southern Pines, North Carolina» (original citation). Nine syntypes in USNM [# 45945]. Synonymy established, under the name *C. tranquebarica minor* Leng, by Horn (1915: 376).

*Cicindela wichitana* Casey, 1914: 21. Type locality: «Kansas» (original citation). Four syntypes [4 originally cited] in USNM [# 45947]. Synonymy established by Horn (1915: 444).

*Cicindela tranquebarica* var. *viridula* Varas Arangua, 1928: 173. Type locality: «Concord, Massachusetts; Rhode Island; Connecticut; Long Island, N[ew] Y[ork]» (original citation). Syntype(s) in CAS [# 8151]. Synonymy established by Horn (1930: 81).

**Distribution.** This subspecies, also known as the “Oblique-lined Tiger Beetle,” ranges over much of eastern North America, from Newfoundland to Nebraska, south to northern Texas and northern Florida (Choate 2003: Map 26) [see Kritsky and Horner 1998: Fig. 5; Pearson et al. 2006: Map 45]. Several state and province records (e.g., AB, CA, ID, MB, MT, ND, NT, NV, OR, SK, UT, WY) in Boyd (1982: 9), Bousquet and Larochelle (1993: 61), and Freitag (1999: 57) apparently refer to other subspecies of *C. tranquebarica* Herbst. Choate (2003: 81) reported that there are no recent collection records of this species in Florida.

**Records.** CAN: LB, NB, NF, NS (CBI), ON, PE, QC USA: AR, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

**Note.** *Cicindela tranquebarica* is extremely variable in color and maculation which lead to the recognition of several subspecies. However, it appears that the species varies seasonally. As remarked by Sumlin (1976a: 103) “if one were to sample this population [at Owen's Lake, Inyo County, California] from early April to the middle of June one would have approximately 5 subspecific phenotypes represented; i.e., *inyo* Fall (green in color with narrow to thick lunules), *kirbyi* LeConte (brown or black in color with very wide lunules), *cibecuei* Duncan (blue in color with wide lunules), *borealis* E.D. Harris (brown or black in color with very narrow lunules), and *parallelonota* Casey

(light to dark green in color with thickened lunules).” A thorough study of the variation in this species would probably lead to a reduction in the number of subspecies.

***Cicindela tranquebarica vibex* Horn, 1867**

*Cicindela vibex* G.H. Horn, 1867a: 395. Type locality: «Fort Klamath [Klamath County], Oregon» (original citation). Lectotype (♂), designated by Ward (1982: 61), in MCZ [# 33472].

*Cicindela vulgaris* var. *roguensis* E.D. Harris, 1901: 226. Type locality: «basin of the Rogue River, S[outh]-W[est] Oregon» (original citation). Syntype(s) [20 originally cited] in MCZ [# 25605]. Synonymy established by Harris (1911: 19).

*Cicindela tranquebarica* var. *borealis* E.D. Harris, 1911: 19. Type locality: «Kootenay region of British Columbia» (original citation). Syntype(s) in MCZ [# 25604]. Synonymy established by Bousquet and Laroche (1993: 61) based on Leffler (1979a: 578) unpublished thesis. NOTE. Harris (1911: 19) stated that the taxon is “a race indigenous to the Kootenay region of British Columbia” but listed it from Spokane in Washington, Provo in Utah, as well as Kaslo, Lardo River, Ainsworth, and Bear Foot Mountains in British Columbia.

**Distribution.** This subspecies, the “Wealed Tiger Beetle,” ranges from British Columbia to western Montana, south to northern Utah and northern California [see Kritsky and Horner 1998: Fig. 5]. The record from “Northwest Territories” (Boyd 1982: 10) is probably in error.

**Records.** CAN: BC USA: CA, ID, MT, NV, OR, UT, WA, WY

**Note.** Freitag (1999: 55) and Pearson et al. (2006: 107) considered the form *borealis* as a valid subspecies although Pearson et al. stated that “perhaps the entire population represents a zone of intergradation and not a distinct subspecies.” Erwin and Pearson (2008: 195) also retained the *roguensis* form as a distinct subspecies listing it from several western states (i.e., ID, OR, MT, NV, WA, WY).

***Cicindela tranquebarica viridissima* Fall, 1910**

*Cicindela vulgaris* var. *viridissima* Fall, 1910: 89. Type locality: «near San Bernardino and Colton; Tulare County [in] southern California» (original citation). Syntype(s) in MCZ [# 23840].

**Distribution.** This taxon, also known as the “Santa Ana Tiger Beetle,” is found in southern California, primarily in Orange and western San Bernardino Counties (Pearson et al. 2006: 108).

**Records.** USA: CA

[**formosa group**]

***Cicindela denikei* Brown, 1934**

*Cicindela sexguttata denikei* Brown, 1934: 22. Type locality: «Ingolf, Ont[ario]» (original citation). Holotype (♂) in CNC [# 3529].



**Distribution.** This species, also known as the “Laurentian Tiger Beetle,” is restricted to a small area in southeastern Manitoba, northwestern (Lawton 2008: 73) and southwestern Ontario, and adjacent parts of Minnesota (Kaulbars and Freitag 1993a: 307; Pearson et al. 2006: 95); isolated at Manitoulin Island, Ontario (Bouchard et al. 2006: 21).

**Records.** CAN: MB, ON USA: MN

### *Cicindela formosa formosa* Say, 1817

*Cicindela formosa* Say, 1817a: [23]. Type locality: «sandy alluvions of the Missouri, above the confluence of the river Platte» (original citation). Syntype(s) lost.

*Cicindela formosa luxuriosa* Casey, 1913: 24. Type locality: «near Denver [Denver County], Colorado» (original citation). Two syntypes in USNM [# 45971]. Synonymy established by Horn (1915: 371).

*Cicindela formosa fletcheri* Criddle, 1925: 127. Type locality: «Sunshine Road, Marias River [Chouteau County], Montana» (original citation). Holotype (♂) in CNC [# 1418]. Synonymy established by Horn (1926: 262). Etymology. The subspecific name was proposed for James Fletcher [1852-1908], the first entomologist and botanist in the Dominion Department of Agriculture in Ottawa. Born in England, Fletcher worked mainly on economic insects and particularly Lepidoptera larvae.

**Distribution.** This subspecies, also known as the “Big Sand Tiger Beetle,” ranges from southern Saskatchewan and southern Alberta south to New Mexico and southern Texas (Gaumer 1977: 188-189); also recorded from “Manitoba” and “Minnesota” (Erwin and Pearson 2008: 135).

**Records.** CAN: AB, SK USA: CO, KS, MT, ND, NE, NM, OK, SD, TX, WY [MB, MN]

**Note.** Gaumer (1977: 194-195) reported the presence of intergrade populations between this subspecies and the *generosa* form in central United States and with the *pigmentosignata* form in north-central and central Texas.

### *Cicindela formosa generosa* Dejean, 1831

*Cicindela generosa* Dejean, 1831: 231. Type locality: «Amérique septentrionale» (original citation), herein restricted to Ballardvale, Essex County, Massachusetts (see Harris 1911: 2). Syntype(s) in MHNP.

*Cicindela formosa* var. *manitoba* Leng, 1902: 137. Type locality: «Aweme, Manitoba» (original citation). Lectotype, designated by Dahl (1941: 170), in AMNH [# 1219]. Synonymy established by Horn (1926: 263). NOTE. Rumpp (1986: 145) listed this name in synonymy with the nominotypical subspecies.

**Distribution.** This subspecies, also known as the “Eastern Sand Tiger Beetle,” ranges from Kings County in Nova Scotia (Neil and Majka 2008: 4) to southern Manitoba, south to northeastern South Dakota (Spomer et al. 2008a: 21), central Louisiana, southern Mississippi, and southern Virginia (Gaumer 1977: 202-203).

The records from “Saskatchewan,” “Montana,” “Nebraska” (Erwin and Pearson 2008: 136), “Colorado” (Leng 1902: 136), and “Alabama” (Freitag 1999: 25) need confirmation.

**Records.** CAN: MB, NS, ON, QC USA: AR, CT, DE, IA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MO, MS, ND, NH, NJ, NY, OH, PA, RI, SD, TN, VA, VT, WI, WV [AL, CO, MT, NE, SK]

***Cicindela formosa gibsoni* Brown, 1940**

*Cicindela formosa gibsoni* Brown, 1940b: 182. Type locality: «Great Sand Hills, west of Swift Current, Sask[atchewan]» (original citation). Holotype (♂) in CNC [#4885]. Etymology. This subspecies was named after Arthur Gibson [1875-1959], Dominion entomologist with a special interest in Lepidoptera. Gibson had no formal training but learned under James Fletcher and Charles Gordon Hewitt, both with the Department of Agriculture in Ottawa.

**Distribution.** This subspecies, also known as the “Gibson’s Sand Tiger Beetle,” is known from southwestern Saskatchewan (Wallis 1961: 38; Gaumer 1977: 216) and northwestern Colorado (Kippenhan 1994: 41). The record from “Alberta” (Bousquet and Larochelle 1993: 55) is in error; that from “North Dakota” (Freitag 1999: 26) needs confirmation; that from “Utah” (Erwin and Pearson 2008: 136) is probably based on intergrades found along the Green River (see Pearson et al. 2006: 84).

**Records.** CAN: SK USA: CO [SD, UT]

**Note.** In his unpublished thesis, Gaumer (1977: 219) treated the Colorado population of this subspecies as a distinct subspecies of *C. formosa*. This subspecies intergrades narrowly with the *formosa* form on all sides of its small range in southern Saskatchewan and along the Green River in northeastern Utah (Pearson et al. 2006: 84).

***Cicindela formosa pigmentosignata* Horn, 1930**

*Cicindela formosa pigmento-signata* W. Horn, 1930: 76. Type locality: «Mineola [and] Rosser, Texas» (original citation). Syntype(s) [2 originally cited] in USNM [#41843] and DEI (Döbler 1973: 378).

**Distribution.** This subspecies, also known as the “Reddish-green Sand Tiger Beetle,” is found in southwestern Arkansas, northern Louisiana, and eastern Texas (Gaumer 1977: 210).

**Records.** USA: AR, LA, TX

***Cicindela formosa rutilovirescens* Rumpp, 1986**

*Cicindela formosa rutilovirescens* Rumpp, 1986: 142. Type locality: «Mescalero Sands (1300 m), 55 to 65 km due east of Roswell, Chaves County, New Mexico» (original citation). Holotype (♂) in CAS [#12984].

**Distribution.** This subspecies, also known as the “Mescalero Sand Tiger Beetle,” is found in Terry and Yoakum Counties in northwestern Texas and in Chaves, Eddy, and Roosevelt Counties in eastern New Mexico (Rumpp 1986: 143).

**Records. USA:** NM, TX

**Note.** Rumpp (1986: 144) reported the presence of intergrade populations between this subspecies and the nominotypical form in Bailey and Lamb Counties, northwestern Texas, and Quay County, eastern New Mexico.

### *Cicindela longilabris laurentii* Schaupp, 1884

*Cicindela longilabris* var. *laurentii* Schaupp, 1884a: 87. Type locality: «Col[orado]» (original citation), herein restricted to Golden, Jefferson County (see Leng 1902: 121). Syntype(s) apparently destroyed.

*Cicindela longilabris* var. *oslari* Leng, 1902: 121. Type locality: «southwest slope of M[oun]t Wilson of the San Miguel Range (12,000 feet) [Dolores County], Colorado» (original citation for the lectotype). Lectotype (♀), designated by Dahl (1941: 189), in AMNH [# 1226]. Synonymy established by Spanton (1988: 123). Etymology. The subspecific name was proposed in honor of Ernest J. Oslar [1858–1944], a resident of Denver who had an interest in Colorado Coleoptera. Oslar was born in England.

*Cicindela longilabris* var. *vestalia* Leng, 1902: 121. Type locality: «Maiden [Fergus County], Montana» (original citation). Lectotype (♀), designated by Dahl (1941: 188), in AMNH [# 1227]. Synonymy established by Spanton (1988: 123).

*Cicindela oslari densissima* Casey, 1924: 12. Type locality: «probably Colorado» (original citation). One syntype in USNM [# 45895]. Synonymy established, under the name *C. longilabris oslari* Leng, by Horn (1926: 273), confirmed by Spanton (1988: 123).

*Cicindela oslari estesiana* Casey, 1924: 13. Type locality: «Colorado» (original citation). Three syntypes [3 originally cited] in USNM [# 45896]. Synonymy established by Horn (1930: 82), confirmed by Spanton (1988: 123).

**Distribution.** This subspecies, the “Laurent’s Long-lipped Tiger Beetle,” ranges from north-central Montana to western South Dakota, south to central New Mexico, central Arizona, and southern Nevada [see Spanton 1988: Fig. 39].

**Records. USA:** AZ, CO, ID, MT, NM, NV, SD, UT, WY

### *Cicindela longilabris longilabris* Say, 1824

*Cicindela longilabris* Say, 1824: 268. Type locality: «1 km W[est] of Silver Islet on Perry Bay, Sibley Prov[incial] P[ar]k, Ont[ario]» (neotype label). Neotype (♂), designated by Spanton (1988: 123), in MCZ [# 32908]. NOTE. «North-west Territory» was the area originally cited by Say (1824: 268).

*Cicindela albilabris* Kirby, 1837: 12. Type locality: «Lat. 64° and also Canada» (original citation). One syntype in BMNH (Lindroth 1953b: 169). Synonymy established by LeConte (1846b: 178).





**Figure 13.** *Loricera pilicornis* (Fabricius). This is a widely distributed Holarctic species, occurring in Europe as far south as northern Spain and continental Italy, over Asia as far south as Kazakhstan and Sichuan, and in North America as far south as the San Bernardino Mountains in southern California and northern West Virginia. The specific name derives from the Latin *pili* (hairs) and *cornus* (horn) in reference to the presence of conspicuous stiff setae on the basal antennomeres of the adults. These setae, oriented in three main directions, act as a trap for the capture of collembolan prey.



*Cicindela longilabris novaterrae* Leng, 1919a: 140. Type locality: «near Bay S[ain]t George, Newfoundland» (original citation). Holotype (♀) in AMNH [# 1225]. Synonymy established by Spanton (1988: 123).

*Cicindela osleri terracensis* Casey, 1924: 13. Type locality: «Terrace, British Columbia» (original citation). Holotype [by monotypy] (♂) in USNM [# 45897]. Synonymy established by Horn (1926: 273), confirmed by Spanton (1988: 123).

**Distribution.** The range of this subspecies, also known as the “Boreal Long-lipped Tiger Beetle,” extends from Newfoundland to eastern Alaska, south to southern Alberta, central Minnesota, central Wisconsin, and southern New York [see Spanton 1988: Fig. 39]. Intergrade populations between the three subspecies of *C. longilabris* are found in southeastern British Columbia, southwestern Alberta, western Montana, Idaho, southeastern Washington, and northeastern Oregon [see Spanton 1988: Fig. 39]; these records are listed under this subspecies.

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT  
USA: AK, ID, ME, MI, MN, MT, NH, NY, OR, VT, WA, WI

### *Cicindela longilabris perviridis* Schaupp, 1884

*Cicindela longilabris* var. *perviridis* Schaupp, 1884a: 87. Type locality: «Cal[ifornia], Oregon, Utah and Newf[oun]dl[an]d» (original citation), restricted to «Sierra» and «Placer» Counties in California by Leng (1902: 122). Syntype(s) location unknown. NOTE. Leng (1902: 123) reported that the “type of this species” was in Charles Fuchs collection. Much of Fuchs’ collection was destroyed in the San Francisco earthquake and fire of 1906.

*Cicindela ostenta* Casey, 1913: 17. Type locality: «California» (original citation). One syntype in USNM [# 45898]. Synonymy established by Horn (1915: 377).

*Cicindela perviridis placerensis* Casey, 1913: 18. Type locality: «Placer Co[unty], California» (original citation). Two syntypes in USNM [# 45905]. Synonymy established by Horn (1915: 377).

*Cicindela ostenta columbiana* Casey, 1924: 13. Type locality: «British Columbia» (original citation). Holotype [by monotypy] (♂) in USNM [# 45899]. Synonymy established by Wallis (1961: 50).

**Distribution.** The range of this subspecies, the “Green Long-lipped Tiger Beetle,” extends along the Cascade Range and Sierra Nevada from southwestern British Columbia to east-central California (Spanton 1988: 129, Fig. 39). The records from Colorado (Wickham 1902: 228), “Idaho,” and “Montana” (Boyd 1982: 6) probably refer to the *laurentii* form; that from “Nevada” (Bousquet and Laroche 1993: 58) needs confirmation.

**Records.** CAN: BC USA: CA, OR, WA [NV]

### *Cicindela nebraskana* Casey, 1909

*Cicindela montana* LeConte, 1861b: 338 [primary homonym of *Cicindela montana* Charpentier, 1825]. Type locality: «valleys of the Rocky Mountains» (original ci-

tation), restricted to «valleys of the Bitter Root Mountains of eastern Idaho and western Montana» by Spanton (1988: 131). Syntype(s) in MCZ [# 25].

*Cicindela [longilabris] nebraskana* Casey, 1909: 268. Type locality: «Nebraska» (original citation). One syntype in USNM [# 45902]. Synonymy established by Boyd (1982: 6).

*Cicindela montana canadensis* Casey, 1913: 17. Type locality: «Calgary, Alberta» (original citation). Three syntypes in USNM [# 45903]. Synonymy established by Horn (1915: 377).

*Cicindela spissitarsis* Casey, 1913: 18. Type locality: «Aweme, Manitoba» (original citation). One syntype in USNM [# 45904]. Synonymy established by Horn (1926: 273).

*Cicindela calgaryana* Casey, 1914: 18. Type locality: «Lethbridge, Alberta» (original citation). Three syntypes in USNM [# 45901]. Synonymy established by Horn (1915: 444).

*Cicindela montana uteana* Casey, 1924: 12. Type locality: «Provo [Utah County], Utah» (original citation). Holotype [by monotypy] (♂) in USNM [# 45900]. Synonymy established by Horn (1926: 273).

*Cicindela longilabris chamberlaini* Knaus, 1925: 182. Type locality: «Stein Mountains, Harney County, southeast Oregon» (original citation). Holotype (♂) location unknown (possibly in KSUC). Synonymy established by Spanton (1988: 131). Etymology. The subspecific name was proposed for Willard Joseph Chamberlin [1890-1971], professor and forest entomologist at the Oregon State University. Chamberlin (not Chamberlain as thought by Knaus) worked mainly on Buprestidae and Scolytinae. He sold his collection in 1950 to the California Academy of Sciences.

**Distribution.** This species, also known as the “Prairie Long-lipped Tiger Beetle,” ranges from the Fraser River in British Columbia to northwestern Ontario (Lawton 2008: 72), south to west-central Nebraska (Spomer et al. 2008a: 54), northern Colorado, southern Utah, and east-central California [see Spanton 1988: Fig. 40]. The records from “New Mexico” (Freitag 1999: 35) and Minnesota (Horn 1928: 11) need confirmation.

**Records.** CAN: AB, BC, MB, ON, SK USA: CA, CO, ID, MT, ND, NE, NV, OR, SD, UT, WA, WY [MN, NM]

### *Cicindela patruela consentanea* Dejean, 1825

*Cicindela consentanea* Dejean, 1825: 63. Type locality: «Amérique septentrionale» (original citation), herein restricted to Lakehurst, Ocean County, New Jersey (see Leng 1902: 130). Syntype(s) in MHNP.

**Distribution.** This subspecies, also known as the “Consenta’s Tiger Beetle,” was once found in Long Island and New Jersey but is now restricted to the Pine Barrens region of New Jersey (Mawdsley 2007: 17). Single specimens, possibly strays, are known from

Delaware, “Maryland,” and “Pennsylvania” (Mawdsley 2007: 17). The taxon is also recorded from “North Carolina” and “Virginia” by Erwin and Pearson (2008: 166).

**Records. USA:** NJ, NY [DE, MD, NC, PA, VA]

### *Cicindela patruela patruela* Dejean, 1825

*Cicindela patruela* Dejean, 1825: 62. Type locality: «Amérique septentrionale» (original citation), herein restricted to Chickies Rock, Lancaster County, Pennsylvania (see Leng 1902: 129). Syntype(s) in MHNP.

*Cicindela montana* Hentz [in Scudder], 1869: 53 [primary homonym of *Cicindela montana* LeConte, 1861]. Type locality: «near the Pilot Mountain [North Carolina]» (original citation). Syntype(s) lost. Synonymy established by Horn (1915: 381).

*Cicindela patruela huberi* Johnson, 1990a: 27. Type locality: «2.4 miles southwest of Mather, Monroe Co[unty], Wisconsin» (original citation). Holotype (♂) in FSCA. Synonymy established by Kaulbars and Freitag (1993a: 308).

**Distribution.** This subspecies, also known as the “Northern Barrens Tiger Beetle,” ranges from New Hampshire (Leonard and Bell 1999: 47) to Minnesota, south to northern Alabama (Löding 1945: 9) northeastern Georgia, and northwestern South Carolina [see Kaulbars and Freitag 1993a: Fig. 40]. The species has been collected also at two sites in the Outaouais region in western Quebec and eastern Ontario (Leonard and Bell 1999: 47). The record from New Jersey (Smith 1910: 197) is questionable (see Boyd 1978: 215). Beaton (2008: 39) indicated that he was unable to find any extant populations of this species in Georgia despite intensive searching at historical sites and other areas of suitable habitat.

**Records. CAN:** ON, QC **USA:** AL, CT, DC, DE, GA, IN, KY, MA, MD, MI, MN, NC, NH, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV [NJ]

### *Cicindela pulchra dorothea* Rumpp, 1977

*Cicindela pulchra dorothea* Rumpp, 1977: 172. Type locality: «5.2 to 6.2 kilometers southeast of Willcox [Cochise County, Arizona]» (original citation). Holotype (♂) in CAS [# 12529].

**Distribution.** This subspecies, the “Dorothy’s Tiger Beetle,” is known from southeastern Arizona (Bertholf 1983: 21), New Mexico (Acciavatti et al. 1980: 30), and a small area in western Texas [see Pearson et al. 2006: Map 39].

**Records. USA:** AZ, NM, TX

### *Cicindela pulchra pulchra* Say, 1823

*Cicindela pulchra* Say, 1823b: 142. Type locality: «in the country bordering the Platte and Arkansa rivers near the mountains, Missouri Territory» (original citation). Syntype(s) lost.

**Distribution.** This subspecies, also known as the “Beautiful Tiger Beetle,” ranges from western South Dakota (Larsen and Willis 2008: 480; Brust 2010: 1) and northeastern Wyoming (Brust 2011: 78) south to northern Texas, New Mexico, and Arizona (Bertholf 1983: 20) [see Pearson et al. 2006: Map 39]; also recorded from Nuevo León (Erwin and Pearson 2008: 172).

**Records. USA:** AZ, CO, KS, NE, NM, OK, SD, TX, WY

### *Cicindela sexguttata* Fabricius, 1775

*Cicindela sex guttata* Fabricius, 1775: 226. Type locality: «Virginia» (original citation).

Four syntypes in ZMUC (Zimsen 1964: 65).

*Cicindela violacea* Fabricius, 1801: 232. Type locality: «Carolina» (original citation).

Syntype(s) probably lost. Synonymy established by Dejean (1833: 2).

*Cicindela sexguttata* var. *harrisii* Leng, 1902: 128. Type locality: «Lake Memphremagog [Quebec], Canada» (original citation for the lectotype). Lectotype (♂), designated by Dahl (1941: 190), in AMNH [# 1230]. Synonymy established by Horn (1905: 21). Etymology. The subspecific name was proposed in honor of Edward Doubleday Harris [1839-1919], one of the sons of Thaddeus Harris (see *Agonum harrisii* LeConte). Edward Harris, an architect by profession, was interested in genealogy, history, and entomology. He specialized on tiger beetles and his collection is now at the Museum of Comparative Zoology.

*Cicindela sexguttata* var. *4-guttata* C.A. Davis, 1903: 271. Type locality: «from northern Rhode Island into Massachusetts» (original citation). Syntype(s) location unknown. Synonymy established by Horn (1905: 21).

*Cicindela levettei* Casey, 1909: 270. Type locality: «Iowa» (original citation). Five syntypes in USNM [# 45918]. Synonymy established by Harris (1911: 29).

*Cicindela levettei tridens* Casey, 1909: 271. Type locality: «Vowell's Mill, northwestern Louisiana, to Onaga, Kansas» (original citation). Two syntypes in USNM [# 45917]. Synonymy established by Harris (1911: 29).

*Cicindela illinoensis* Mares, 1921: 310. Type locality: «Riverside [Cook County], Illinois» (original citation). Holotype (♂) in INHS (Webb 1980: 78). Synonymy established by Horn (1926: 279).

*Cicindela kansanus* Knaus, 1928: 24. Type locality: «near Onaga, Pottawatomie County, Kansas; Bourbon County, Kansas; West Point, Cuming County, South Bend, Cass County, Lawrence, Nuckolls County, Omaha, Douglas County [all Nebraska]; near Iowa City [Iowa]» (original citation). Syntype(s) [10 originally cited] location unknown (possibly in KSUC). Synonymy established, under the name *C. sexguttata violacea* Fabricius, by Horn (1930: 83).

**Distribution.** This species, also known as the “Six-spotted Tiger Beetle,” ranges from Nova Scotia to the Black Hills in southwestern South Dakota, south to east-central Texas and northern Florida [see Kaulbars and Freitag 1993a: Fig. 39; Pearson et al. 2006: Map 36]. The record from “North Dakota” (Freitag 1999: 50) needs confirmation.



**Records.** **CAN:** NB, NS, ON, QC **USA:** AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [ND]

[**hirticollis group**]

***Cicindela albissima* Rumpp, 1962**

*Cicindela limbata albissima* Rumpp, 1962: 181. Type locality: «Coral Pink Sand Dunes (6,300 feet), 14 miles south of M[oun]t Carmel Junction, Kane County, Utah» (original citation). Holotype (♂) in CAS [# 17198].

**Distribution.** This species, also known as the “Coral Pink Sand Dune Tiger Beetle,” is confined to a small area of less than 400 hectares in the Coral Pink Sand Dunes formation in southwestern Utah [see Johnson 1991: Fig. 22] and is considered an endangered species.

**Records.** **USA:** UT

**Note.** This taxon was listed as a subspecies of *C. limbata* Say by Johnson (1991) and Freitag (1999: 32). Molecular studies have shown that it represents a distinct species (Morgan et al. 2000).

***Cicindela arenicola* Rumpp, 1967**

*Cicindela arenicola* Rumpp, 1967: 130. Type locality: «S[ain]t Anthony Sand Dunes, 11 km northeast of S[ain]t Anthony, Fremont County, Idaho» (original citation). Holotype (♂) in CAS [# 9374].

**Distribution.** This species, also known as the “St. Anthony Dune Tiger Beetle,” is found in the Snake River Valley of southeastern Idaho [see Shook and Clark 1988: Fig. 1; Pearson et al. 1997: Fig. 22] and in southwestern Montana (Winton et al. 2010: 43).

**Records.** **USA:** ID, MT

***Cicindela bellissima bellissima* Leng, 1902**

*Cicindela bellissima* Leng, 1902: 142. Type locality: «Yaquina Bay [Lincoln County], on the seacoast of Oregon» (original citation). Lectotype (♂), designated by Dahl (1941: 188), in AMNH [# 1218].

**Distribution.** This subspecies, also known as the “Pacific Coast Tiger Beetle,” ranges along the seacoast from Grays Harbor County in northern Washington to Del Norte County in northern California [see Leffler 1979a: Fig. 30; Pearson et al. 2006: Map 26].

**Records.** **USA:** CA, OR, WA

***Cicindela bellissima frechini* Leffler, 1979**

*Cicindela bellissima frechini* Leffler, 1979b: 466. Type locality: «Mukkah Bay, Clallam Co[unty], Washington» (original citation). Holotype (♂) in AMNH [# 1487].

**Distribution.** This subspecies, also known as the “Frechin’s Tiger Beetle,” is known only from a small area around Neah Bay in the extreme northwestern Olympic Peninsula, Washington (Pearson et al. 2006: 82).

**Records. USA:** WA

***Cicindela columbica* Hatch, 1938**

*Cicindela bellissima columbica* Hatch, 1938: 234. Type locality: «Perry [Franklin County], Wash[ington]» (original citation). Holotype (♀) in USNM. NOTE. According to Leffler and Pearson (1976: 41), the type locality is at the junction of the Palouse and Snake Rivers.

**Distribution.** This species, also known as the “Columbia River Tiger Beetle,” was once found along the Columbia, Salmon, and Snake Rivers in north-central Oregon, south-central Washington, and western Idaho [see Leffler 1979a: Fig. 29; Pearson et al. 1997: Fig. 27]. According to Pearson et al. (2006: 81), it is now known only from a few sites along the Salmon River in Idaho.

**Records. USA:** ID, OR, WA

**Note.** This species is listed on the IUCN Red List of Threatened Species (IUCN 2007).

***Cicindela depressula depressula* Casey, 1897**

*Cicindela depressula* Casey, 1897: 297. Type locality: «Placer Co[unty], California» (original citation). Four syntypes in USNM [# 45987].

**Distribution.** This montane subspecies, also known as the “Dispirited Tiger Beetle,” ranges from southern Alaska south to the Sierra Nevada in east-central California and western Nevada; also found in the Rocky Mountains in southeastern British Columbia, northern Idaho, and western Montana [see Freitag 1965: Fig. 33; Pearson et al. 2006: Map 19].

**Records. CAN:** BC **USA:** AK, CA, ID, MT, NV, OR, WA

**Note.** Intergrade populations are known between the two subspecies of *C. depressula* in western Washington at intermediate altitudes (Pearson et al. 2006: 70).

***Cicindela depressula eureka* Fall, 1901**

*Cicindela eureka* Fall, 1901b: 307. Type locality: «Humboldt County, California» (original citation). Syntype(s) [8 originally cited] in MCZ [# 23837].

**Distribution.** This subspecies, also known as the “Eureka Tiger Beetle,” inhabits a narrow area along or near the Pacific Coast from northern Washington to northern California [see Freitag 1965: Fig. 33].

**Records. USA:** CA, OR, WA

***Cicindela duodecimguttata* Dejean, 1825**

*Cicindela duodecimguttata* Dejean, 1825: 73. Type locality: «Amérique septentrionale» (original citation), herein restricted to Framingham, Middlesex County, Massachusetts (see Harris 1911: 11). Syntype(s) in MHNP.

*Cicindela proteus* Kirby, 1837: 9. Type locality: «Canada» (original citation). Two syntypes in BMNH (Lindroth 1953b: 169). Synonymy established by LeConte (1846b: 181).

*Cicindela bucolica* Casey, 1913: 28. Type locality: «Aweme, Manitoba» (original citation). Four syntypes in USNM [# 45978]. Synonymy established by Horn (1915: 374).

*Cicindela hudsonica* Casey, 1916: 29. Type locality: «Hudson Bay Territory» (original citation). One syntype in USNM [# 45979]. Synonymy established by Horn (1926: 268).

*Cicindela repanda edmontonensis* Carr, 1920: 218. Type locality: «Edmonton, Al[ber]ta» (original citation). Holotype (♀) in CNC [# 407]. Synonymy established, under the name *C. bucolica* Casey, by Casey (1924: 16), confirmed by Freitag (1965: 103).

**Distribution.** This species, also known as the “Twelve-spotted Tiger Beetle,” is found from Northwest Territories and the eastern front of the Rocky Mountains in Alberta to Newfoundland (Lindroth 1955a: 16), south to Alabama, central Texas, and Colorado (Kippenhan 1990: 309) [see Freitag 1965: Fig.17]. The record from Vancouver, British Columbia (Wallis 1961: 22) is possibly based on a mislabeled specimen.

**Records.** **FRA:** PM **CAN:** AB, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK **USA:** AL, AR, CO, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY

***Cicindela hirticollis abrupta* Casey, 1913**

*Cicindela grandidens abrupta* Casey, 1913: 31. Type locality: «Sacramento [Sacramento County], California» (original citation). Two syntypes in USNM [# 45992].

**Distribution.** This subspecies, also known as the “Sacramento Valley Hairy-necked Tiger Beetle,” is endemic to a small area within the Sacramento Valley of California (Graves et al. 1988: 660). An extensive survey in 2001–2004 within the known distributional range of the subspecies yield no specimens and Knisley and Fenster (2006) concluded that the subspecies has been extirpated in the late 1980s to early 1990s possibly from the construction of the Oroville Dam on the Feather River in the 1960s (see also Fenster and Knisley 2006).

**Records.** **USA:** CA

***Cicindela hirticollis athabascensis* Graves, 1988**

*Cicindela hirticollis athabascensis* Graves [in Graves et al.], 1988: 666. Type locality: «Lake Athabasca, Thompson Bay Dunes, Saskatchewan» (original citation). Holotype (♂) in CNC [# 20586].

**Distribution.** This subspecies, the “Athabaskan Tiger Beetle,” is known only from the Lake Athabasca Sand Dunes of northern Alberta and Saskatchewan (Graves et al. 1988: 667). This is the northernmost and most isolated known population of *C. hirticollis*. The record from “Northwest Territories” (Erwin and Pearson 2008: 142) needs confirmation.

**Records.** CAN: AB, SK [NT]

***Cicindela hirticollis coloradula* Graves, 1988**

*Cicindela hirticollis coloradula* Graves [in Graves et al.], 1988: 668. Type locality: «I-40 & Little Co[lorado] R[iver], Navajo Co[unty], A[ri]z[ona]» (original citation). Holotype (♂) in USNM [# 105096].

**Distribution.** This subspecies, also known as the “Colorado River Tiger Beetle,” is restricted to the valley of the Little Colorado River in Navajo County, northeastern Arizona (Graves et al. 1988: 669).

**Records.** USA: AZ

***Cicindela hirticollis corpuscula* Rumpp, 1962**

*Cicindela hirticollis corpuscula* Rumpp, 1962: 174. Type locality: «Potholes, Imperial County, California» (original citation). Holotype (♂) in CAS [# 17197].

**Distribution.** This subspecies, the “Southwest Hairy-necked Tiger Beetle,” ranges from western Colorado and western New Mexico westwards to southeastern California and the northern parts of the Baja California Peninsula [see Graves et al. 1988: Fig. 6]. The record from “Wyoming” (Erwin and Pearson 2008: 143) needs confirmation. According to Pearson et al. (2006: 73), the subspecies is now probably extirpated from many former sites along the Gila River in central and western Arizona.

**Records.** USA: AZ, CA, CO, NM, NV, UT [WY] – Mexico

***Cicindela hirticollis couleensis* Graves, 1988**

*Cicindela hirticollis couleensis* Graves [in Graves et al.], 1988: 669. Type locality: «Vantage [Kittitas County], Wash[ington]» (original citation). Holotype (♂) in USNM [# 105097].

**Distribution.** This subspecies, the “Coulee Tiger Beetle,” inhabits mainly the Columbia-Snake river system (Graves et al. 1988: 671) ranging from southern British Columbia to southern Oregon and Idaho. Its western limit is in Cowlitz County, within 100 km of the coast (Pearson et al. 2006: 73). The record from “Montana” (Erwin and Pearson 2008: 143) needs confirmation.

**Records.** CAN: BC USA: ID, OR, WA [MT]

***Cicindela hirticollis gravida* LeConte, 1851**

*Cicindela gravida* LeConte, 1851: 170. Type locality: «San Diego [San Diego County, California]» (original citation). Syntype(s) in MCZ [# 12].



**Distribution.** This subspecies, The “Pacific Hairy-necked Tiger Beetle,” is restricted to the Pacific Coast of northern Baja California and southern California (Graves et al. 1988: 659), as far north as Santa Cruz County (Pearson et al. 2006: 73). According to Erwin and Pearson (2008: 143), this taxon is threatened and has been eliminated over most of its former range.

**Records. USA:** CA (CHI) – Mexico

***Cicindela hirticollis hirticollis* Say, 1817**

*Cicindela hirticollis* Say, 1817b: 20. Type locality: «Pennsylvania» (original citation). Syntype(s) lost.

*Cicindela albohirta* Dejean, 1826: 425. Type locality: «Amérique septentrionale» (original citation). Syntype(s) [2 ♂ originally cited] in MHNP. Synonymy established by LeConte (1846b: 180).

*Cicindela unita* Kollar, 1836: 330. Type locality: «America boreali» (original citation). Syntype(s) location unknown. Synonymy established by Melsheimer (1853: 2).

**Distribution.** This subspecies, also known as the “Hairy-necked Tiger Beetle,” ranges east of the Mississippi River from New Jersey to southern Florida (Peck and Thomas 1998: 16), west to the Mississippi River Valley (Graves et al. 1988: 658, Fig. 6) then north to the southern region of the Great Lakes. According to Allen and Acciavatti (2002: 12), this subspecies is considered rare and even endangered throughout the Ohio River drainage and other regions. The records from Oklahoma (Drew and Van Cleave 1962: 110), “Kansas,” and “Nebraska” (Erwin and Pearson 2008: 144) are based on intergrades and are recorded here under the *shelfordi* form; that from “Utah” (Erwin and Pearson 2008: 144) is probably in error or based on a stray.

**Records. USA:** AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KY, LA, MD, MI, MN, MO, MS, NC, NJ, NY, OH, PA, SC, TN, TX, VA, WI, WV

**Note.** This subspecies intergrades with the *shelfordi* form along the Mississippi River and with the *rhodensis* form in the southern Great Lakes region and at Long Island, New York (Graves et al. 1988: 658, 661, 663).

***Cicindela hirticollis rhodensis* Calder, 1916**

*Cicindela hirticollis* var. *nigrita* C.A. Davis, 1903: 273 [primary homonym of *Cicindela nigrita* Dejean, 1825]. Type locality: «Warwick [Kent County], R[hode] I[sland]» (original citation). Syntype(s) location unknown.

*Cicindela hirticollis* var. *rhodensis* Calder, 1916 [12 April]: 93. Replacement name for *Cicindela hirticollis* var. *nigrita* Davis, 1903.

*Cicindela shermani* Casey, 1916 [29 November]: 30. Type locality: «Marquette [Marquette County], Michigan» (original citation). One syntype in USNM [# 45990]. Synonymy established by Horn (1930: 81).

**Distribution.** This subspecies, the “Rhode’s Tiger Beetle,” ranges from Newfoundland to the Lake Superior region in Ontario, south to southeastern Wisconsin (Messer 2010:

33), Michigan, Connecticut, and Rhode Island [see Graves et al. 1988: Fig. 6]. Numerous state and province records (e.g., MB, IA, IL, IN, MN, ND, NE, SD) listed by Erwin and Pearson (2008: 145) are reported here under other subspecies of *C. hirticollis*.

**Records.** **FRA:** PM **CAN:** LB, NB, NF, NS (CBI), ON, PE, QC **USA:** CT, MA, ME, MI, NH, NY, RI, VT

### *Cicindela hirticollis shelfordi* Graves, 1988

*Cicindela hirticollis shelfordi* Graves [in Graves et al.], 1988: 664. Type locality: «banks of Cimarron R[iver] near Guthrie [Logan County], Okla[homa]» (original citation). Holotype (♂) in USNM [# 105095]. Etymology. The subspecific name was proposed in honor of Professor Victor Ernest Shelford [1877-1968], animal ecologist and pioneer of North American tiger beetle biology.

**Distribution.** This subspecies, the “Shelford’s Tiger Beetle,” inhabits the Great Plains from southern Manitoba to southern Alberta, south to New Mexico and eastern Texas (Graves et al. 1988: 665, Fig. 6). Numerous state records (e.g., AR, AZ, LA, MN, UT) listed by Erwin and Pearson (2008: 145) are reported here under other subspecies of *C. hirticollis*.

**Records.** **CAN:** AB, MB, SK **USA:** CO, IA, KS, MN, MO, MT, ND, NE, NM, OK, SD, TX, WY

**Note.** This subspecies intergrades with the nominate form over a large area west of the Mississippi river, from southern Manitoba to Louisiana (Graves et al. 1988: Fig. 6), and with the *corpuscula* form along the Green River in eastern Utah (Graves et al. 1988: 666).

### *Cicindela hirticollis siuslawensis* Graves, 1988

*Cicindela hirticollis siuslawensis* Graves [in Graves et al.], 1988: 671. Type locality: «3 mi[les] n[orth] Florence, Lane Co[unty], Ore[gon]» (original citation). Holotype (♂) in AMNH [# 1542].

**Distribution.** This subspecies, the “Northwest Hairy-necked Tiger Beetle,” is found along the Pacific Coast from northern Washington to northern California (Graves et al. 1988: 672). According to Pearson et al. (2006: 74), it is now extirpated from most historic sites.

**Records.** **USA:** CA, OR, WA

### *Cicindela limbata hyperborea* LeConte, 1863

*Cicindela hyperborea* LeConte, 1863c: 1. Type locality: «Methy Portage [= Portage La Loche, northern Saskatchewan], Hudson’s Bay Territory» (original citation). Syntype(s) in MCZ [# 16]. **NOTE.** Methy(e) Portage was the longest portage in the regular fur trade. It lies between Lac La Loche (the top of the Churchill River system) on the southeast and the Clearwater River, which flows into the Athabasca River, on the northwest.

**Distribution.** This subspecies, the “Hyperboreal Tiger Beetle,” ranges from southern Northwest Territories to east-central Alberta, central Saskatchewan, west-central Manitoba [see Johnson 1991: Fig. 22] and northeastern Manitoba (Woodcock et al. 2011: 118).

**Records. CAN:** AB, MB, NT, SK

**Note.** This subspecies intergrades with the *nympha* form along a narrow zone in central Alberta (Pearson et al. 2006: 76).

### ***Cicindela limbata labradorensis* Johnson, 1991**

*Cicindela limbata labradorensis* Johnson, 1991: 261. Type locality: «Goose Bay, Labrador, Newfoundland» (original citation). Holotype (♂) in CNC [# 20225].

**Distribution.** This subspecies, the “Labrador Tiger Beetle,” is known only from southern Labrador (Johnson 1991: Fig. 22; Brzoska and Stamatov 2008: 50–51).

**Records. CAN:** LB

### ***Cicindela limbata limbata* Say, 1823**

*Cicindela limbata* Say, 1823b: 141. Type locality: «on the Nebraska (Platte) and Arkansas Rivers» (original citation). Syntype(s) lost.

*Cicindela limbigera* Gemminger and Harold, 1868a: 20. Unnecessary replacement name for *Cicindela limbata* Say, 1823.

**Distribution.** This subspecies, also known as the “Sandy Tiger Beetle,” is restricted to a small area enclosing southeastern Wyoming, southern South Dakota, Nebraska, and northeastern Colorado [see Johnson 1991: Fig. 22]. The record from “Kansas” (Boyd 1982: 7) needs confirmation.

**Records. USA:** CO, NE, SD, WY [KS]

### ***Cicindela limbata nogahabarensis* Knisley, 2008**

*Cicindela limbata nogahabarensis* Knisley [in Knisley et al.], 2008: 280. Type locality: «Nogahabara Sand Dunes, Koyukuk National Wildlife Refuge, Alaska» (original citation). Holotype (♂) in CAS.

**Distribution.** This subspecies, the “Nogahabar Tiger Beetle,” is known only from the type locality.

**Records. USA:** AK

### ***Cicindela limbata nympha* Casey, 1913**

*Cicindela limbigera nympha* Casey, 1913: 20. Type locality: «Aweme, Manitoba» (original citation). Five syntypes in USNM [# 45928].

**Distribution.** This subspecies, also known as the “Nymphal Tiger Beetle,” ranges from central Alberta to northwestern Minnesota, south to northern South Dakota (Spomer

et al. 2008a: 19) and northern Montana [see Johnson 1991: Fig. 22; Pearson et al. 2006: Map 21].

**Records.** CAN: AB, MB, SK USA: MN, MT, ND, SD

### *Cicindela oregona guttifera* LeConte, 1856

*Cicindela guttifera* LeConte, 1856a: 42. Type locality: «Santa Fe [Santa Fe County], New Mexico» (original citation). Syntype(s) in MCZ [# 13].

*Cicindela sterope* Casey, 1913: 28. Type locality: «Kansas» (original citation). One syntype in USNM [# 45991]. Synonymy established by Horn (1915: 378).

*Cicindela audax* Casey, 1913: 29. Type locality: «Colorado» (original citation). One syntype in USNM [# 45980]. Synonymy established by Horn (1915: 378).

*Cicindela oregona oregonella* Casey, 1924: 16. Type locality: «Deer Creek, Provo Cañon, Utah» (original citation). Holotype [by monotypy] (♂) in USNM [# 45983]. Synonymy established by Freitag (1965: 111).

**Distribution.** This subspecies, the “Dappled Tiger Beetle,” ranges from eastern Alaska to western Northwest Territories, north to above the Arctic Circle (Brzoska 2008: 65), south to the Queen Charlotte Islands and, along the Rocky Mountains, to central New Mexico [see Freitag 1965: Fig. 18]; also recorded from “Arizona” (Erwin and Pearson 2008: 163) and “Idaho” (Boyd 1982: 7).

**Records.** CAN: AB, BC (QCI), NT, YT USA: AK, CO, KS, MT, NM, UT, WY [AZ, ID]

**Note.** This subspecies intergrades with the nominate form in southern British Columbia south, along the crest of the Rocky Mountains, to central Utah, with the *navajoen-sis* form in western Colorado and New Mexico, and with the *maricopa* form in western Utah (Pearson et al. 2006: 68).

### *Cicindela oregona maricopa* Leng, 1902

*Cicindela oregona* var. *maricopa* Leng, 1902: 150. Type locality: «Phoenix [Maricopa County], Arizona» (original citation). Lectotype (♂), designated by Dahl (1941: 189), in AMNH [# 1229].

*Cicindela provensis* Casey, 1924: 15. Type locality: «Parowan and Provo Cañons, Utah» (original citation). Five syntypes [5 originally cited] in USNM [# 45981]. Synonymy established by Horn (1926: 274).

*Cicindela provensis mormonella* Casey, 1924: 15. Type locality: «Eureka, Provo Cañon, Parowan and Vineyard, Utah» (original citation). Six syntypes [6 originally cited] in USNM [# 45982]. Synonymy established by Horn (1926: 274).

*Cicindela provensis nephiana* Casey, 1924: 16. Type locality: «Parowan [Iron County], Utah» (original citation). One syntype in USNM [# 45989]. Synonymy established by Horn (1926: 274).

**Distribution.** This subspecies, the “Maricopa Tiger Beetle,” ranges from southern California to south-central New Mexico, north to southern Nevada [see Freitag 1965:



Fig. 18]. According to Pearson et al. (2006: 68), distinct individuals of this form are confined to southeastern and central Arizona. The record from “Texas” (Bousquet and Laroche 1993: 58) is in error; that from “Utah” is apparently based on intergrades.

**Records. USA:** AZ, CA, NM, NV

**Note.** 1. According to Freitag (1965: 111), the type series of *C. provensis* Casey, *C. mormonella* Casey, and *C. nephiana* Casey are hybrid specimens of *C. o. guttifera* x *C. o. maricopa*. Boyd (1982: 7) and Freitag (1999: 37) listed these names as synonyms of *C. o. maricopa* Leng and I am following them. 2. Intergrade populations between this subspecies and the *navajoensis* form are known in southwestern New Mexico (Pearson et al. 2006: 69).

### *Cicindela oregona navajoensis* Van Dyke, 1947

*Cicindela oregona navajoensis* Van Dyke, 1947: 155. Type locality: «15 miles W[est] N[orth] W[est] Kayenta [Navajo County], Arizona» (original citation). Holotype (♂) in CAS [# 5864].

**Distribution.** This subspecies, the “Navajo Tiger Beetle,” inhabits a small area in the southern parts of the Rocky Mountains in Utah, southwestern Colorado, northern Arizona, and New Mexico [see Freitag 1965: Fig. 18; Pearson et al. 2006: Map 18].

**Records. USA:** AZ, CO, NM, UT

### *Cicindela oregona oregona* LeConte, 1856

*Cicindela oregona* LeConte, 1856a: 41. Type locality: «Oregon Territory and northern California, as far as San Francisco» (original citation). Syntype(s) in MCZ [# 28].

*Cicindela depressula scapularis* Casey, 1909: 272. Type locality: «California» (original citation). One syntype in USNM [# 45988]. Synonymy established by Hatch (1953: 41).

*Cicindela guttifera sonoma* Casey, 1913: 29. Type locality: «maritime regions north of San Francisco, California» (original citation). Two syntypes in USNM [# 45984]. Synonymy established by Horn (1915: 378).

*Cicindela quadripennis* Casey, 1913: 30. Type locality: «Hawthorne [Mineral County], Nevada» (original citation). One syntype in USNM [# 45986]. Synonymy established by Horn (1915: 378).

*Cicindela ovalipennis* Casey, 1913: 30. Type locality: «Hawthorne [Mineral County], Nevada» (original citation). One syntype in USNM [# 45985]. Synonymy established by Horn (1915: 378).

**Distribution.** This subspecies, also known as the “Western Tiger Beetle,” ranges from Vancouver Island to western Alberta, south to central Utah and southern California along the Mexican border [see Freitag 1965: Fig. 18]; also recorded from Baja California (Murray 1979: 50) and northern Sonora (Cazier 1954: 242). The records from New Mexico (Fall and Cockerell 1907: 155), “Arizona,” and “New Mexico” (Boyd 1982: 6) probably refer to the *guttifera* form.

**Records.** CAN: AB, BC (VCI) USA: CA (CHI), ID, MT, NV, OR, UT, WA, WY – Mexico

***Cicindela repanda novascotiae* Vaurie, 1951**

*Cicindela repanda novascotiae* Vaurie, 1951: 1. Type locality: «Truro, Nova Scotia» (original citation). Holotype (♂) in AMNH [# 1217].

**Distribution.** This subspecies, the “Nova Scotia Tiger Beetle,” is known from Nova Scotia, including Cape Breton Island, Prince Edward Island, and the Magdalen Islands in Quebec (Leonard and Bell 1999: 101). The record from “New Brunswick” (Boyd 1982: 6) needs confirmation.

**Records.** CAN: NS (CBI), PE, QC [NB]

***Cicindela repanda repanda* Dejean, 1825**

*Cicindela repanda* Dejean, 1825: 74. Type locality: «Amérique septentrionale» (original citation), herein restricted to Framingham, Middlesex County, Massachusetts (see Harris 1911: 9). Syntype(s) in MHNP.

*Cicindela repanda unijuncta* Casey, 1897: 299. Type locality: «El Paso [El Paso County], Texas» (original citation). Two syntypes in USNM [# 45977]. Synonymy established (as aberration) by Horn (1902a: 234).

*Cicindela repanda hoosieri* Mares, 1921: 310. Type locality: «Cedar Lake, Lake County, Indiana» (original citation). Holotype (♀) in INHS (Webb 1980: 78). Synonymy established by Horn (1926: 269).

*Cicindela repanda-unijuncta* form *duncani* Knaus, 1924: 126. Type locality: «near Phoenix, Ariz[ona]» (original citation). Holotype [by monotypy] probably in KSUC. Synonymy established, under the name *C. duodecimguttata repanda hoosieri* Mares, by Horn (1930: 81). NOTE. Even if this taxon was originally proposed at infrasubspecific rank, it is deemed to be subspecific from its original publication because it was adopted as the valid name of a subspecies (e.g., Leng and Mutchler 1927: 7) before 1985 (see ICZN 1999: Article 45.6.4.1).

*Cicindela repanda* var. *maehleri* Robinson, 1948: 27. Type locality: «Brazos County, Texas» (original citation). Holotype (♂) in AMNH [# 1207]. Synonymy established by Boyd (1982: 6). Etymology. The subspecific name was proposed for Kenneth Leforest Maehler [1912-1991] who worked as plant quarantine entomologist with the United States Department of Agriculture.

**Distribution.** This subspecies, also known as the “Bronze Tiger Beetle,” ranges from Newfoundland to southwestern British Columbia, south to southern Oregon, north-eastern Arizona, central Texas, and northern Florida (Choate 2003: Map 18) [see Pearson et al. 2006: Map 16]. The record from “Northwest Territories” (Boyd 1982: 6) needs confirmation.

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS, ON, PE, QC, SK USA: AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN,

MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY [NT]

**Note.** Intergrade populations between this subspecies and the *tanneri* form are known from northwestern Colorado (Kippenhan 1994: 29).

***Cicindela repanda tanneri* Knaus, 1929**

*Cicindela tanneri* Knaus, 1929: 47. Type locality: «Green River [Emery County], Utah» (original citation). Holotype (♂) location unknown (possibly in KSUC). Etymology. The specific name honors Vasco Myron Tanner [1892-1989], naturalist and entomologist at Brigham Young University in Provo, Utah.

**Distribution.** This subspecies, the “Tanner’s Tiger Beetle,” is known only from the Green River Valley in eastern Utah (Pearson et al. 2006: 65).

**Records. USA:** UT

***Cicindela theatina* Rotger, 1944**

*Cicindela theatina* Rotger, 1944: 76. Type locality: «edge of the Great Sand Dunes in the San Luis Valley (about 8,200 feet) [Alamosa County], Colorado» (original citation). Holotype (♂) in AMNH (Robert Acciavatti pers. comm. 2008).

**Distribution.** This species, also known as the “Colorado Dune Tiger Beetle,” is restricted to the Great Sand Dunes National Monument and adjacent areas in Alamosa, Costilla, and Saguache Counties in south-central Colorado (Kippenhan 1990: 310; Pearson et al. 2006: 79). The record from “New Mexico” (Boyd 1982: 7) is in error.

**Records. USA:** CO

***Cicindela waynei* Leffler, 2001**

*Cicindela waynei* Leffler, 2001: 20. Type locality: «Bruneau Dunes State Park (910m), Owyhee Co[unty], Idaho» (original citation). Holotype (♂) in CAS [# 12266].

**Distribution.** This species, also known as the “Bruneau Dune Tiger Beetle,” has yet been found only at the type locality in southwestern Idaho [see Leffler 2001: Fig. 1].

**Records. USA:** ID

**Subfamily LORICERINAE Bonelli, 1810**

Loricerides Bonelli, 1810: Tabula Synoptica. Type genus: *Loricera* Latreille, 1802.

**Diversity.** This subfamily contains a single tribe.

**Tribe LORICERINI Bonelli, 1810**

Loricerides Bonelli, 1810: Tabula Synoptica. Type genus: *Loricera* Latreille, 1802.

**Diversity.** This tribe includes a single genus.

**Genus *LORICERA* Latreille, 1802**

*Loricera* Latreille, 1802: 88. Type species: *Carabus pilicornis* Fabricius, 1775 by monotypy. Etymology. Probably from the Greek *loron* (thong) and *ceras* (horn, by extension antenna) [feminine].

*Lorocera* Agassiz, 1846: 216. Unjustified emendation of *Loricera* Latreille, 1802.

**Diversity.** Thirteen species in the Nearctic (three species, one of them Holarctic), Neotropical (two species in mountains of Middle America), and Palaearctic (nine species) Regions arrayed in three subgenera: *Elliptosoma* Wollaston (one species from Madeira), *Loricera s.str.* (11 species), and *Plesioloricera* Sciaky and Facchini (one species from Szechwan, China).

**Identification.** Ball and Erwin (1969: 883) published a key to all species then known, including the three found in North America. Lindroth (1961a: 121-125) covered the Nearctic species.

**Subgenus *Loricera* Latreille, 1802**

*Loricera* Latreille, 1802: 88. Type species: *Carabus pilicornis* Fabricius, 1775 by monotypy.

**Diversity.** Eleven species in North America (three species), Middle America (two species), Asia (seven species), and Europe (one species which is also found in Asia and North America).

***Loricera decempunctata* Eschscholtz, 1833**

*Loricera decempunctata* Eschscholtz, 1833: 25. Type locality: «Norfolksund [= Sitka Sound], Insel Sitcha [= Baranof Island, Alaska]» (original citation). Syntype(s) location unknown (possibly in ZMMU and collection LeConte in MCZ).

**Distribution.** This species ranges from Kodiak Island and the Kenai Peninsula in southern Alaska south to northern California (Lindroth 1961a: 122; Humboldt County, MCZ).

**Records.** CAN: BC (QCI, VCI) USA: AK, CA, OR, WA

***Loricera foveata* LeConte, 1851**

*Loricera foveata* LeConte, 1851: 180. Type locality: «San Francisco [San Francisco County, California]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 77].

**Distribution.** This species is found along the coastal region from Washington (Hatch 1953: 64) to at least the San Francisco Bay area (LeConte 1851: 180).

**Records.** USA: CA, OR, WA



***Loricera pilicornis congesta* Mannerheim, 1853**

*Loricera congesta* Mannerheim, 1853: 121. Type locality: «peninsula Kenai [Alaska]» (original citation). Holotype [by monotypy] probably in ZILR.

**Distribution.** This Holarctic subspecies is found on the Kuril Islands and on the Aleutian Islands and Kenai Peninsula in Alaska (Lindroth 1961a: 125).

**Records. USA:** AK – **Holarctic**

***Loricera pilicornis pilicornis* (Fabricius, 1775)**

*Carabus pilicornis* Fabricius, 1775: 243. Type locality: «Anglia [= England]» (original citation). One syntype in BMNH (collection Banks).

*Carabus seticornis* O.F. Müller, 1776: 79. Type locality: Denmark and Norway (inferred from title of the book). Syntype(s) probably lost. Synonymy established by Illiger (1798: 193).

*Loricera semipunctata* Eschscholtz, 1833: 25. Type locality: «bei St. Franzisco [San Francisco County], Californien» (original citation). Syntype(s) location unknown (possibly in ZMMU). Synonymy established, under the name *L. caerulescens* Linnaeus *sensu auctorum* (= *Carabus pilicornis* Fabricius), by Horn (1878c: 29).

*Loricera rufilabris* Motschulsky, 1845b: 340. Type locality: «Kamtschatka [Russia]» (original citation). Nine syntypes in ZMMU (Keleinikova 1976: 215). Synonymy established by Mannerheim (1846: 246).

*Loricera californica* LeConte, 1863c: 3. Type locality: «San Francisco [San Francisco County], California» (original citation). One syntype in MCZ [# 657]. Synonymy established by Lindroth (1961a: 123).

*Loricera neoscotica* LeConte, 1863c: 3. Type locality: «Nova Scotia» (original citation). Two syntypes in MCZ [# 5453]. Synonymy established, under the name *L. caerulescens* Linnaeus *sensu auctorum* (= *Carabus pilicornis* Fabricius), by Horn (1878c: 29), confirmed by Lindroth (1961a: 123).

*Loricera uteana* Casey, 1920: 147. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46835]. Synonymy established by Lindroth (1961a: 123).

*Loricera pilicornis sierrae* Van Dyke, 1925: 113. Type locality: «near Tallac, Lake Tahoe [Placer County], California» (original citation). Holotype (♂) in CAS [# 1618]. Synonymy established by Lindroth (1961a: 123).

**Distribution.** This Holarctic subspecies ranges over most of Europe and a large part of Asia (see Bousquet 2003a: 98) and from the west coast of Alaska above the arctic circle (Lindroth 1961a: 125) to Newfoundland (Lindroth 1955a: 33), south to northern West Virginia (Tucker and Preston Counties, CMNH), western Nebraska (Kimball County, USNM), northern New Mexico (Sandoval and San Miguel Counties, UASM), southern Arizona (Greenlee County, UASM), and the San Bernardino Mountains in southern California (Fall 1901a: 40, as *L. californica*).

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, AZ, CA, CO, CT, IA, ID, IN, MA, ME, MI, MN, MT, ND, NE, NH, NJ, NM, NY, OH, OR, PA, SD, UT, VT, WA, WI, WV, WY – **Holarctic**

### **Subfamily ELAPHRINAE Latreille, 1802**

Elaphrii Latreille, 1802: 81. Type genus: *Elaphrus* Fabricius, 1775.

**Diversity.** This subfamily includes a single tribe.

### **Tribe ELAPHRINI Latreille, 1802**

Elaphrii Latreille, 1802: 81. Type genus: *Elaphrus* Fabricius, 1775.

**Diversity.** Northern Hemisphere, with about 50 species arrayed in three genera, all represented in North America.

### **Genus *DIACHEILA* Motschulsky, 1844**

*Diacheila* Motschulsky, 1844: 74 (as *Diaheila*). Type species: *Harpalus arcticus* Gyllenhal, 1810 designated by Lacordaire (1854: 47). Etymology. Probably from the Greek *dia* (through, between, during) and *cheilos* (lip, by extension either labrum [upper lip] or labium [lower lip]) [feminine]. NOTE. Motschulsky (1844) originally used two different spellings for the name of this genus: *Diacheila* (pages 13, 76, v) and *Diaheila* (pages 15, 74). He subsequently used *Diachila* (Motschulsky 1850a: vi, 17; 1864: 195) and *Diaheila* (Motschulsky 1869: 10). Following article 24.2.4 (ICZN 1999), *Diaheila* should be the correct original spelling. *Diacheila* is an incorrect spelling but since it is in prevailing usage and attributed to the publication of the original spelling, it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Arctobia* C.G. Thomson, 1857: 16. Type species: *Harpalus arcticus* Gyllenhal, 1810 by monotypy. Etymology. From the Greek *arctos* (north) and *bios* (life) [feminine].

**Diversity.** Three species in the arctic and subarctic areas of the Nearctic (two Holarctic species) and Palaearctic (three species) Regions.

**Identification.** Lindroth (1954a) reviewed the species and provided a key for their identification. The two species found in North America were also covered in his monograph of the Carabidae of Canada and Alaska (Lindroth 1961a: 102-104).

**Taxonomic Note.** Goulet (1983: 447) regarded *Diacheila* as the sister-group to {*Blethisa* + *Elaphrus*}.

### ***Diacheila arctica amoena* (Faldermann, 1835)**

*Blethisa amoena* Faldermann, 1835: 358. Type locality: «montibus Altaicis [Mongolia]» (original citation). Syntype(s) probably in ZILR.

*Diachila subpolaris* LeConte, 1863c: 2. Type locality: «Hudson's Bay» (original citation). One syntype in CMNH (Lindroth 1954b: 121). Synonymy established by Lindroth (1954b: 122).

*Diachila americana* Motschulsky, 1864: 195. Type locality: «Amér[ique] arctique. Hudson Bay» (original citation). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976). Synonymy established with the name *D. subpolaris* LeConte by Horn (1870a: 70).

**Distribution.** This Holarctic subspecies is known in Asia from Kazakhstan, Mongolia, and eastern Siberia (Goulet 2003: 206) and in the Nearctic Region from a few localities in Alaska, Northwest Territories (Lindroth 1961a: 102), northern Alberta (Bourassa and Wood 2011: 144; Fort McMurray area, Gerald J. Hilchie pers. comm. 2009), and Labrador (Lindroth 1961a: 102). Fossil remnants, dated between 10,400 and 17,000 years B.P., have been unearthed in Cape Breton Island, Nova Scotia (Miller 1997: 250) and Iowa (Schwert 1992: 76).

**Records.** CAN: AB, LB, NT USA: AK – **Holarctic**

**Note.** The nominotypical subspecies is found in northern Europe and eastern Siberia.

### *Diacheila polita* (Faldermann, 1835)

*Blethisa polita* Faldermann, 1835: 359. Type locality: «montes Altaici [Mongolia]» (original citation). Holotype [by monotypy] probably in ZILR.

*Nebria xiaoxinganensis* Li and Liang [in Li], 1992: 28. Type locality: «M[oun]t Xiaoxinganlieng, Yichun, Heilongjiang Province [China]» (original citation). Holotype (♂) location unknown. Synonymy established by Ledoux et al. (2003: 80).

**Distribution.** This Holarctic species is known from scattered localities in Norway, European Russia, Siberia, Mongolia (Goulet 2003: 206), and northeastern China (Li 1992: 30, as *Nebria xiaoxinganensis*) in the Palearctic Region, and from Alaska to northwestern Northwest Territories [see Morgan and Morgan 1981: map 3] in the Nearctic Region. Fossil remnants of this species, believed to be 2.0–2.5 million years old, have been found in Greenland (Bennike and Böcher 1990: 336; Böcher 1995: 20); others, dated between about 12,000 and 21,500 years B.P., have been unearthed in Iowa and north-central Illinois (Baker et al. 1986: 96; Garry et al. 1990: 394; Schwert 1992: 76; Woodman et al. 1996: 17), northeastern Pennsylvania (Barnosky et al. 1988: 178), southern Ontario and southern Quebec (Morgan and Morgan 1981: 1107).

**Records.** CAN: NT, YT USA: AK – **Holarctic**

### Genus *BLETHISA* Bonelli, 1810

*Blethisa* Bonelli, 1810: 48, Tabula Synoptica. Type species: *Carabus multipunctatus* Linnaeus, 1758 designated by Dejean (1826: 266). Etymology. Unknown [feminine].

*Helobium* Leach, 1815: 83. Type species: *Carabus multipunctatus* Linnaeus, 1758 by monotypy. Etymology. From the Greek *helos* (marsh, meadow) and *bios* (life) [neuter].

*Rhaphiona* Fischer von Waldheim [in Zoubkoff], 1829: 155. Type species: *Blethisa eschscholtzii* Zoubkoff, 1829 by monotypy. Synonymy established by Lindroth (1954a: 13). Etymology (original). From the Greek *rhaphion* (awl), alluding to the shape of the palpi (“*palpes subuliformes*”) of the adults [feminine].

**Diversity.** Eight species in the arctic, subarctic, boreal, and temperate areas of North America (six species) and Eurasia (four species). Two species-group taxa are Holarctic (*B. catenaria* and *B. multipunctata aurata*).

**Identification.** Lindroth (1954a) reviewed the species and subsequently treated all the North American species in his monograph of the Carabidae of Canada and Alaska (Lindroth 1961a: 104-108). Goulet and Smetana (1983) provided a key to all known species.

**Faunistic Note.** *Blethisa eschscholtzii* Zoubkoff has been recorded from North American on the basis of a single specimen in USNM labeled “5 mi. E Sanderson, Texas” (Lindroth 1954b: 157). Obviously the specimen is mislabeled. The species is restricted to the region north of the Caspian Sea and the area around Lake Balkhash in south-eastern Kazakhstan.

### ***Blethisa catenaria* Brown, 1944**

*Blethisa catenaria* Brown, 1944: 4. Type locality: «near Fort Prince of Wales, Churchill, Man[itoba]» (original citation). Holotype (♀) in CNC [# 5412].

**Distribution.** This species is found in northern European Russia and eastern Siberia in the Palaearctic Region (Goulet 2003: 206) and from western Alaska to the western shore of the Hudson Bay in northern Manitoba [see Nielsen et al. 1987: Fig. 17b; Morgan et al. 1986: Fig. 1]. Fossil remnants from the Pliocene or early Pleistocene have been unearthed in northwestern Greenland, Meighen Island, Ellesmere Island, and eastern Siberia (Böcher 1995: 20).

**Records.** CAN: MB, NT, NU, YT USA: AK – **Holarctic**

### ***Blethisa hudsonica* Casey, 1924**

*Blethisa hudsonica* Casey, 1924: 18. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♂), designated by Lindroth (1975: 113), in USNM [# 46834].

**Distribution.** This Nearctic species ranges from Newfoundland (Lindroth 1955a: 31) to westernmost Yukon Territory (Goulet et al. 2009: 33), south to southern British Columbia (Lindroth 1961a: 106), northwestern Montana (Russell 1968: 46; LaBonte and Johnson 1989: 170), northern Illinois (Blatchley 1910: 50), and Massachusetts (Middlesex County, MCZ, USNM) [see Morgan et al. 1986: Fig. 4]. The record from “Pennsylvania” (Bousquet and Laroche 1993: 86, as *B. multipunctata aurata*), based on several specimens labeled from Erie County in CMNH, is doubtful (Robert L. Davidson pers. comm. 2008); that from Circle in Alaska (Lindroth 1961a: 106) needs confirmation.





**Figure 14.** *Diacheila arctica amoena* (Faldermann). This subspecies is widely distributed over the arctic and subarctic regions of the Northern Hemisphere, ranging from Labrador to Kazakhstan, but populations seem to be highly localized. The German coleopterist Franz Faldermann found the adults of this taxon “pleasant” hence his scientific name *amoena*. The nominotypical subspecies ranges from the Nordic regions of Scandinavia to the Komi Republic in northern European Russia.

**Records.** FRA: PM CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT USA: IL, MA, ME, MI, MT, ND, NH, NY, VT, WI [AK, PA]

**Note.** This species has passed under the name *B. multipunctata* (Linnaeus, 1758) or *B. multipunctata aurata* Fischer von Waldheim, 1828 in the North American literature.

### ***Blethisa julii* LeConte, 1863**

*Blethisa julii* LeConte, 1863c: 2. Type locality: «Nova Scotia» (original citation), herein restricted to Cheticamp, Cape Breton Island (see Lindroth 1954c: 300). Syntype(s) in MCZ [# 5452]. Etymology. This species was named after Julius Ulke [1833-1910], brother of Henry Ulke (see *Bembidion ulkei*), a photographer and also a beetle collector. In the 1860s, Julius and Henry lived on Tenth Street in Washington across the Ford's Theater and had a portrait studio on Pennsylvania Avenue. Julius took the historic photograph of the room in which Abraham Lincoln died on 15 April 1865 a few minutes after the president's body was removed.

**Distribution.** The range of this species extends from Newfoundland (Lindroth 1955a: 30) to the foothills of the Rocky Mountains in Alberta (Lindroth 1961a: 107-108), south to northern New York and New England (Lindroth 1961a: 107) [see Morgan et al. 1986: Fig. 3]. The record from Michigan (Bousquet and Larochelle 1993: 86), based on a specimen labeled from Lake Superior in CMNH, needs confirmation.

**Records.** CAN: AB, MB, NB, NF, NS (CBI), NT, ON, QC, SK USA: ME, NH, NY, VT [MI]

### ***Blethisa multipunctata aurata* Fischer von Waldheim, 1828**

*Blethisa aurata* Fischer von Waldheim, 1828: 262. Type locality: «Kamtschatka [Russia]» (original citation). Syntype(s) in ZMH (Lindroth 1961a: 106), MHNP (collection Dejean), and SMTD (Grämer 1960: 102).

*Blethisa inexpectata* Goulet and Smetana, 1983: 551. Type locality: «Prudhoe Bay R[oa]d, Bonanza Cr[ee]k (900'), Alaska» (original citation). Holotype (♂) in CNC [# 15404]. Synonymy established by Goulet et al. (2009: 28).

**Distribution.** This Holarctic subspecies is known from Hokkaidō in Japan and the Russian Far Eastern Region, including Sakhalin and Kamchatka, in the Palearctic Region and from Alaska, as far south as Anchorage, and northwestern Northwest Territories in the Nearctic Region (Goulet et al. 2009: 33).

**Records.** CAN: NT USA: AK – **Holarctic**

**Note.** The nominotypical subspecies ranges from the Atlantic Coast in Europe to the Lake Baikal region in Siberia (Goulet et al. 2009: 33).

### ***Blethisa oregonensis* LeConte, 1853**

*Blethisa oregonensis* LeConte, 1853c: 401. Type locality: «Oregon» (original citation), herein restricted to 7.5 km NNW of Monroe, Finley National Wildlife Refuge,

Benton County (see LaBonte and Johnson 1989: 171). Holotype [by monotypy] (♀) in MCZ [# 641].

*Blethisa acutangula* Chaudoir, 1861b: 524. Type locality: «Orégon» (original citation). Holotype [by monotypy] (♂) in MHNP. Synonymy established by LeConte (1866: 78).

*Blethisa columbica* Casey, 1909: 277. Type locality: «British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 113), in USNM [# 46833]. Synonymy established by Hatch (1949b: 114), confirmed by Lindroth (1954b: 121).

**Distribution.** This species is found mainly west of the Cascade Range from southwestern British Columbia, including Vancouver Island, to south-central Oregon (LaBonte and Johnson 1989: 171).

**Records.** CAN: BC (VCI) USA: OR, WA

### *Blethisa quadricollis* Haldeman, 1847

*Blethisa quadricollis* Haldeman, 1847: 149. Type locality: «southern shore of Lake Superior» (original citation), herein restricted to Marquette, Marquette County, Michigan (see Hubbard and Schwarz 1878: 627). Syntype(s) presumably lost.

*Blethisa americana* T.W. Harris [in Scudder], 1869: 211. Type locality not stated. Holotype [by monotypy] probably lost. Synonymy established by LeConte (in Scudder 1869: 212).

**Distribution.** The range of this species extends from Newfoundland (Lindroth 1955a: 31–32) to southern Alaska, south to central British Columbia (Lindroth 1961a: 106), northwestern Montana (LaBonte and Johnson 1989: 170), northern Indiana (Blatchley 1910: 50), and New Jersey (Smith 1890: 73) [see Morgan et al. 1986: Fig. 2; Ball and Currie 1997: Fig. 3].

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT  
USA: AK, IL, IN, MA, ME, MI, MN, MT, NH, NJ, NY, OH, PA, RI, VT, WI

### Genus *ELAPHRUS* Fabricius, 1775

*Elaphrus* Fabricius, 1775: 227. Type species: *Cicindela riparia* Linnaeus, 1758 designated by Latreille (1810: 425). Etymology. From the Greek *elaphros* (nimble), probably alluding to the agility of the adults in the field [masculine].

**Diversity.** Thirty-nine species in the arctic, subarctic, boreal, and temperate areas of North America (19 species) and Eurasia (24 species). These species are arrayed in five subgenera, all but *Sinoelaphrus* Shi and Liang (one species in northern China) represented in North America. Four species are Holarctic.

**Identification.** Goulet (1983) revised the species then known and provided a key for their identification.



**Subgenus *Arctelaphrus* Semenov, 1926**

*Arctelaphrus* Semenov, 1926: 39. Type species: *Elaphrus lapponicus* Gyllenhal, 1810 by original designation. Etymology. From the Greek *arctos* (north) and the generic name *Elaphrus* [*q.v.*] [masculine].

**Diversity.** One species in the subarctic regions of North America, Asia, and Europe.

**Taxonomic Note.** Goulet (1983) concluded from his phylogenetic analysis using adult and larval characters that this subgenus was the most basal lineage of *Elaphrus*.

***Elaphrus lapponicus lapponicus* Gyllenhal, 1810**

*Elaphrus lapponicus* Gyllenhal, 1810: 8. Type locality: «Lapponia» (original citation), restricted to «Abisko, Swed[en]» by Lindroth (1961a: 111). Syntype(s) in GNM (Lindroth 1961a: 111).

*Elaphrus elongatus* Fischer von Waldheim, 1828: 266. Type locality: «Kamtschatka [Russia]» (original citation). Syntype(s) in ZMH (Lindroth 1961a: 111) and SMTD (Grämer 1960: 102). Synonymy established by Dejean (1831: 587), confirmed by Lindroth (1961a: 111).

*Elaphrus obscurior* Kirby, 1837: 63. Type locality: «Lat. 65° [= apparently region of Great Bear Lake, Northwest Territories]» (original citation). Holotype [by monotypy] in BMNH (Lindroth 1953b: 177). Synonymy established by Lindroth (1953b: 177).

**Distribution.** This Holarctic subspecies is widely distributed in the subarctic areas. In the Palearctic Region, it ranges from the British Isles to the Kamchatka Peninsula, and in the Nearctic Region from Alaska to Labrador [see Goulet 1983: Fig. 157]. Fossil remnants of this species, dated between 10,100 and 20,700 years B.P., have been unearthed in southern Quebec (Mott et al. 1981: 146), southern Ontario (Morgan and Morgan 1981: 1107), Illinois (Schwert 1992: 76), and southeastern Iowa (Baker et al. 1986: 96); others, believed to be 2.0-2.5 million years old, have also been found in Greenland and Meighen Island (Bennike and Böcher 1990: 336; Böcher 1995: 22).

**Records.** CAN: AB, BC, LB, MB, NT, NU, ON, QC, SK, YT USA: AK – **Holarctic**

***Elaphrus lapponicus obliteratus* Mannerheim, 1853**

*Elaphrus obliteratus* Mannerheim, 1853: 117. Type locality: «ad portum Pauli insulae Kadjak [= Port Harbour, Kodiak Island, Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1961a: 111), in ZMH.

**Distribution.** This subspecies is known only from a few localities on Kodiak Island, Alaska (Goulet 1983: 244).

**Records.** USA: AK



### Subgenus *Neoelaphrus* Hatch, 1951

*Neoelaphrus* Hatch, 1951: 113. Type species: *Elaphrus uliginosus* Fabricius, 1792 by original designation. Etymology. From the Greek prefix *neo-* (new) and the generic name *Elaphrus* [*q.v.*] [masculine].

**Diversity.** Fourteen species in the Nearctic (six species) and Palaearctic (eight species) Regions.

**Taxonomic Note.** Goulet's (1983) phylogenetic analysis based on adult and larval characters suggests that *Neoelaphrus* is the sister-group to {*Elaphrus s.str.* + *Elaphroterus*}.

**Faunistic Note.** Fossil remnants of *Elaphrus sibiricus* Motschulsky, probably about 2.0–2.5 million years B.P., have been unearthed from northwestern Yukon Territory (Elias and Matthews 2002: 914) and northwestern Greenland (Böcher 1995: 22). The species is currently found in Siberia, Japan, Mongolia, and Inner Mongolia in China (Goulet 2003: 207).

#### [*clairvillei* group]

#### *Elaphrus clairvillei* Kirby, 1837

*Elaphrus clairvillei* Kirby, 1837: 61 (as *clairvillii*). Type locality: «from New York to Cumberland-house» (original citation), restricted to «Nipigon, Ont[ario]» by Lindroth (1961a: 112). Holotype [by monotypy] in BMNH (Lindroth 1953b: 176). Etymology. The specific name honors the Swiss naturalist Joseph Phillippe de Clairville [1742–1830]. Born in France, Clairville studied medicine and natural history at Montpellier and in 1782 moved to Winterthur, near Zurich. During the French occupation he was forced to leave Switzerland and fled to Erlangen, Germany. His entomological interests were mainly in Odonata, Diptera, and Coleoptera and his collection of beetles is now at the Natural History Museum in Basel. NOTE. The incorrect subsequent spelling *clairvillei* is in prevailing usage and attributed to the publication of the original spelling; therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Elaphrus politus* LeConte, 1850: 209. Type locality: «Maple Island [Ontario]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 171]. Synonymy established by LeConte (1870: 396), confirmed by Goulet (1983: 271).

*Elaphrus clairvillei frosti* Hippiusley, 1922: 64. Type locality: «some three and one-half miles southwest of Terrace as the crow flies, or six miles by the road [British Columbia]» (original citation). Holotype probably in MCZ (collection Frost). Synonymy established by Lindroth (1961a: 112).

*Elaphrus torreyensis* Tanner, 1942: 137. Type locality: «Torrey, Wayne County, Utah» (original citation). Holotype (♀) in BYUC (Shawn M. Clark pers. comm. 2007). Synonymy established by Lindroth (1961a: 112). NOTE. Tanner (1942: 138) listed the type locality as “Torrey, Wayne County, Utah” but mistakenly wrote a few lines below that the holotype and a paratype [of *E. torreyensis*] were “taken at Escalante, Garfield Co[unty].”

**Distribution.** This species extends throughout the temperate and boreal regions of North America from Newfoundland to Alaska, south to northern California along the west coast, to the White Mountains in eastern Arizona and to central New Mexico along the Rocky Mountains, to west-central Nebraska (Arthur County, Foster F. Purrington pers. comm. 2010), and to New Jersey along the east coast [see Goulet 1983: Fig. 160]. The record from east-central Missouri (Summers 1873: 132) needs confirmation.

**Records.** CAN: AB, BC (QCI, VCI), LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT USA: AK, AZ, CA, CO, CT, ID, MA, ME, MI, MN, MT, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SD, UT, VT, WA, WI, WY [MO]

### *Elaphrus laevigatus* LeConte, 1852

*Elaphrus laevigatus* LeConte, 1852a: 200. Type locality: «San Francisco [San Francisco County, California]» (original citation). Three syntypes in MCZ [# 660].

*Elaphrus politus* Casey, 1897: 345 [primary homonym of *Elaphrus politus* LeConte, 1850]. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46822]. Synonymy established by Van Dyke (1925: 113), confirmed by Goulet (1983: 280).

*Elaphrus caseyi* Leng, 1919b: 203. Replacement name for *Elaphrus politus* Casey, 1897.

**Distribution.** This species is known from western Nevada and California, from the Oregon border to the Los Angeles area [see Goulet 1983: Fig. 161].

**Records.** USA: CA, NV

### *Elaphrus olivaceus* LeConte, 1863

*Elaphrus olivaceus* LeConte, 1863c: 1. Type locality: «Catskill Mountains, New York» (original citation). One syntype in CMNH (collection Ulke).

**Distribution.** This species ranges from the west coast of Newfoundland to southern British Columbia, south to southeastern Utah, central Colorado, central Illinois, and New Jersey [see Goulet 1983: Fig. 161]. The species is known from only one locality west of the Rocky Mountains, in southern British Columbia.

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK USA: CO, CT, IL, IN, MA, ME, MI, MN, MT, ND, NE, NH, NJ, NY, RI, SD, UT, VT, WI, WY

### [fuliginosus group]

### *Elaphrus cicatricosus* LeConte, 1847

*Elaphrus cicatricosus* LeConte, 1847: 448. Type locality: «NovEboraci [= New York]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 658].

*Elaphrus rhodeanus* Casey, 1924: 17. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46825]. Synonymy established by Lindroth (1961a: 114).

**Distribution.** This species ranges from Maine, southern Quebec, and Michigan south to northern Mississippi (Pontotoc County, Drew A. Hildebrandt pers. comm. 2009) and North Carolina (Northampton County, CNC) [see Goulet 1983: Fig. 159]. The record from Georgia (Fattig 1949: 11) needs confirmation; those from eastern Iowa (Wickham 1911b: 5; King 1914: 320) are probably in error.

**Records.** CAN: QC USA: CT, DE, MA, MD, ME, MI, MS, NC, NH, NJ, NY, OH, PA, RI, TN, VA, VT, WV [GA]

### *Elaphrus fuliginosus* Say, 1830

*Elaphrus fuliginosus* Say, 1830b: (1) [3]. Type locality: «Rumney [Grafton County], N[ew] H[ampshire]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 332), in MCZ [# 33086]. NOTE. «Pennsylvania» was the area originally cited by Say (1830b: (1) [3]).

**Distribution.** This species ranges from Quebec to southern Manitoba, south to Nebraska and Maryland [see Goulet 1983: Fig. 158]. It is also known from one unexpected locality in central Alberta (Bousquet 1987a: 112), which suggests that the species is more widely distributed at least in the northern part of its range.

**Records.** CAN: AB, MB, ON, QC USA: CT, IA, IL, IN, MA, MD, ME, MI, MN, ND, NE, NH, NJ, NY, PA, RI, SD, VT, WI

### *Elaphrus lindrothi* Goulet, 1983

*Elaphrus lindrothi* Goulet, 1983: 264. Type locality: «3 mi[les] n[orth] Pomona, Jackson Co[unty], Ill[inois]» (original citation). Holotype (♂) in CNC [# 18010].

**Distribution.** This species is known from two areas, Maryland and southeastern Virginia (Surry County, CNC), and southern Indiana, southern Illinois, and southern Tennessee (Marion County, CMNH) [see Goulet 1983: Fig. 159]. The apparent gap is probably due to inadequate samplings.

**Records.** USA: IL, IN, MD, TN, VA

### Subgenus *Elaphrus* Fabricius, 1775

*Elaphrus* Fabricius, 1775: 227. Type species: *Cicindela riparia* Linnaeus, 1758 designated by Latreille (1810: 425).

*Trichelaphrus* Semenov, 1926: 39. Type species: *Cicindela riparia* Linnaeus, 1758 by original designation. Etymology. From the Greek *trichos* (hair) and the generic name *Elaphrus* [*q.v.*], alluding to the accessory setae on the abdominal sterna (“*sterno semper plus minusve piloso*”) of the adult [masculine].

**Diversity.** Eighteen species in North America (ten species) and Eurasia (ten species). Two species (*E. trossulus* and *E. tuberculatus*) are Holarctic.

***Elaphrus americanus americanus* Dejean, 1831**

*Elaphrus americanus* Dejean, 1831: 588. Type locality: «Amérique septentrionale» (original citation), restricted to «Great Bear Lake, N[orth] W[est] Terr[itories]» by Lindroth (1961a: 115). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 12).

*Elaphrus intermedius* Kirby, 1837: 62. Type locality: «Gr[eat] Bear L[ake] [Northwest Territories]» (syntype label). Three syntypes in BMNH (Lindroth 1953b: 176). Synonymy established by Lindroth (1961a: 115).

*Elaphrus punctatissimus* LeConte, 1850: 210. Type locality: «Sault [= Sault Sainte Marie, Michigan according to Lindroth (1961a: 115)]» (original citation). Nine syntypes in MCZ [# 661]. Synonymy established by LeConte (1873b: 321), confirmed by Goulet (1983: 307).

*Elaphrus sinuatus* LeConte, 1850: 210. Type locality: «Pic [north shore of Lake Superior, Ontario]» (original citation). Two syntypes [2 originally cited] in MCZ [# 663]. Synonymy established, under the name *E. punctatissimus* LeConte, by LeConte (1853c: 402), confirmed by Goulet (1983: 307).

*Elaphrus gratiosus* Mannerheim, 1853: 118. Type locality: «as ostia fl[umen] Kaktnu [= Kenai River] peninsulae Kenai [Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1961a: 115), in ZMH. Synonymy established, under the name *E. punctatissimus* LeConte, by Motschulsky (1855b: 79), confirmed by Lindroth (1961a: 115).

*Elaphrus bituberosus* Casey, 1924: 17. Type locality: «Terrace, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 113), in USNM [# 46823]. Synonymy established by Lindroth (1961a: 115).

**Distribution.** This subspecies ranges from Newfoundland to southwestern Alaska, south to central British Columbia, southeastern Alberta, northern Minnesota, north-central Ohio (Purrington and Stanton 1996: 44), northern New York, and Maine [see Goulet and Baum 1982: Fig. 1]. The records from “California,” “Wyoming,” “South Dakota,” “Iowa” (see Bousquet and Laroche 1993: 87), and Missouri (Anonymous 2007) are likely based on mislabeled specimens or are in error.

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT  
USA: AK, ME, MI, MN, NH, NY, OH, WI

***Elaphrus americanus sylvanus* Goulet, 1982**

*Elaphrus americanus sylvanus* Goulet [in Goulet and Baum], 1982: 2271. Type locality: «16 mi[les] N[orth] of Powers, Coos Co[unty], Oregon» (original citation). Holotype (♂) in CNC [# 18011].

**Distribution.** This subspecies ranges from the Queen Charlotte Islands (Kavanaugh 1992: 58) to southwestern Alberta, south to central Colorado, central Idaho, and southern Oregon (Goulet and Baum 1982: 2272; Fig. 1).

**Records.** CAN: AB, BC (QCI, VCI) USA: CO, ID, OR, WA



***Elaphrus californicus* Mannerheim, 1843**

*Elaphrus californicus* Mannerheim, 1843: 190. Type locality: «California» (original citation), herein restricted to Quincy, Plumas County (see Goulet 1983: 302). Lectotype (♀), designated by Lindroth (1961a: 118), in ZMH.

*Elaphrus similis* LeConte, 1847: 449. Type locality: «Long's Peak [Boulder County, Colorado]» (original citation). One syntype in MCZ [# 662]. Synonymy established by LeConte (1863b: 2), confirmed by Goulet (1983: 299).

*Elaphrus hesperius* Casey, 1920: 138. Type locality: «Cal. [with a red dot on the “a”] [= Gualala, Mendocino County, California]» (lectotype label). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46829]. Synonymy established by Lindroth (1961a: 118).

**Distribution.** This species is widely distributed from central Alaska to Nova Scotia, south to northern Virginia, central Missouri, northern New Mexico, and southern California near the Mexican border [see Goulet 1983: Fig. 172]. The records from “North Carolina,” northeastern Florida, “Louisiana,” and “Texas” [see Goulet 1983: Fig. 172] need confirmation.

**Records.** **CAN:** AB, BC (VCI), MB, NB, NS, NT, ON, PE, QC, SK **USA:** AK, CA, CO, CT, DC, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, SD, UT, VA, VT, WA, WI, WV, WY [FL, LA, NC, TX]

***Elaphrus finitimus* Casey, 1920**

*Elaphrus finitimus* Casey, 1920: 137. Type locality: «California» (original citation). One syntype in USNM [# 46827].

**Distribution.** This species extends from western Montana to southern Oregon, south to southernmost California, central Arizona, and southern Colorado [see Goulet 1983: Fig. 170].

**Records.** **USA:** AZ, CA, CO, ID, MT, NV, OR, UT

***Elaphrus lecontei* Crotch, 1876**

*Elaphrus lecontei* Crotch [in Horn], 1876c: 246. Type locality: «Long's Peak [Boulder County, Colorado]» (original citation for *E. intermedius* Kirby *sensu* LeConte, 1847). Two syntypes in MCZ [# 170]. **NOTE.** This name was proposed for *Elaphrus intermedius* Kirby, 1837 *sensu* LeConte (1847: 449).

*Elaphrus devinctus* Casey, 1920: 139. Type locality: «Wray [Yuma County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46826]. Synonymy established by Lindroth (1961a: 114).

*Elaphrus spissicornis* Casey, 1924: 18. Type locality: «Parowan (6000 ft.) [Iron County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46824]. Synonymy established by Lindroth (1961a: 114).

**Distribution.** This species ranges from northwestern Quebec along the James Bay (Chisasibi, Serge Laplante pers. comm. 2011) to central British Columbia, north to the Great Slave Lake in Northwest Territories, south to southern California, southern Arizona, and central Kansas [see Goulet 1983: Fig. 169]. Fossil remnants from a Plio-Pleistocene sequence have been unearthed in northwestern Greenland (Böcher 1995: 23).

**Records.** CAN: AB, BC, MB, NT, ON, QC, SK USA: AZ, CA, CO, ID, KS, MN, MT, ND, NE, NV, OR, SD, UT, WA, WY

### *Elaphrus marginicollis* Goulet, 1983

*Elaphrus marginicollis* Goulet, 1983: 288. Type locality: «Jack's Gulch, Roosevelt N[ational] F[orest], Colorado» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from a few localities in southeastern Washington, northern California, southeastern Wyoming, and Colorado [see Goulet 1983: Fig. 168].

**Records.** USA: CA, CO, WA, WY

### *Elaphrus mimus* Goulet, 1983

*Elaphrus mimus* Goulet, 1983: 290. Type locality: «Angwin [Napa County], Cal[ifornia]» (original citation). Holotype (♂) in CAS [# 16493].

**Distribution.** This species is known only from the original two specimens collected at the type locality.

**Records.** USA: CA

### *Elaphrus ruscarius* Say, 1830

*Elaphrus ruscarius* Say, 1830b: (1) [3]. Type locality: «Columbia [Lancaster County], P[ennsylvania]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 332), in MCZ [# 33085]. NOTE. «Pennsylvania, Mississippi, Arkansas, Missouri and the Rocky Mountains» were the areas originally cited by Say (1830b: (1) [3]).

*Elaphrus texanus* Casey, 1924: 17. Type locality: «Galveston [Galveston County], Texas» (original citation). Lectotype (♀), designated by Lindroth (1975: 113), in USNM [# 46828]. Synonymy established by Lindroth (1961a: 119).

**Distribution.** This species ranges from southern Quebec to northern Minnesota, south to eastern Texas (Casey, 1924: 17, as *E. texanus*), east-central Louisiana (Allen 1965: 61), southwestern Alabama (Löding 1945: 11), and northern Florida (Peck and Thomas 1998: 16) [see Goulet 1983: Fig. 168].

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WI, WV

***Elaphrus trossulus* Semenov, 1904**

*Elaphrus trossulus* Semenov, 1904: 21. Type locality: «Mongoliâ occid[entalis]: inter Ulan-daban et opp. Kobdo; syst. fl. Kobdo; syst. fl. Sansai; ad lac. Shar-nur» (original citation). Syntype(s) probably in ZILR.

*Elaphrus parviceps* Van Dyke, 1925: 112. Type locality: «Teller, Seward Peninsula, Alaska» (original citation). Holotype (♀) in CAS [# 1617]. Synonymy established by Goulet and Smetana (1997: 204).

**Distribution.** This species is found in the montane regions of northern Mongolia and neighbouring Russia west and south of Lake Baikal, in northeastern Siberia, and in the arctic regions from the Commander Islands in the Bering Sea to the eastern shore of James Bay in Quebec (Morgan and Pilny 1997: 146) [see Goulet 1983: Fig. 171]. Fossil remnants of this species, dated between 10,100 and 11,050 years old, have been found in southern Quebec (Mott et al. 1981: 146); others, older than 33,000 years B.P., has been unearthed in southwestern Ontario (Warner et al. 1988: 37).

**Records.** CAN: MB, NT, NU, ON, QC, YT USA: AK – **Holarctic**

**Note.** According to Shilenkov (in Kryzhanovskij et al. 1995: 61), the type material of *E. trossulus* Semenov is conspecific with members of *E. tuberculatus* Mäklin. However, Goulet and Smetana (1997: 203) concluded that adults of *E. trossulus* and *E. parviceps* Van Dyke “cannot be separated.” Lindroth (1961a: 116) regarded *E. parviceps* as a junior synonym of *E. riparius* (Linnaeus), a species restricted to the Palaearctic Region according to Goulet (1983: 313).

***Elaphrus tuberculatus* Mäklin, 1878**

*Elaphrus tuberculatus* Mäklin, 1878: 16. Type locality: «Briochowska öarne (70°39' n. br.) [= Brochowsky Island] inom Jenisej floden [Russia]» (original citation). Holotype [by monotypy] location unknown (possibly in ZMH).

*Elaphrus latipennis* J.R. Sahlberg, 1880: 10. Type locality: «prope vicum Dudinka [Taimyr Autonomous Okrug, Russia]» (original citation). Holotype [by monotypy] location unknown (possibly in ZMH). Synonymy established by Semenov (1910: 433).

*Elaphrus latipennis* var. *orientalis* Semenov, 1904: 20. Type locality: «Bulun [Yakutia, Russia]» (original citation). Syntype(s) [2 originally cited] location unknown (possibly in ZILR). Synonymy established by Goulet (1983: 316).

*Elaphrus tumidiceps* Munster, 1924: 288. Type locality: «Lakselv in Porsanger Finmark-iae [Norway]» (original citation). Holotype (♂) in ZMUO (see Lindroth 1939a: 62). Synonymy established by Bänninger (1932: 184).

**Distribution.** This Holarctic species ranges from northern Scandinavia to eastern Siberia, and from Alaska to the Mackenzie River in the Northwest Territories [see Goulet 1983: Fig. 171]. Fossil remnants of this species, believed to be 2.0–2.5 million years old, have been found in Greenland (Bennike and Böcher 1990: 336; Böcher 1995: 23).

**Records.** CAN: NT, YT USA: AK – **Holarctic**

***Elaphrus viridis* Horn, 1878**

*Elaphrus viridis* G.H. Horn, 1878b: 52 [primary homonym of *Elaphrus riparius viridis* Letzner, 1849] [potential *nomen protectum*]. Type locality: «California» (original citation), herein restricted to 9.5 miles south of Dixon, Solano County (see Goulet 1983: 292). Holotype [by monotypy] (♀) in MCZ [# 34043]. NOTE. Although it is obvious that infrasubspecific rank was meant for *Elaphrus riparius viridis* and many other names in Letzner's work (1849), the fact that Csiki (1927: 420) treated it as a senior homonym makes the name subspecific from the date of its establishment (ICZN 1999: Article 45.6.4.1). However since the reversal of precedence (ICZN 1999: Article 23.9) could probably be applied to this case, I believe it is essential to preserve the current name of this endangered species.

*Elaphrus horni* Csiki, 1927: 420. Replacement name for *Elaphrus viridis* Horn, 1878.

**Distribution.** This species is known from a small area in Solano County, California [see Goulet 1983: Fig. 168].

**Records. USA:** CA

**Note.** This species, also known under the vernacular name “Delta Green Ground Beetle,” is considered an endangered species by the World Wildlife Fund and listed on the IUCN Red List of Threatened Species.

**Subgenus *Elaphroterus* Semenov, 1896**

*Elaphroterus* Semenov, 1896: 309. Type species: *Elaphrus aureus* Müller, 1821 designated by Semenov (1926: 39). Etymology. Unknown [masculine].

*Elaphrotatus* Semenov, 1896: 308. Type species: *Elaphrus punctatus* Motschulsky, 1844 designated by Semenov (1926: 39). Synonymy established by Goulet (1983: 322).

**Diversity.** Five species in northern North America (two species) and Eurasia (four species). One species (*E. angusticollis*) is Holarctic.

***Elaphrus angusticollis angusticollis* Sahlberg, 1844**

*Elaphrus angusticollis* R.F. Sahlberg, 1844: 20. Type locality: «fluminis Ochotae [= River Ochota, near Okhotsk, Khabarovsk Kray, Siberia, Russia]» (original citation). One syntype in ZMH (Silfverberg 1987: 12).

*Elaphrus angustus* Chaudoir, 1850b: 161. Type locality: «Sibérie orientale» (original citation). Syntype(s) in MHNP. Synonymy established by Palmén (1944: 24).

**Distribution.** This Holarctic subspecies ranges from the Lena River in eastern Siberia to the Bering Sea Coast, and from Alaska to the Mackenzie River in Northwest Territories [see Goulet 1983: Fig. 173]. Fossil remnants from a Plio-Pleistocene sequence have been unearthed in northwestern Greenland (Böcher 1995: 23).

**Records. CAN:** NT, YT **USA:** AK – **Holarctic**

**Note.** The subspecies *E. angusticollis longicollis* Sahlberg occurs in the Palearctic Region.



***Elaphrus purpurans* Hausen, 1891**

*Elaphrus pallipes* G.H. Horn, 1878b: 51 [primary homonym of *Elaphrus pallipes* Duftschmid, 1812]. Type locality: «Oregon and British Columbia» (original citation), restricted to «Oregon» by Lindroth (1961a: 119). Syntype(s) in MCZ [# 8126]. NOTE. The specimen marked as type in MCZ is labeled «B[ritish] Col[umbia]».

*Elaphrus pallipes* var. *purpurans* Hausen, 1891a: 251. Type locality: «British Columbia» (original citation). Holotype in LMMC (Goulet and Smetana 1997: 218). Synonymy established (as aberration) by Csiki (1927: 424).

**Distribution.** This species ranges from central Alaska to the Mackenzie River in Northwest Territories, south to southeastern Alberta, central Idaho, and central California along the west coast [see Goulet 1983: Fig. 173].

**Records.** CAN: AB, BC, NT, YT USA: AK, CA, ID, MT, OR, WA

**Subfamily OMOPHRONINAE Bonelli, 1810**

Omophronii Bonelli, 1810: Tabula Synoptica. Type genus: *Omophron* Latreille, 1802.

**Diversity.** This subfamily includes a single tribe.

**Tribe OMOPHRONINI Bonelli, 1810**

Omophronii Bonelli, 1810: Tabula Synoptica. Type genus: *Omophron* Latreille, 1802. Scolyti Motschulsky, 1850a: 91. Type genus: *Scolytus* Fabricius, 1790 (= *Omophron* Latreille, 1802).

Epactiini Fauvel, 1888: 1. Type genus: *Epactius* Schneider, 1791 (= *Omophron* Latreille, 1802).

**Diversity.** This tribe includes a single genus.

**Genus OMOPHRON Latreille, 1802**

*Scolytus* Fabricius, 1790: 221 [junior homonym of *Scolytus* Geoffroy, 1762]. Type species: *Carabus limbatus* Fabricius, 1777 designated by Latreille (1810: 426). Etymology. Unknown [masculine]. NOTE. Latreille's designation was intended for *Omophron* Latreille but since *Omophron* is a replacement name for *Scolytus* Fabricius, both have the same type species and the type fixation for either applies also to the other (ICZN 1999: Article 67.8).

*Omophron* Latreille, 1802: 89. Replacement name for *Scolytus* Fabricius, 1790. Etymology. From the Greek *omophron* (merciless, savage) [neuter, see Allen and Duff (1992: 85)].

**Diversity.** About 70 species in the Nearctic (11 species), Neotropical (six species in Middle America), Oriental (16 species), Palearctic (16 species), and Afrotropical (20

species) Regions. The species are arrayed in two subgenera: *Omophron s.str.* (about 60 species) and *Phrator* Semenov (eight species in the Mediterranean region and Africa).

### Subgenus *Omophron* Latreille, 1802

*Scolytus* Fabricius, 1790: 221 [junior homonym of *Scolytus* Geoffroy, 1762]. Type species: *Carabus limbatus* Fabricius, 1777 designated by Latreille (1810: 426).

*Epactius* Schneider [in Fabricius], 1791: 23. Replacement name for *Scolytus* Fabricius, 1790. Etymology. From the Greek *epactios* (on the shore) [masculine].

*Lithophilus* Schneider [in Fabricius], 1791: 23. Replacement name for *Scolytus* Fabricius, 1790. Etymology. From the Greek *lithos* (stone) and *philos* (beloved) [masculine].

*Omophron* Latreille, 1802: 89. Replacement name for *Scolytus* Fabricius, 1790. NOTE. See Bousquet and Larochelle (1993: 89, footnote) for priority of *Omophron* over both Schneider's names.

*Scolyttus* Billberg, 1820: 24. Unjustified emendation of *Scolytus* Fabricius, 1790.

*Homophron* Fischer von Waldheim, 1828: 255. Unjustified emendation of *Omophron* Latreille, 1802.

*Homophron* Semenov, 1922: 41 [junior homonym of *Homophron* Fischer von Waldheim, 1828]. Type species: *Omophron tessellatum* Say, 1823 by original designation. Synonymy established by Csiki (1927: 405).

*Istor* Semenov, 1922: 43. Type species: *Omophron robustum* Horn, 1870 by original designation. Synonymy established by Csiki (1927: 405).

*Paromophron* Semenov, 1922: 40. Type species: *Omophron ovale* Horn, 1870 by original designation. Synonymy established by Csiki (1927: 405). Etymology. From the Greek *para* (near, next to) and the generic name *Omophron* [*q.v.*] [neuter].

*Prosecon* Semenov, 1922: 44. Type species: *Omophron gilae* LeConte, 1852 by original designation. Synonymy established by Csiki (1927: 406).

*Stenomophron* Semenov, 1922: 42. Type species: *Omophron baenningeri* Dupuis, 1912 by original designation. Synonymy established by Csiki (1927: 406). Etymology. From the Greek *stenos* (narrow) and the generic name *Omophron* [*q.v.*] [neuter].

*Phromoon* Lutshnik, 1933a: 132. Replacement name for *Homophron* Semenov, 1922. Etymology. Anagram of the generic name *Omophron* [*q.v.*] [neuter].

**Diversity.** About 60 species in the Nearctic (11 species), Neotropical (six species in Middle America), Oriental (16 species), Palaearctic (15 species), and Afrotropical (13 species) Regions.

**Identification.** Benschoter and Cook (1956) revised the North American species and provided a key for their identification. Lindroth's (1961a: 10) key covered seven species.

### *Omophron americanum* Dejean, 1831

*Omophron americanum* Dejean, 1831: 583. Type locality: «Amérique septentrionale» (original citation), restricted to «Montreal area, Queb[ec]» by Lindroth (1961a: 12). One syntype in MHNP (Lindroth 1955a: 31).

- Omophron saii* Kirby, 1837: 65. Type locality: «Canada» (original citation). One syntype in BMNH (Lindroth 1953b: 177). Synonymy established by LeConte (1847: 447), confirmed by Lindroth (1953b: 177).
- Omophron lacustre* Casey, 1897: 301. Type locality: «Bayfield [Bayfield County, Wisconsin], Lake Superior» (original citation). One syntype in USNM [# 48086]. Synonymy established by Benschoter and Cook (1956: 426).
- Omophron texanum* Casey, 1897: 302. Type locality: «Austin [Travis County], Texas» (original citation). Holotype [by monotypy] (♀) in USNM [# 48088]. Synonymy established, under the name *O. lacustre* Casey, by Bänninger (1921: 119).
- Omophron fontinale* Casey, 1913: 41. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Two syntypes in USNM [# 48090]. Synonymy established, under the name *O. texanum* Casey, by Bänninger (1921: 118).
- Omophron iridescens* Casey, 1913: 41. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). One syntype in USNM [# 48079]. Synonymy established by Benschoter and Cook (1956: 426).
- Omophron lengi* Casey, 1920: 135. Type locality: «South Carolina» (original citation). One syntype in USNM [# 48085]. Synonymy established by Benschoter and Cook (1956: 426).
- Omophron illustre* Casey, 1920: 136. Type locality: «Vineyard [Utah County], Utah» (original citation). One syntype in USNM [# 48094]. Synonymy established by Benschoter and Cook (1956: 426).
- Homophron tanneri* Chandler, 1941: 100. Type locality: «Moab, San Juan Co[unty], Utah» (original citation). Holotype (♀) in BYUC (Shawn M. Clark pers. comm. 2007). Synonymy established by Benschoter and Cook (1956: 426).
- Homophron tanneri proximum* Chandler, 1941: 102. Type locality: «Box Canyon near the junction of Calf Creek and the Escalante River in Garfield Co[unty], Utah» (original citation). Holotype in BYUC (Shawn M. Clark pers. comm. 2007). Synonymy established by Benschoter and Cook (1956: 426).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 150) to the foothills of the Rocky Mountains in Alberta (Lindroth 1961a: 12), south to north-eastern Arizona, the state of Coahuila in Mexico (Benschoter and Cook 1956: 427), and the Florida Panhandle (Peck and Thomas 1998: 15). The record from “Vera Cruz” (Benschoter and Cook 1956: 428) needs confirmation.

**Records.** **CAN:** AB, MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY – Mexico

### *Omophron dentatum* LeConte, 1852

- Omophron dentatum* LeConte, 1852a: 200. Type locality: «San Diego [San Diego County, California]» (original citation). Syntype(s) in MCZ [# 130].

**Distribution.** This species seems to be confined to the southern half of California (Benschoter and Cook 1956: 422) and the Baja California Peninsula (Erwin 2007a: 64). Old specimens simply labeled from Arizona and Texas are known (Benschoter and Cook 1956: 422) but are probably mislabeled.

**Records. USA:** CA (CHI) – Mexico

***Omophron gilae* LeConte, 1852**

*Omophron gilae* LeConte, 1852a: 201. Type locality: «ad fluminis Gilae ripas» (original citation). Syntype(s) in MCZ [# 129].

*Omophron pallidum* Casey, 1897: 305. Type locality: «southwestern Utah» (original citation). Two syntypes [2 originally cited] in USNM [# 48093]. Synonymy established by Benschoter and Cook (1956: 416).

*Omophron gilae pimalis* Casey, 1913: 44. Type locality: «Arizona» (original citation). One syntype in USNM [# 48092]. Synonymy established by Benschoter and Cook (1956: 416).

**Distribution.** This species ranges from southern California to western Colorado (Benschoter and Cook 1956: 416) and northern New Mexico (Taos County, UASM), south to Sonora, Mexico (Erwin 2007a: 65). Old specimens simply labeled from Texas are known (Benschoter and Cook 1956: 416).

**Records. USA:** AZ, CA, CO, NM, UT [TX] – Mexico

***Omophron grossum* Casey, 1909**

*Omophron grossum* Casey, 1909: 275. Type locality: «Texas» (original citation). One syntype in USNM [# 48089].

**Distribution.** This species ranges from western Wisconsin (Messer 2010: 34) to southern Nebraska (Adams County, Foster F. Purrington pers. comm. 2010), south at least to northeastern Texas (Benschoter and Cook 1956: 425), east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009), and southwestern Mississippi (Lago and Zucarro 1984: 118; Wilkinson County, UASM).

**Records. USA:** AR, IA, KS, LA, MO, MS, NE, OK, TX, WI

***Omophron labiatum* (Fabricius, 1801)**

*Scolytus labiatus* Fabricius, 1801: 248. Type locality: «Carolina» (original citation). Lectotype, designated by Lindroth (1969a: 1108), in ZMUC.

**Distribution.** This species is found along the Atlantic and Gulf of Mexico coasts, from Sable Island off the coast of Nova Scotia (Lindroth 1969a: 1108) to southern Florida (Peck and Thomas 1998: 15), west to southeastern Texas (Benschoter and Cook 1956: 420).

**Records. CAN:** NS **USA:** AL, CT, DC, FL, GA, LA, MA, MD, ME, MS, NC, NJ, NY, PA, SC, TX, VA



***Omophron nitidum* LeConte, 1847**

*Omophron nitidum* LeConte, 1847: 447. Type locality: «Territorio Missouriensi et provinciis occidentalibus» (original citation), herein restricted to Kansas City, Missouri (see Benschoter and Cook 1956: 420). Syntype(s) in MCZ [# 128].

*Omophron nitens* Chaudoir, 1868a: 60. Type locality: «Texas» (original citation). Syntype(s) probably in MHNP. Synonymy established by Horn (1870a: 72).

**Distribution.** This species ranges from northern Nebraska to northwestern Indiana, north to the Minneapolis region in western Minnesota, south to Alabama and southern Texas (Benschoter and Cook 1956: 420, 422). The records from Wisconsin (Rauterberg 1885: 11) and Charity Island in Michigan (Andrews 1916: 72) are probably based on misidentified *O. americanum*.

**Records. USA:** AL, AR, IA, IL, IN, KS, LA, MN, MO, MS, NE, OK, TN, TX

***Omophron oblitteratum* Horn, 1870**

*Omophron oblitteratum* G.H. Horn, 1870a: 73. Type locality: «Camp Grant [Pinal County] on the San Pedro River, a tributary of the Gila, Arizona» (original citation). Holotype [by monotypy] (♀) in MCZ [# 33479].

*Omophron sonorae* Casey, 1897: 304. Type locality: «Sonora, probably near Hermosillo, Mexico» (original citation). Four syntypes [5 originally cited] in USNM [# 48091]. Synonymy established by Bänninger (1921: 116).

*Omophron oblitteratum utense* Casey, 1913: 43. Type locality: «Leeds and S[ain]t George, Utah» (original citation). Three syntypes in USNM [# 48095]. Synonymy established by Benschoter and Cook (1956: 414).

*Omophron oblitteratum subimpressum* Casey, 1913: 43. Type locality: «New Mexico» (original citation). One syntype in USNM [# 48096]. Synonymy established by Benschoter and Cook (1956: 414).

**Distribution.** This species ranges from southern California to western Texas, north to southern Utah (Benschoter and Cook 1956: 416), south to Zacatecas in Mexico (Erwin 2007a: 67). The record from “Montana” (Bousquet and Laroche 1993: 90) is likely in error.

**Records. USA:** AZ, CA, NM, TX, UT – Mexico

***Omophron ovale* Horn, 1870**

*Omophron ovale* G.H. Horn, 1870a: 75. Type locality: «Fort Crook [Shasta County], California» (original citation). Syntype(s) [2 originally cited] in MCZ [# 33478].

*Omophron concinnum* Casey, 1897: 302. Type locality: «Siskiyou Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 48084]. Synonymy established by Bänninger (1921: 114).

*Omophron gemma* Casey, 1897: 304. Type locality: «Eel river, near its entrance into Humboldt Bay, Humboldt Co[unty], California» (original citation). Six syntypes in USNM [# 48081]. Synonymy established by Bänninger (1921: 114).

*Omophron frater* Casey, 1913: 41. Type locality: «California» (original citation). One syntype in USNM [# 48082]. Synonymy established by Bänninger (1921: 114).

**Distribution.** The range of this species extends from southwestern Saskatchewan (Ronald R. Hooper pers. comm. 1990) to Vancouver Island (Lindroth 1961a: 13), south to northern California and southern Wyoming (Benschoter and Cook 1956: 426).

**Records.** CAN: AB, BC (VCI), SK USA: CA, ID, MT, NV, OR, UT, WA, WY

### *Omophron robustum* Horn, 1870

*Omophron robustum* G.H. Horn, 1870a: 73. Type locality: «Nova Scotia region» (original citation), which is incorrect (Fall 1920: 211; Lindroth 1961a: 10); «Toronto [Ontario]» selected by Lindroth (1961a: 10). Holotype [by monotypy] (♂) in MCZ [# 131].

*Omophron brevipenne* Casey, 1909: 276. Type locality: «Ohio» (original citation). One syntype in USNM [# 48087]. Synonymy established by Fall (1920: 211).

*Omophron decoloratum* Fall, 1920: 211. Type locality: «Gray Co[unty], Kansas» (original citation). Holotype (♀) in MCZ [# 23883]. Synonymy established by Benschoter and Cook 1956: 416).

**Distribution.** This species ranges from the southern part of the Ontario Peninsula to south-central North Dakota (Benschoter and Cook 1956: 418), south to northwestern Texas (Hutchinson County, Robert L. Davidson pers. comm. 2012) and northwestern Tennessee (Lake County, CMNH); seemingly isolated in southeastern Alberta (Lindroth 1961a: 11).

**Records.** CAN: AB, ON USA: IA, IL, IN, KS, MI, MN, ND, NE, OH, OK, SD, TN, TX, WI

### *Omophron solidum* Casey, 1897

*Omophron solidum* Casey, 1897: 303. Type locality: «Marin to Humboldt Co[untie]s, California» (original citation). Ten syntypes in USNM [# 48083].

*Omophron lawrencei* Hatch, 1953: 69. Type locality: «Medford [Jackson County], Or[egon]» (original citation). Holotype (♀) in USNM. Synonymy established by Benschoter and Cook (1956: 425).

**Distribution.** This species is known from southwestern Oregon and northern California (Benschoter and Cook 1956: 425).

**Records.** USA: CA, OR

### *Omophron tessellatum* Say, 1823

*Omophron tessellatus* Say, 1823b: 152. Type locality: «K[ansa]s» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 356), in MCZ [# 32964].

NOTE. «Elk-horn Creek, Missouri [Territory]» was the area originally cited by Say

(1823b: 150). *Omophron tessellatum* is an incorrect subsequent spelling, introduced by LeConte (1847: 447), not currently in prevailing usage.

*Omophron lecontei* Dejean, 1831: 582. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 31). Synonymy established by LeConte (1847: 447), confirmed by Lindroth (1955b: 31).

*Omophron [tessellatum] ellipticum* Casey, 1909: 276. Type locality: «Rhode Island» (original citation). One syntype in USNM [# 48080]. Synonymy established by Bänninger (1921: 118).

**Distribution.** This species ranges from Cape Breton Island to southern Alberta, south to southwestern Arizona, northwestern Oklahoma (Cimarron County, CNC), southwestern Arkansas (Hempstead County, MCZ), and Virginia (Benschoter and Cook 1956: 424). One specimen labeled from Alameda County in western California, seen by Benschoter and Cook (1956: 424), is possibly mislabeled. The record from “Texas” (Bousquet and Larochelle 1993: 90) needs confirmation.

**Records.** **CAN:** AB, MB, NB, NS (CBI), ON, PE, QC, SK **USA:** AR, AZ, CO, CT, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SD, VA, VT, WI [CA, TX]

### Subfamily SCARITINAE Bonelli, 1810

Scaritides Bonelli, 1810: Tabula Synoptica. Type genus: *Scarites* Fabricius, 1775.

**Diversity.** Worldwide, with about 1,870 species arrayed in eight tribes: Carenini (about 195 species), Clivinini (about 820 species), Dalyatini (one species), Dyschiriini (about 300 species), Pasimachini (35 species), Promecognathini (eight species), Salceidiini (about 15 species), and Scaritini (about 495 species).

### Tribe PASIMACHINI Putzeys, 1867

Pasimachides Putzeys, 1867b: 3. Type genus: *Pasimachus* Bonelli, 1813.

**Diversity.** Thirty-five species arrayed in two genera: *Mouhotia* Laporte (three Oriental species) and *Pasimachus*.

### Genus *PASIMACHUS* Bonelli, 1813

*Pasimachus* Bonelli, 1813: 476. Type species: *Scarites depressus* Fabricius, 1787 designated by Hope (1838: 94). Etymology. Probably from the Greek *pasi* (the whole, all, very, by extension universal) and *machetes* (warrior, fighter) contracted [masculine].

**Diversity.** Western Hemisphere, with 32 species arrayed in two subgenera: *Emydopterus* Lacordaire (13 Middle American species) and *Pasimachus s.str.* (19 species).

**Identification.** Bänninger (1950) reviewed all the species and provided a key for their identification. Purrington and Drake (2005: 254–255) published a key to the North

American species. A modern taxonomic revision of the genus is needed as challenging problems remain to be resolved (Ball and Bousquet 2000: 76).

### Subgenus *Pasimachus* Bonelli, 1813

*Pasimachus* Bonelli, 1813: 476. Type species: *Scarites depressus* Fabricius, 1787 designated by Hope (1838: 94).

**Diversity.** Nineteen species in the temperate, subtropical, and tropical areas of North America (11 species) and Middle America (13 species).

**Faunistic Note.** Snow (1907: 141) recorded *Pasimachus mexicanus* Gray from Pima County in Arizona. Because the presence of this species in United States has not been confirmed subsequently, *P. mexicanus* is not retained as a North American entity in this catalogue.

#### [*depressus* group]

### *Pasimachus californicus* Chaudoir, 1850

*Pasimachus californicus* Chaudoir, 1850a: 437. Type locality: «Californie» (original citation), which is incorrect; El Paso, El Paso County, Texas, herein selected (see Casey 1913: 86, as *P. californicus transversus*). Syntype(s) in MHNP.

*Pasimachus validus* LeConte, 1858a: 14. Type locality: «Kansas, Texas, Arizona» (original citation). Syntype(s) in MCZ [# 5464]. Synonymy established by LeConte (1874a: 273).

*Pasimachus corpulentus* LeConte, 1858a: 15. Type locality: «Laredo to Ringgold Barracks, Texas; Sonora» (original citation). Syntype(s) in MCZ [# 5465]. Synonymy established by LeConte (1874a: 273).

*Pasimachus californicus transversus* Casey, 1913: 86. Type locality: «El Paso [El Paso County], Texas» (original citation). One syntype in USNM [# 46893]. Synonymy established by Leng (1920: 47).

*Pasimachus cephalotes* Casey, 1913: 87. Type locality: «Texas» (original citation). One syntype in USNM [# 46894]. Synonymy established by Leng (1920: 47).

*Pasimachus acomanus* Casey, 1913: 87. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Holotype [by monotypy] (♀) in USNM [# 46895]. Synonymy established by Leng (1920: 47).

*Pasimachus obesus* Casey, 1913: 88. Type locality: «Arizona» (original citation). One syntype in USNM [# 46896]. Synonymy established by Leng (1920: 47).

**Distribution.** This species ranges from “Utah” (LeConte 1874a: 273) to southeastern Nebraska (Pawnee County, Peter W. Messer pers. comm. 2008), south at least to eastern Arkansas (Cook and Holt 2006: 2313) and Michoacán in Mexico (Ball and Shpeley 1992a: 46).

**Records. USA:** AR, AZ, CO, KS, NE, NM, OK, TX, UT – Mexico



***Pasimachus depressus* (Fabricius, 1787)**

*Scarites depressus* Fabricius, 1787: 206. Type locality: «Cajennae [= Cayenne, French Guiana]» (original citation), which is incorrect; Southern Pines, Moore County, North Carolina, herein selected (see Casey, 1913: 82, as *P. depressus carolinensis*). Lectotype [as type], designated by Staig (1931: 21), in HMUG.

*Tenebrio complanatus* Gmelin, 1790: 1993. Type locality: «Cayenna [= Cayenne, French Guiana]» (original citation), which is incorrect. Syntype(s) location unknown. Synonymy established by Schönherr (1806: 126).

*Pasimachus morio* LeConte, 1846a: 145. Type locality: «Carolina» (original citation). Syntype(s) in MCZ [# 5458]. Synonymy established by Bänninger (1950: 510).

*Pasimachus laevis* LeConte, 1846a: 146. Type locality: «New Jersey» (original citation). Syntype(s) in MCZ [# 5459]. Synonymy established by Melsheimer (1853: 7).

*Pasimachus limbatus* Zimmermann [in LeConte], 1874a: 271. Type locality not stated. Syntype(s) probably lost. Synonymy established by Leng (1920: 47).

*Pasimachus depressus carolinensis* Casey, 1913: 82. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Four syntypes in USNM [# 46882]. Synonymy established by Leng (1920: 47).

*Pasimachus champlaini* Casey, 1913: 82. Type locality: «Carlisle Junction [Cumberland County], Pennsylvania» (original citation). Holotype [by monotypy] in USNM [# 46883]. Synonymy established by Leng (1920: 47).

**Distribution.** This species ranges from southeastern New York (Notman 1928: 211) and New Jersey (Bänninger 1950: 491) to Wisconsin (Messer 2010: 34), south to southeastern Texas (Galveston County, MCZ; Bänninger 1950: 491) and central Florida (Lake County, MCZ).

**Records. USA:** AL, AR, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MD, MO, MS, NC, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WI, WV

***Pasimachus duplicatus* LeConte, 1853**

*Pasimachus duplicatus* LeConte, 1853c: 395. Type locality: «Creek boundary [= boundary of the Creek Indian Reservation at that time, located near or in Oklahoma], Missouri Territory» (original citation). Two syntypes in MCZ [# 5460].

*Pasimachus costifer* LeConte, 1854c: 79. Type locality: «Laredo to Ringgold Barracks [Texas]» (original citation). Five syntypes in MCZ [# 5461]. Synonymy established by Erwin et al. (1977: 4.11).

**Distribution.** The range of this species extends from northern Arizona to “Missouri” (Bänninger 1950: 492), north to northern Nebraska (Cherry and Sheridan Counties, Peter W. Messer pers. comm. 2004), south to southern Texas (Johnson 1978: 67) and northeastern Mexico (Bänninger 1950: 492).

**Records. USA:** AZ, CO, KS, MO, NE, NM, OK, TX – Mexico

**Note.** Bänninger (1950: 510) retained *P. costifer* LeConte as a questionable subspecies of *P. duplicatus*.



**Figure 15.** *Elaphrus fuliginosus* Say. Why the great naturalist Thomas Say gave this eastern species the name *fuliginosus* (sooty) is not evident. It may refer to the mirrors on the elytra which gives the impression that the animals are dirty. Members of *Elaphrus* have the ability to produce stridulating chirps by rubbing rows of bristles on the dorsal surface of the abdomen against two areas of parallel ridges on the ventral surface of the elytra. The sound is produced when the beetle is under stress.

***Pasimachus elongatus* LeConte, 1846**

*Pasimachus elongatus* LeConte, 1846a: 147. Type locality: «Territorio Missouriensi» (original citation). Syntype(s) in MCZ [# 5463].

*Pasimachus pimalis* Casey, 1913: 84. Type locality: «Arizona» (original citation). Holotype [by monotypy] (♀) in USNM [# 46885]. Synonymy established with doubt by Bänninger (1950: 501).

*Pasimachus angustulus* Casey, 1913: 84. Type locality: «Nebraska» (original citation). Holotype [by monotypy] (♂) in USNM [# 46890]. Synonymy established, under the name *P. pimalis* Casey, by Leng (1920: 47).

*Pasimachus angustulus evanescens* Casey, 1913: 84. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 46886]. Synonymy established, under the name *P. pimalis* Casey, by Leng (1920: 47).

*Pasimachus vegasensis* Casey, 1913: 85. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). Holotype [by monotypy] (♂) in USNM [# 46887]. Synonymy established, under the name *P. pimalis* Casey, by Leng (1920: 47).

*Pasimachus vernicatus* Casey, 1913: 85. Type locality: «Kansas» (original citation). Holotype [by monotypy] (♂) in USNM [# 46888]. Synonymy established, under the name *P. pimalis* Casey, by Leng (1920: 47).

**Distribution.** This species ranges from the southern part of the Prairie Provinces (Lindroth 1961a: 131) south to northern Sonora (Bates 1884: 264), western and northern Texas (Wheeler, Grayson, Presidio, and Brewster Counties, MCZ, CMNH; Bänninger 1950: 490), and southeastern Louisiana (Summers 1874a: 79), east to Indiana (Blatchley 1910: 55; Bänninger 1950: 490) and southwestern Michigan (Dunn 1982a: 206). The record from southwestern Virginia (Horn 1869a: 123) is probably in error.

**Records.** CAN: AB, MB, SK USA: AR, AZ, CO, IA, ID, IL, IN, KS, LA, MI, MN, MO, MT, ND, NE, NM, OH, OK, SD, TX, WI, WY – Mexico

***Pasimachus obsoletus* LeConte, 1846**

*Pasimachus obsoletus* LeConte, 1846a: 148. Type locality: «ad flumen Platte, prope Rocky Mountains» (original citation). Three syntypes in MCZ [# 5462].

*Pasimachus acuminatus* Casey, 1913: 88. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] in USNM [# 46889]. Synonymy established by Leng (1920: 47).

*Pasimachus vestigialis* Casey, 1913: 89. Type locality: «New Mexico; El Paso and Marfa, Texas» (original citation). Three syntypes in USNM [# 46891]. Synonymy established by Leng (1920: 47).

*Pasimachus atronitens* Casey, 1913: 89. Type locality: «San Bernardino Ranch and Douglas, Cochise Co[unty], Arizona» (original citation). Six syntypes [6 originally cited] in USNM [# 46892]. Synonymy established by Leng (1920: 47).

**Distribution.** This species is found from “Iowa” (Bänninger 1950: 492) to southeastern Wyoming (Laramie County, CMNH), south to southeastern Arizona (Casey 1913: 89, as *P. atronitens*) and Chihuahua in northern Mexico (Bänninger 1950: 492).

**Records. USA:** AZ, CO, IA, KS, NE, NM, OK, SD, TX, WY – Mexico

**Note.** Bänninger (1950: 510) retained *P. atronitens* and *P. acuminatus* as questionable subspecies of *P. obsoletus*. Erwin (2011b: 51) treated *P. atronitens* as a valid species.

### ***Pasimachus punctulatus* Haldeman, 1843**

*Pasimachus punctulatus* Haldeman, 1843b: 298. Type locality: «Alabama» (original citation). One possible syntype, labeled “[orange disc] / *P. punctulatus* !Hald. [handwritten],” in MCZ (collection LeConte).

*Pasimachus missuricus* Gistel, 1857: 27. Type locality: «Missouri» (original citation). Syntype(s) lost. Synonymy established by Bänninger (1950: 501).

*Pasimachus sinuatus* Casey, 1913: 83. Type locality: «S[ain]t Louis, Missouri» (original citation). Holotype [by monotypy] in USNM [# 46884]. Synonymy established by Leng (1920: 47).

**Distribution.** This species ranges from New Jersey (Smith 1890: 74; Smith 1910: 201) and north-central Virginia (Carrington 2002: 107) to west-central Kansas (Snow 1878: 63; Knaus 1907: 233), south to central Texas (LeConte 1846a: 146; Lee County, MCZ) and the Florida Panhandle (Peck and Thomas 1998: 16); also recorded from Durango in Mexico (García 2004: 289, as *P. punctatus* Haldeman). The record from Cochise County, Arizona (Snow 1906b: 161) is probably in error.

**Records. USA:** AL, AR, FL, IL, IN, KS, KY, LA, MO, MS, NC, NJ, OH, OK, PA, SC, TN, TX, VA, WV – Mexico

### ***Pasimachus viridans* LeConte, 1858**

*Pasimachus viridans* LeConte, 1858b: 61. Type locality: «Sonora [Mexico]» (original citation). Holotype [by monotypy] in MCZ [# 5466].

*Pasimachus ignicinctus* Bates, 1891a: 230. Type locality: «Canelas, Sierra Madre of Durango [Mexico]» (original citation). Syntype(s) probably in BMNH. Synonymy established by Erwin et al. (1977: 4.11).

*Pasimachus viridans ambiens* Casey, 1913: 90. Type locality: «Arizona» (original citation). Four syntypes [4 originally cited] in USNM [# 46898]. Synonymy established by Leng (1920: 47).

**Distribution.** This species ranges from southern Arizona (Schaeffer 1905: 142) south at least to Durango in Mexico (Bänninger 1950: 493).

**Records. USA:** AZ – Mexico

**Note.** Bänninger (1950: 510) retained *P. ignicinctus* Bates as a valid subspecies of *P. viridans*.



## [marginatus group]

***Pasimachus marginatus* (Fabricius, 1787)**

*Scarites marginatus* Fabricius, 1787: 206. Type locality: «Cajennae [= Cayenne, French Guiana]» (original citation), which is incorrect. Lectotype [as type], designated by Staig (1931: 23), in HMUG.

*Pasimachus crassus* Casey, 1913: 81. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Four syntypes in USNM [# 46881]. Synonymy established by Erwin et al. (1977: 4.11).

**Distribution.** This species ranges from southern Maryland (Peter W. Messer pers. comm. 2010) to the Florida Keys (Nichols 1988b: Fig. 5-4; Peck and Thomas 1998: 16), west to “Texas” (Leng 1915: 565; Bänninger 1950: 488), north along the Mississippi River drainage to southwestern Kentucky (Mammoth Cave National Park, CMNH).

**Records. USA:** AL, FL, GA, KY, LA, MD, MS, NC, SC, TN, TX

**Note.** Bänninger (1950: 509) retained *P. crassus* Casey as a questionable subspecies of *P. marginatus*.

***Pasimachus subsulcatus* Say, 1823**

*Pasimachus subsulcatus* Say, 1823a: 19. Type locality: «Georgia and Florida» (original citation), restricted to «Florida» by Lindroth and Freitag (1969: 333). Lectotype, designated by Lindroth and Freitag (1969: 333), in MHNP (collection Dejean).

*Pasimachus floridanus* Casey, 1913: 79. Type locality: «Palm Beach [Palm Beach County], Florida» (original citation). Six syntypes [6 originally cited] in USNM [# 46879]. Synonymy established by Erwin et al. (1977: 4.11).

*Pasimachus subsulcatus subnitens* Casey, 1913: 79. Type locality: «Florida» (original citation). Holotype [by monotypy] in USNM [# 46878]. Synonymy established by Leng (1915: 567).

*Pasimachus opacipennis* Casey, 1913: 80. Type locality: «Florida» (original citation). Holotype [by monotypy] in USNM [# 46880]. Synonymy established with doubt by Bänninger (1950: 509).

**Distribution.** This species is probably restricted to the Coastal Plain ranging from South Carolina (Kirk 1970: 9; Ciegler 2000: 38) to southern Florida including the Keys (Peck and Thomas 1998: 17), west to southeastern Louisiana (Allen 1965: 62).

**Records. USA:** AL, FL, GA, LA, SC

**Note.** Bänninger (1950: 510) retained *P. floridanus* Casey and *P. subnitens* Casey as questionable subspecies of *P. subsulcatus*. Nichols (1988a: 217) retained *P. floridanus* as a valid species but added that “further study is needed to determine ... whether it is a taxon worthy of distinction from *Pasimachus subsulcatus* Say.”

[**strenuus group**]***Pasimachus strenuus* LeConte, 1874**

*Pasimachus strenuus* LeConte, 1874a: 267. Type locality: «Florida» (original citation).

Syntype(s) [2 originally cited] in MCZ [# 5455].

*Pasimachus strenuus robustus* Casey, 1913: 78. Type locality: «Florida» (original citation). Holotype [by monotypy] in USNM [# 46877]. Synonymy established by Leng (1915: 566).

**Distribution.** This species is known from southeastern Georgia (Fattig 1949: 12), the Florida Peninsula and Panhandle (Peck and Thomas 1998: 17), and southwestern Alabama (Löding 1945: 12).

**Records. USA:** AL, FL, GA

***Pasimachus sublaevis* (Palisot de Beauvois, 1811)**

*Scarites sublaevis* Palisot de Beauvois, 1811: 107. Type locality: «Caroline du sud» (original citation). Syntype(s) probably lost.

*Pasimachus substriatus* Haldeman, 1843c: 313. Type locality: «Long Island [New York]» (original citation). One possible syntype, labeled “[pink disc] / *P. substriatus* Lec. [handwritten] / *sublaevis* 15 [handwritten],” in MCZ (collection LeConte). Synonymy established by LeConte (1874a: 268).

*Pasimachus assimilis* LeConte, 1846a: 148. Type locality: «Georgia» (original citation). Syntype(s) in MCZ [# 5457]. Synonymy established by LeConte (1853c: 395).

*Pasimachus rugosus* LeConte, 1846a: 149. Type locality: «Nova Caesarea» [= New Jersey] (original citation). Syntype(s) in MCZ [# 5456]. Synonymy established by LeConte (1853c: 395).

*Pasimachus brevitarsis* Casey, 1913: 76. Type locality: «Pass Christian [Harrison County], Mississippi» (original citation). Two syntypes [2 originally cited] in USNM [# 46875]. Synonymy established with doubt by Bänninger (1950: 509).

*Pasimachus oblongus* Casey, 1913: 77. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Four syntypes [4 originally cited] in USNM [# 46876]. Synonymy established with doubt, under the name *P. substriatus* Haldeman, by Bänninger (1950: 509).

**Distribution.** The range of this species extends from Massachusetts (Miliotis 1974: 114) to central Iowa (Purrington and Drake 2005: 256), south to southeastern Mississippi (Casey 1913: 76, as *P. brevitarsis*) and southern Florida including the Keys (Nichols 1988b: Fig. 5-4; Peck and Thomas 1998: 17). The records from South Dakota (Kirk and Balsbaugh 1975: 15, as *S. substriatus*), “Kansas” (Bousquet and Larochelle 1993: 96), and southeastern Louisiana (Summers 1874a: 79) need confirmation.

**Records. USA:** AL, DC, FL, GA, IA, IL, IN, MA, MS, NC, NJ, NY, OH, SC, TN, VA [KS, LA, SD]

**Note.** Bänninger (1950: 510) retained *P. substriatus* Haldeman as a questionable subspecies of *P. sublaevis*. Nichols (1988a: 224–225) treated it as a junior synonym of *P. sublaevis*.

### Tribe SCARITINI Bonelli, 1810

Scaritides Bonelli, 1810: Tabula Synoptica. Type genus: *Scarites* Fabricius, 1775.

**Diversity.** Worldwide, with about 495 species (Lorenz 2005: 135–141 and the genus *Scaraphites* Westwood) placed in 42 genera arrayed in four subtribes: Acanthoscelitina (one species on the southwest coast of Africa), Oxylobina (29 Asian species in the genus *Oxylobus* Chaudoir), Scapterina (22 species in the Eastern Hemisphere except Europe), and Scaritina (about 445 species).

### Subtribe SCARITINA Bonelli, 1810

Scaritides Bonelli, 1810: Tabula Synoptica. Type genus: *Scarites* Fabricius, 1775.

**Diversity.** Worldwide, with about 445 species arrayed in 37 genera. The tribe is much more diversified in term of species (about 51% of the world fauna) in the Afrotropical (particularly on Madagascar) than anywhere else. The Western Hemisphere has only four endemic genus-group taxa: *Antilliscaris* Bänninger (four West Indian species), *Baenningeria* Reichardt (two species on the Galápagos), *Glyptogrus* Bates (seven Neotropical species), and *Taeniolobus* Chaudoir (about 40 Neotropical species). The Nearctic (with seven species) and Australian (with 12 species) Regions are underrepresented.

### Genus SCARITES Fabricius, 1775

*Scarites* Fabricius, 1775: 249. Type species: *Scarites subterraneus* Fabricius, 1775 designated by Andrewes (1929: 225). Etymology. From the Greek *scaritis* (gem of the color of the fish named *scaros*, probably a wrasse, in Pliny the Elder) [masculine].

**Diversity.** About 190 species (Lorenz 2005: 137–140) arrayed in four subgenera: *Orientolobus* Dostal (eight Indo-African species), *Parallelomorphus* Motschulsky (15 Old World species), *Scarites s.str.* (about 130 species), and *Taeniolobus* Chaudoir (about 40 Neotropical species). The genus is more diversified in term of species in the tropics of the Old World (about 60.5% of the world fauna) than anywhere else.

**Identification.** Bänninger (1938) reviewed the species and provided keys for their identification. Three new North American species were subsequently described. Bousquet and Skelley (2010) published a key to all Nearctic species except *S. lissopterus* Chaudoir.

### Subgenus *Scarites* Fabricius, 1775

*Scarites* Fabricius, 1775: 249. Type species: *Scarites subterraneus* Fabricius, 1775 designated by Andrewes (1929: 225).

*Scallophorites* Motschulsky, 1857b: 95. Type species: *Scarites striatus* Dejean, 1825 by original designation. Synonymy established by Jeannel (1946: 240).

*Scaritoli* Fairmaire, 1905: 115. Type species: *Scaritoli politus* Fairmaire, 1905 (= *Scarites fairmairei* Bänninger, 1933) by monotypy. Synonymy established by Bänninger (1933: 104).

**Diversity.** About 130 species in the Nearctic (seven species), Neotropical (about 25 species), Oriental (about 45 species), Palaearctic (about 25 species, most of them in Asia), and Afrotropical (about 45 species) Regions. The bulk of the species (about 77% of the world fauna) are found in the tropics of the Old World.

**Taxonomic Note.** The taxonomy of the species of the *quadriceps* group is based on Stephen W. Nichols' unpublished manuscript entitled "A provisional key to the North American species of the *Scarites subterraneus* group" as well as his thesis (Nichols 1988a).

### [*quadriceps* group]

#### *Scarites lissopterus* Chaudoir, 1881

*Scarites quadriceps* var. *lissopterus* Chaudoir, 1881: 93. Type locality: «Dallas [Dallas County], Texas» (original citation). Syntype(s) probably in MHNP.

**Distribution.** This species inhabits the Great Plains from south-central Kansas (Sedgwick County, MCZ) to the Rio Grande in Texas (Hidalgo and Cameron Counties, MCZ, USNM), west to western Texas (El Paso County, USNM), including southeastern and central New Mexico (Chaves County, CMNH; Ellis et al. 2001: 16), east to northeastern Louisiana (Franklin and Tensas Parishes, Igor M. Sokolov pers. comm. 2009). The records from "Wisconsin" and "Iowa" (Bousquet and Larochelle 1993: 96) are likely in error.

**Records. USA:** KS, LA, NM, OK, TX

**Note.** Bänninger (1938: 152) regarded this taxon as a subspecies of *S. subterraneus* Fabricius.

#### *Scarites quadriceps* Chaudoir, 1843

*Scarites quadriceps* Chaudoir, 1843b: 729. Type locality: «Amérique septentrionale» (original citation). Syntype(s) in MHNP.

*Scarites substriatus* Haldeman, 1844: 54. Type locality not stated. Syntype(s) possibly in MCZ. Synonymy established by LeConte (1846b: 210). **NOTE.** Two specimens in collection LeConte (MCZ), labeled "[orange disc] / *Scarites substriatus* Hald. quadriceps Chaud. distinctus Hald. [handwritten]" and "[orange disc] / substriatus 2 [handwritten]," could be syntypes of *S. substriatus* and / or *S. distinctus*.

*Scarites distinctus* Haldeman, 1844: 54. Type locality: «Georgia?» (original citation). Syntype(s) possibly in MCZ. Synonymy established by LeConte (1846b: 210).

*Scarites intermedius* LeConte, 1845a: 201. Type locality: «provinciis occidentalibus» (original citation). Syntype(s) in MCZ [# 675]. Synonymy established, under the name *S. distinctus* Haldeman, by LeConte (1863b: 3).



*Scarites ephialtus* LeConte, 1845a: 201. Type locality: «provinciis Australibus» (original citation). Syntype(s) in MCZ [# 676]. Synonymy established, under the name *S. intermedius* LeConte, by Melsheimer (1853: 7).

*Scarites affinis* LeConte, 1845a: 201. Type locality: United States of America (inferred from title of the paper). Syntype(s) in MCZ [# 674]. Synonymy established, under the name *S. vicinus* Chaudoir, by LeConte (1846b: 211).

**Distribution.** This species ranges along the Coastal Plain from New Jersey (Smith 1890: 74, as *S. subterraneus* var. *substriatus*; CNC) to southern Florida (Nichols 1988b: Fig. 5-7; Peck and Thomas 1998: 17), west to southeastern Texas (Jefferson County, USNM). Several records (i.e., AR, IA, IL, IN, KS, KY, MI, MN, MO, OH, OK, ON, PA, SD, TN, WI) listed in Bousquet and Laroche (1993: 97) refer to other species, particularly *S. vicinus* Chaudoir.

**Records. USA:** AL, FL, GA, LA, MD, MS, NC, NJ, SC, TX

### ***Scarites vicinus* Chaudoir, 1843**

*Scarites vicinus* Chaudoir, 1843b: 728. Type locality: «environs de la Nouvelle Orléans [Louisiana]» (original citation). Syntype(s) in MHNP.

**Distribution.** This species ranges from southern Ontario (CNC) to eastern North Dakota (Tinerella 2003: 635 as *S. quadriceps*), south to northeastern Texas (Cass County, USNM) and northern Alabama (Madison County, USNM).

**Records. CAN:** ON **USA:** AL, AR, IA, IL, IN, KS, KY, LA, MN, MO, MS, ND, NE, OH, OK, TN, TX, WI

### **[subterraneus group]**

### ***Scarites marinus* Nichols, 1986**

*Scarites marinus* Nichols, 1986: 258. Type locality: «Big Pine Key, Monroe Co[unty], Florida» (original citation). Holotype (♀) in CUIIC [# 6891].

**Distribution.** This species is known from coastal Florida, including the Keys (Peck and Thomas 1998: 17), the Bahamas, Cuba, and the Yucatán Peninsula in southern Mexico [see Nichols 1986: Fig. 9]. One old specimen simply labeled from Louisiana is known (Nichols 1986: 261).

**Records. USA:** FL [LA] – Bahamas, Cuba, Mexico

### ***Scarites ocalensis* Nichols, 1986**

*Scarites ocalensis* Nichols, 1986: 261. Type locality: «Jacksonville, Duval Co[unty], Florida» (original citation). Holotype (♂) in CUIIC [# 6890].

**Distribution.** This species is endemic to the Florida Peninsula north of Lake Okeechobee [see Nichols 1986: Fig. 10].

**Records. USA:** FL

***Scarites stenops* Bousquet and Skelley, 2010**

*Scarites stenops* Bousquet and Skelley, 2010: 46. Type locality: «4.0 mi[les] S[outh] W[est] Archer on Rt-24, Levy Co[unty], Florida» (original citation). Holotype (♂) in FSCA.

**Distribution.** This species is known only from the holotype.

**Records. USA:** FL

***Scarites subterraneus* Fabricius, 1775**

*Scarites subterraneus* Fabricius, 1775: 249. Type locality: «P[oin]t Pelee, Ont[ario]» (neotype label). Neotype (♂), designated by Nichols (1985a: 1214), in CNC [# 20654]. NOTE. “America” was the area originally listed by Fabricius (1775: 249).

*Carabus interruptus* Herbst, 1784: 133. Type locality: «Ostindien» (original citation), which is incorrect. Syntype(s) location unknown (possibly in ZMHB). Synonymy established by Fabricius (1801: 124).

*Scarites subterreus* Bonelli, 1813: 466. Type locality: «Amérique septentrionale» (original citation). Syntype(s) location unknown. Synonymy established by Chaudoir (1881: 94).

*Scarites beckwithii* Stephens, 1827: 37. Type locality: «near Dover [and] Yorkshire coast [United Kingdom]» (original citation). Syntype(s) [3 originally cited] in BMNH. Synonymy established with doubt by Chaudoir (1855: 104), confirmed by Nichols (1988a: 48).

*Scarites denticollis* Chaudoir, 1843b: 729. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) in MHNP. Synonymy established by Chaudoir (1881: 94), confirmed by Nichols (1988a: 48).

*Scarites patruelis* LeConte, 1845a: 201. Type locality: «Georgia» (original citation). Syntype(s) in MCZ [# 673]. Synonymy established with doubt, under the name *S. denticollis* Chaudoir, by Chaudoir (1855: 104).

*Scarites californicus* LeConte, 1852a: 198. Type locality: «ad San Diego [San Diego County, California]» (original citation). Syntype(s) [2 originally cited] in MCZ [# 672]. Synonymy established by Bousquet and Larochelle (1993: 97) based on Nichols (1988a: 49) unpublished thesis.

*Scarites texanus* Chaudoir, 1881: 94. Type locality: «Texas et dans le Yucatan (?)» (original citation). Syntype(s) in MHNP (Nichols 1988a: 51). Synonymy established by Nichols (in Bousquet and Skelley 2010: 47).

*Scarites durangoensis* Bates, 1891a: 232. Type locality: «Villa Lerdo in Durango [Mexico]» (original citation). Syntype(s) probably in BMNH. Synonymy established, under the name *S. californicus* LeConte, by Bänninger (1933: 119).

**Distribution.** This species is found from southeastern New Hampshire (Rockingham and Strafford Counties, Donald S. Chandler pers. comm. 2008) to eastern North Dakota (Cass County, Donald P. Schwert pers. comm. 1989), including southern Ontario (Lindroth 1961a: 129), south to the Yucatán Peninsula (Nichols 1988a: 52), the

Florida Keys (Peck and Thomas 1998: 17), and Cuba (Darlington 1934: 67; Nichols 1988b: Fig. 5-8), west along the southwest to southwestern California (LeConte, 1852a: 198, as *S. californicus*) and Baja California (Horn 1894: 307).

**Records.** **CAN:** ON **USA:** AL, AR, AZ, CA, CT, CO, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV – Cuba, Mexico

**Note.** Bänninger (1938: 151) retained *S. patruelis* LeConte, *S. californicus* LeConte, and *S. texanus* Chaudoir as valid subspecies of *S. subterraneus*. All three names are listed in synonymy with *S. subterraneus* by Nichols (1988a: 49).

### Tribe CLIVININI Rafinesque, 1815

Clivinidia Rafinesque, 1815: 109. Type genus: *Clivina* Latreille, 1802.

**Diversity.** Worldwide, with about 820 species (Lorenz 2005: 141-150) arrayed provisionally in three subtribes, Forcipatorina (25 Neotropical species), Ardistomina (about 90 species), and Clivinina (about 705 species). The last two subtribes are represented in North America. The Nearctic fauna includes 57 species (about 7% of the world fauna).

### Subtribe CLIVININA Rafinesque, 1815

Clivinidia Rafinesque, 1815: 109. Type genus: *Clivina* Latreille, 1802.

**Diversity.** Worldwide, with about 705 species. The Northern Hemisphere is represented by about 170 species (roughly 24% of the world fauna) and North America by 52 species (about 7% of the world fauna).

### Genus CLIVINA Latreille, 1802

*Clivina* Latreille, 1802: 96. Type species: *Scarites arenarius* Fabricius, 1775 (= *Tenebrio fossor* Linnaeus, 1758) by monotypy. Etymology. From the Greek *clivina* (kind of bird in Pliny the Elder) [feminine].

**Diversity.** Worldwide, with about 375 species described (Lorenz 2005: 141-145) arrayed in nine subgenera: *Antroforceps*, *Clivina s.str.*, *Cliviniella* Kult (four Afrotropical species), *Dacca* Putzeys (one Oriental species), *Eoclivina* Kult (eight Indo-African species), *Physoclivina* Kult (one Afrotropical species), *Reichardtula* Whitehead, *Leucocara*, and *Semiclivina*. Seventeen species, three of them adventive, are found in the boreal (marginal), temperate, and subtropical areas of North America.

### Subgenus Semiclivina Kult, 1947

*Semiclivina* Kult, 1947: 31. Type species: *Clivina dentipes* Dejean, 1825 by original designation. Etymology. From the Latin prefix *semi-* (half) and the generic name *Clivina* [q.v.] [feminine].

**Diversity.** Western Hemisphere, with at least 30 species in the Nearctic (two species, one of them adventive) and Neotropical (at least 30 species) Regions. One species, possibly adventive, is known from the suburbs of Sydney, Australia (Baehr 2008: 23-25).

**Identification.** Nichols (1985b: 380) discussed the structural differences between the two species found in North America.

**Taxonomic Note.** This subgenus as defined by Kult (1947: 31) includes the species of groups 19 (mistakenly reported as group 29 by Kult) and 24 of Putzeys (1867b: 145, 166-178). Recently Dostal (2011) listed this taxon as a distinct genus and described a new subgenus, *Uroclivina* Dostal, for the species of *Semiclivina* with a peculiar tubercle behind the posterior edge of the eye.

### *Clivina dentipes* Dejean, 1825

*Clivina dentipes* Dejean, 1825: 415. Type locality: «île de Cuba» (original citation).

Holotype [by monotypy] location unknown (possibly lost according to Lindroth 1955b: 13 and Nichols 1988a: 160).

*Clivina fissipes* Putzeys, 1846: 89. Type locality: «Texas» (original citation). Holotype [by monotypy] in UMO (Nichols 1988a: 160). Synonymy established, under the name *C. corvina* Putzeys, by Melsheimer (1853: 8), confirmed by Nichols (1988a: 160).

*Clivina corvina* Putzeys, 1846: 92. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) [2 originally cited] probably in MHNP (collection Chaudoir). Synonymy established by LeConte (1879a: 33).

*Clivina confusa* LeConte, 1852a: 198. Type locality: «ad fluminis Colorado ripas» (original citation). Three syntypes in MCZ [# 5468]. Synonymy established, under the name *C. corvina* Putzeys, by Melsheimer (1853: 8).

*Clivina georgiana* LeConte, 1857b: 81. Type locality: Georgia (inferred from the species name). Syntype(s) location unknown (probably in MCZ). Synonymy established by Putzeys (1867b: 173).

**Distribution.** The range of this species extends from Connecticut (Krinsky and Oliver 2001: 44) to eastern South Dakota (Kirk and Balsbaugh 1975: 16), including southernmost Ontario (Bousquet 1987a: 119), south to southern Texas (Zapeta, Kleberg, and Gonzales Counties, CMNH; Leng 1915: 570) and southern Florida (Peck and Thomas 1998: 17), west along the south to the Colorado River drainage in San Bernardino County, California (Fall 1901a: 41); also recorded from Cuba (Dejean 1825: 415; Jacquelin du Val 1857: 15), Jamaica (Nichols 1988b: Fig. 5-14), and Mexico as far south as Oaxaca (Erwin 2011b: 169). One old specimen labeled “Mass” is known (MCZ).

**Records.** CAN: ON USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MO, MS, NC, NE, NJ, NM, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV [MA] – Cuba, Jamaica, Mexico



***Clivina vespertina* Putzeys, 1867**

*Clivina vespertina* Putzeys, 1867b: 176. Type locality: «Montevideo [Uruguay]» (original citation). Lectotype, designated by Nichols (1985b: 380), in MHNP.

**Distribution.** This species is native to South America and is adventive in North America where it is known from southeastern United States (Nichols 1985b: 380). The first inventoried specimen collected on this continent was found in Mobile, Alabama in 1948 (Nichols 1985b: 380).

**Records. USA:** AL, LA, MS – **Adventive**

**Subgenus *Clivina* Latreille, 1802**

*Clivina* Latreille, 1802: 96. Type species: *Scarites arenarius* Fabricius, 1775 (= *Tenebrio fossor* Linnaeus, 1758) by monotypy.

**Diversity.** Worldwide, with over 250 species described. The number of species cannot be assessed at this time since many species included by Lorenz (2005: 141–145) in this subgenus belong to *Semiclivina*, *Reichardtula*, and *Leucocara*. The Nearctic Region has only ten described species and two of them are adventive.

**Identification.** Bousquet (1997c: 347–348) published a key to all North American species and two unnamed ones. One species (*C. choatei*) was described subsequently.

***Clivina choatei* Bousquet and Skelley, 2012**

*Clivina choatei* Bousquet and Skelley, 2012: 44. Type locality: «4.0 mi SW Archer, Levy Co[unty], Florida» (original citation). Holotype (♂) in FSCA.

**Distribution.** This species is known from Levy and Gilchrist Counties in northern Florida.

**Records. USA:** FL

***Clivina collaris* (Herbst, 1784)**

*Carabus collaris* Herbst, 1784: 141. Type locality: «Berlin [Germany]» (original citation). Syntype(s) location unknown (possibly in ZMHB).

*Clivina elongata* Randall, 1838b: 34 [primary homonym of *Clivina elongata* Ahrens, 1830]. Type locality: «Boston [Suffolk County], Mass[achusetts]» (original citation). Syntype(s) lost. Synonymy established by LeConte (1879a: 34).

*Clivina randalli* LeConte, 1857b: 82. Replacement name for *Clivina elongata* Randall, 1838.

**Distribution.** This European species is adventive in North America where it is known from southern Quebec (Larochelle 1975: 78) to southwestern Ohio (Dury 1879: 162) and Connecticut (Krinsky and Oliver 2001: 44), from southern Manitoba (Pollock 1991b: 298), from British Columbia (Lindroth 1961a: 162), and from Washington (Hatch 1953: 66). The first inventoried specimen collected on this continent was

found prior to 1838 (Randall 1838b: 34, as *C. elongata*) in Massachusetts. The record from northeastern Kansas (Popenoe 1877: 22, as *C. elongata*) is probably in error.

**Records.** CAN: BC, MB, ON, QC USA: CT, MA, ME, NH, OH, WA – **Adventive**

***Clivina fossor fossor* (Linnaeus, 1758)**

*Tenebrio fossor* Linnaeus, 1758: 417. Type locality: «Upsalia [= Uppsala, Sweden]» (original citation). One possible syntype in LSL (Lindroth 1957b: 338).

**Distribution.** This Palearctic subspecies is adventive in North America where it is found in the east from Newfoundland (Lindroth 1955a: 45) to northern Minnesota (Petrice et al. 2002: 9), south to northern Pennsylvania (Bradford County, CMNH) and in the west from southwestern British Columbia (Bousquet 1987a: 119) to south-central Saskatchewan (Ronald R. Hooper pers. comm. 2002), south to northwestern Wyoming (Teton County, Foster F. Purrington pers. comm. 2010) and southern Oregon (Nelson and Reynolds 1987: 12). The first inventoried specimen collected in the east was found in 1915 in the Montreal region (Lindroth 1961a: 161) and in the west in 1937 in western Washington (Hatch 1949b: 118). The records from Georgia (Fattig 1949: 14) and Alabama (Löding 1945: 12) are probably in error; those from “Ohio” (Hamilton 1889b: 93), “Illinois,” “Indiana,” and “Idaho” (Bousquet and Larochelle 1993: 102) need confirmation.

**Records.** FRA: PM CAN: AB, BC, NB, NE, NS (CBI), ON, PE, QC, SK USA: CT, MA, ME, MI, MN, NH, NY, OR, PA, VT, WA, WI, WY [ID, IL, IN, OH] – **Adventive**  
**Note.** The subspecies *C. fossor sachalinica* Nakane is found in the Far East and Japan.

***Clivina impressifrons* LeConte, 1844**

*Clivina impressifrons* LeConte, 1844: 50. Type locality: «New York» (original citation), herein restricted to Olivebridge, Ulster County (CMNH). Two syntypes in MCZ [# 5469]. **NOTE.** The specimen with the type label in the LeConte collection is not a syntype because it bears an orange disc (= southern states). Two specimens with pink discs (= middle states) are possible syntypes. The spelling *impressifrons* is an incorrect subsequent spelling, introduced by LeConte (1846b: 213), not currently in prevailing usage.

**Distribution.** The range of this species, also known under the vernacular name “slender seed-corn beetle,” extends from the Saint Lawrence Plain in southern Quebec (Lindroth 1961a: 164) to northern Utah (Knowlton and Wood 1947: 94; Davis and Utah Counties, USNM), south to southern Texas (Hlavac 1967: 31; Johnson 1978: 67) and northern Georgia (Fattig 1949: 14; Hlavac 1967: 30). At least one specimen simply labeled from Florida is known (Hlavac 1967: 30). The record from Idaho (Anonymous 1960: 642) needs confirmation.

**Records.** CAN: ON, QC USA: AL, AR, CO, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV [FL, ID]

***Clivina myops* Bousquet, 1997**

*Clivina myops* Bousquet, 1997c: 343. Type locality: «Raleigh [Wake County], N[orth] C[arolina]» (original citation). Holotype (♂) in CNC [# 22215].

**Distribution.** This species is known from the holotype collected in east-central North Carolina and six old specimens labeled “D C,” “Md,” and “Ill.” (CMNH).

**Records. USA:** DC, IL, MD, NC

***Clivina oregona* Fall, 1922**

*Clivina oregona* Fall, 1922b: 164. Type locality: «Corvallis [Benton County], Oregon» (original citation). Holotype in MCZ [# 23857].

**Distribution.** This species occurs from southern British Columbia (Lindroth 1961a: 163) and northern Idaho (Hatch 1953: 66) south to central Oregon (Fall 1922b: 164; Benton County, MCZ).

**Records. CAN:** BC **USA:** ID, OR, WA

**Note.** Hlavac (1967: 27) believed this species was morphologically distinct enough to propose a new subgenus, *Betaclivina*, for it. His thesis being unpublished, the name is unavailable.

***Clivina pallida* Say, 1823**

*Clivina pallida* Say, 1823a: 22. Type locality: «S[outh] C[arolina]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 334), in MCZ [# 33076]. NOTE. «Chinquoteage island, coast of Virginia» was the area originally cited by Say (1823a: 22).

*Clivina rufescens* Dejean, 1831: 504. Type locality: «Amérique septentrionale» (original citation). Syntype(s) location unknown (see Lindroth 1955b: 13 and Lindroth and Freitag 1969: 334). Synonymy established by LeConte (1846b: 214).

**Distribution.** This species ranges from southern Maine (Nelson 1995: 71) to “Illinois” (Hlavac 1967: 23), including southeastern Michigan (Saint Clair and Wayne Counties, CMNH) and west-central Indiana (Montgomery County, R. Michael Brattain collection), south to north-central Texas (Knaus 1905b: 348), southeastern Louisiana (Tangipahoa Parish, USNM) and the Florida Panhandle (Peck and Thomas 1998: 17).

**Records. USA:** AL, AR, DC, FL, GA, IL, IN, LA, MD, ME, MI, MS, NC, NJ, NY, OH, PA, SC, TN, TX, VA

***Clivina planicollis* LeConte, 1857**

*Clivina planicollis* LeConte, 1857b: 81. Type locality: «South Carolina» (original citation). Lectotype (♂), designated by Whitehead (1974: 454), in MCZ [# 5471]. NOTE. LeConte (1857b: 81, 82) originally used two spellings for the name of this species, *planicollis* (page 81) and *planicolis* (page 82). Because LeConte (1863b: 4)

subsequently used the spelling *planicollis*, this spelling is the correct original spelling (ICZN 1999: Article 24.2.4).

*Clivina texana* LeConte, 1863c: 4. Type locality: «Texas» (original citation), restricted to «Bentsen State Park, Mission, Hidalgo County» by Whitehead (1974: 454). Lectotype (♂), designated by Whitehead (1974: 454), in MCZ [# 5470]. Synonymy established by Whitehead (1974: 454).

**Distribution.** This species ranges from South Carolina (LeConte 1857b: 82; Ciegler 2000: 42) and northern Georgia (Fattig 1949: 14; Floyd County, MCZ) west to southwestern Texas (Dajoz 2004: 117; El Paso County, MCZ), north along the Mississippi River drainage to west-central Indiana (Tippecanoe County, CMNH) and east-central Kansas (Dickinson and Douglas Counties, MCZ); also recorded from Jalisco, Nayarit, Tamaulipas (Erwin 2011b: 183) and Veracruz in Mexico (Bates 1881: 32). The record from the District of Columbia (Ulke 1902: 6) needs confirmation.

**Records. USA:** AL, AR, GA, IN, KS, LA, MS, OK, SC, TX [DC] – Mexico

**Note.** Hlavac (1967: 19) believed this species was morphologically distinct enough to propose a new subgenus, *Alphaclivina*, for it. His thesis being unpublished, the name is unavailable.

### *Clivina punctigera* LeConte, 1857

*Clivina punctigera* LeConte, 1857b: 81. Type locality: «South Carolina» (original citation). One syntype in MCZ [# 5473].

**Distribution.** This species ranges from southern Missouri (Hlavac 1967: 32; Ripley County, CMNH) to central Virginia (Nelson County, USNM) and the District of Columbia (Ulke 1902: 37), including southern Ohio (Washington County, UASM; Wright and Whitehouse 1941: 70), south to the Florida Panhandle (Jackson County, CNC), southwestern Mississippi (Copiah County, MCZ), and southern Texas (Zapata, San Patricio and Dimmit Counties, CMNH, UASM).

**Records. USA:** AL, AR, DC, IL, IN, FL, GA, LA, MO, MS, OH, OK, SC, TN, TX, VA, WV

### *Clivina punctulata* LeConte, 1852

*Clivina punctulata* LeConte, 1852a: 198. Type locality: «San Jose [Santa Clara County, California]» (original citation). Two syntypes in MCZ [# 5472].

**Distribution.** This species is found in California from Siskiyou County (CAS) to San Diego County (Moore 1937: 5).

**Records. USA:** CA

### Subgenus *Antroforceps* Barr, 1967

*Antroforceps* Barr, 1967a: 66. Type species: *Antroforceps bolivari* Barr, 1967 by original designation. Etymology. Probably from the Greek *antron* (cave) and part of the



name Forcipatorina, a scaritine subtribe in which Barr placed his new taxon [masculine].

**Diversity.** Four species in the temperate regions of eastern North America (three species) and caves in the Sierra de Guatemala mountains in northeastern Mexico (one species, *C. bolivari* Barr).

**Identification.** Ball (2001) revised the species and provided a key for their identification. One species (*C. alabama*) was described subsequently.

**Taxonomic Note.** In a cladistic analysis of the Western Hemisphere subgenera proposed by Ball (2001: Fig. 9), this taxon turn out as the sister-group to {*Semiclivina* + *Leucocara* (under the name *Reichardtula*)}.

### ***Clivina alabama* Bousquet, 2012**

*Clivina alabama* Bousquet [in Bousquet and Skelley], 2012: 47. Type locality: «0.5 mi S[outh] Highland Lake, Blount Co[unty], Al[abama]» (original citation). Holotype in CNC [# 24034].

**Distribution.** This species is known only from two specimens collected in Blount County, north-central Alabama.

**Records. USA:** AL

### ***Clivina rubicunda* LeConte, 1857**

*Clivina rubicunda* LeConte, 1857b: 81. Type locality: «Louisiana» (original citation). Two syntypes in MCZ [# 5474].

**Distribution.** This species is confined to eastern United States ranging from Connecticut (Krinsky and Oliver 2001: 46) to southeastern Kansas (Knaus 1885: 57), including eastern Iowa (Ball 2001: 147), south to “Louisiana” (LeConte 1857b: 81) and central Florida (Peck and Thomas 1998: 17).

**Records. USA:** AL, CT, DC, FL, GA, IA, IL, IN, KS, LA, MD, MI, MS, NJ, NY, OH, PA, SC, VA

### ***Clivina sasajii* Ball, 2001**

*Clivina sasajii* Ball, 2001: 147. Type locality: «Latimer County, Oklahoma» (original citation). Holotype (♂) in TAMU.

**Distribution.** This species is known only from eastern Oklahoma (Ball 2001: 147).

**Records. USA:** OK

### **Subgenus *Leucocara* Bousquet, 2009**

*Leucocara* Bousquet, 2009: 43. Type species: *Clivina americana* Dejean, 1831 by original designation. Etymology (original). From the Greek *leukos* (white) and *kara*

(head) [feminine]. The name was proposed in honor of Donald Robert Whitehead [1938-1990], taxonomist at the United States Department of Agriculture who had an interest in Clivinini in general.

**Diversity.** This subgenus includes 72 species in the Nearctic (5 species), Palearctic (6 species), Oriental (18 species) and Afrotropical (43 species) Regions (see Bousquet 2009: Table 2).

**Identification.** There is no key for the identification of the North American species of this subgenus. Nichols (1988a: 147-153) covered two species (*C. acuducta* and *C. americana*) in his thesis. A revision of the group is needed.

**Taxonomic Note.** Until recently, the species of this subgenus were included in the subgenus *Reichardtula* Whitehead, a replacement name for *Eupalamus* Schmidt-Göbel.

### *Clivina acuducta* Haldeman, 1843

*Clivina acuducta* Haldeman, 1843b: 299. Type locality: «P[ennsylvani]a and Ala[bama]» (original citation), restricted to «S[outh]E[astern] Penns[ylvania]» by Lindroth (1961a: 160). One possible syntype, labeled “[orange disc] / *C. americana* Dej. *acuducta* Hald. [handwritten],” in MCZ (collection LeConte).

*Clivina cordata* Putzeys, 1846: 86. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Holotype [by monotypy] in MHNP (collection Chaudoir). **New synonymy** based on Nichols (1988a: 148) unpublished thesis.

*Clivina ludoviciana* Putzeys, 1867b: 138. Type locality: «Louisiane» (original citation). Syntype(s) [5 originally cited] in MHNP (collection Chaudoir). Synonymy established by LeConte (1879a: 34).

**Distribution.** This species ranges from Massachusetts (Norfolk County, CMNH) to southwestern Wisconsin (Grant County, CMNH), south to eastern Texas (Riley 2011; San Augustine County, CMNH) and southern Florida (Nichols 1988a: 150).

**Records. USA:** AL, AR, FL, GA, IL, IN, KY, LA, MA, MD, MO, MS, NC, NJ, NY, OH, PA, SC, TN, TX, VA, WI, WV

**Note.** *Clivina acuducta* has been listed in synonymy with *C. americana* in most catalogues (Leng 1920: 48; Erwin et al. 1977: 4.12; Bousquet and Laroche 1993: 103) but Nichols (1988a: 148) treated it as a valid species.

### *Clivina americana* Dejean, 1831

*Clivina americana* Dejean, 1831: 503. Type locality: «Amérique septentrionale» (original citation), restricted to «Boston [Suffolk County], Mass[achusetts]» by Lindroth (1961a: 160). Seven possible syntypes in MHNP (Lindroth 1955b: 13).

*Clivina analis* Putzeys, 1846: 81. Type locality: «Texas (original citation). Holotype [by monotypy] in MHNP (collection Chaudoir). Synonymy established by Putzeys (1867b: 138), confirmed by Nichols (1988a: 151).

*Clivina morula* LeConte, 1857b: 81. Type locality: United States of America (inferred from title of the paper). Syntype(s) in MCZ [# 5476]. Synonymy established by Nichols (in Bousquet 2009: 44). NOTE. This name has been recorded by mistake as *Clivina merula* LeConte by Putzeys (1867b: 192).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1954c: 301) to southeastern North Dakota (Tinerella 2003: 635), south to western (Dajoz 2007: 23) and southern (Gonzales County, MCZ) Texas, southern Louisiana (Hine 1906: 76, as *C. analis*; Calcasieu and Orleans Parishes, MCZ), and southern Florida including the Keys (Peck and Thomas 1998: 17); also recorded from the Bahamas (Nichols 1988a: 153).

**Records.** CAN: NB, NS, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV – Bahamas

### *Clivina californica* Van Dyke, 1925

*Clivina californica* Van Dyke, 1925: 124. Type locality: «shores of Clear Lake, Lake County, California» (original citation). Holotype in CAS [# 1631].

**Distribution.** This species is known only from the type locality.

**Records.** USA: CA

### *Clivina morio* Dejean, 1831

*Clivina morio* Dejean, 1831: 506. Type locality: «Amérique septentrionale» (original citation), herein restricted to 4.2 miles northeast of Abita Springs, Saint Tammany Parish, Louisiana (LSAM). Holotype [by monotypy] in MHNP.

**Distribution.** This species is known from Harrison County in southeastern Mississippi (Drew A. Hildebrandt pers. comm. 2010), Saint Tammany Parish in southeastern Louisiana, Trinity County in eastern Texas (Bousquet 2009: 44), and LeFlore County in eastern Oklahoma (Matthew Gimmel collection). The records from southeastern New York (Leng and Beutenmüller 1893: 135), Lancaster County in Pennsylvania (Rathvon 1869: 524), northwestern Georgia (Fattig 1949: 15), and southwestern Florida (Leng 1915: 571) are in error (see Bousquet 2006c: 3).

**Records.** USA: LA, MS, OK, TX

### *Clivina rufa* LeConte, 1857

*Clivina rufa* LeConte, 1857b: 81. Type locality: «Illinois» (original citation). One syntype in MCZ [# 5475].

**Distribution.** This species ranges from southeastern New York (Notman 1928: 213) to eastern South Dakota (Kirk and Balsbaugh 1975: 17), south to eastern Oklahoma (Latimer County, UASM), “Louisiana” (LeConte 1879a: 34), and southern Florida

(Peck and Thomas 1998: 17). The record from the lower peninsula of Michigan (Hubbard and Schwarz 1878: 644) needs confirmation.

**Records. USA:** AL, AR, DC, DE, FL, GA, IA, IL, IN, KS, LA, NC, NJ, NY, OK, SD [MI]

### Genus *PARACLIVINA* Kult, 1947

*Paraclivina* Kult, 1947: 31. Type species: *Clivina burmeisteri* Putzeys, 1866 by original designation. Etymology. From the Greek *para* (near, next to) and the generic name *Clivina* [*q.v.*] [feminine].

**Diversity.** At least 33 species (see Bousquet 2009: table 1) in temperate, subtropical, and tropical areas of the Nearctic (nine species) and Neotropical (29 species) Regions. Kult's (1947: 31) statement that *Paraclivina* is represented by two species in Australia is apparently erroneous (see Baehr 2008: 23).

**Identification.** There is no revision of the North American species of this genus. The last key published, that of LeConte (1879a), included seven of the eight species recorded at the time (*P. sulcipennis* was omitted). Since then, one tropical species (*Paraclivina fasciata*) has been recovered in Florida but it is unclear if it is established in the area. Putzeys (1846 and 1867b) included descriptions of all the North American species currently recognized. In his 1867 work, these species were listed in groups 21 (most species) and 22 (*P. fasciata* and *P. ferrea*) of the genus *Clivina*. A revision of the genus is needed.

**Taxonomic Note.** This taxon is very likely monophyletic, characterized by the synapomorphic condition of the lateral bead of the pronotum uninterrupted and removed from the base. The genus *Clivina* is markedly speciose and inadequately understood both taxonomically and phylogenetically. In these circumstances, I believe it is more convenient to isolate this taxon as a distinct genus even if eventually it may prove to be nested within *Clivina*. In a cladistic analysis of the five Western Hemisphere subgenera of *Clivina* (*sensu auctorum*) conducted by Ball (2001: Fig. 9), this taxon turn out as the sister-group to the remaining subgenera.

### *Paraclivina bipustulata* (Fabricius, 1798)

*Scarites 2pustulatus* Fabricius, 1798: 44. Type locality: «America boreali» (original citation). Three syntypes in ZMUC (Zimsen 1964: 41).

*Scarites quadrimaculatus* Palisot de Beauvois, 1811: 107. Type locality: «Caroline du sud» (original citation). Syntype(s) probably lost. Synonymy established by Say (1823a: 21).

**Distribution.** The range of this species extends from Massachusetts (Purrington 1997: 96) to eastern South Dakota (Kirk and Balsbaugh 1975: 17; French et al. 2004: 557), south to southeastern Texas (Snow 1906a: 141; Cameron County, MCZ) and southern Florida including the Keys (Peck and Thomas 1998: 17), west along the southwest to southern Arizona (Dajoz 2004: 116; Cochise and Pima Counties, UASM); also



recorded from several islands of the West Indies, Mexico, Honduras, and Nicaragua (Erwin 2011b: 162). The record from “New Hampshire” (Bousquet and Larochelle 1993: 103) needs confirmation.

**Records.** CAN: ON USA: AL, AR, AZ, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, WI, WV [NH] – Cayman Islands, Cuba, Dominican Republic, Haiti, Jamaica, Mexico

***Paraclivina convexa* (LeConte, 1844)**

*Clivina convexus* LeConte, 1844: 50. Type locality: «Georgia» (original citation). Two syntypes in MCZ [# 5478].

*Clivina bisignata* Putzeys, 1846: 102. Type locality: «Amérique boréale» (original citation). Holotype [by monotypy] probably in MHNP (collection Chaudoir). Synonymy established with doubt by LeConte (1857b: 82), accepted by Putzeys (1867b: 156).

**Distribution.** This species is known from Long Island, New York (Cooper 1935: 144) to east-central South Carolina (Ciegler 2000: 41) and “Georgia” (LeConte 1844: 50) and from “Louisiana” (LeConte 1879a: 34) and Cuba (Chevrolat 1863: 193, as *C. bisignata*). The records from “Arkansas” (Bousquet and Larochelle 1993: 103) and “Texas” (Leng and Beutenmüller 1893: 96) need confirmation.

**Records.** USA: GA, LA, NC, NJ, NY, SC, VA [AR, TX] – Cuba

***Paraclivina fasciata* (Putzeys, 1846)**

*Clivina fasciata* Putzeys, 1846: 106. Type locality: «Merida, Yucatan» (original citation). Syntype(s) [5 originally cited] in UMO (Nichols 1988a: 135) and probably also MHNP.

*Clivina klugii* Putzeys, 1846: 106. Type locality: «Colombie; Cumana [Venezuela]» (original citation). Syntype(s) [2 originally cited] in MHNP (Nichols 1988a: 136). Synonymy established by Nichols (in Bousquet 2009: 38). Etymology. The specific name honors the German entomologist Johann Christoph Friedrich Klug [1775-1856], professor and eventually director of the Zoological Museum at the University in Berlin.

*Clivina sculptifrons* Putzeys, 1846: 107. Type locality: «Colombie» (original citation). Syntype(s) [3 originally cited] in MHNP (Nichols 1988a: 136). Synonymy established by Nichols (in Bousquet 2009: 38).

*Dyschirius insularis* Jacquelin du Val, 1857: 13. Type locality: Cuba (inferred from title of the book). Holotype [by monotypy] in MHNP. Synonymy established by Nichols (in Bousquet 2009: 38).

*Clivina dilutipennis* Putzeys, 1867b: 162. Type locality: «San Andres Tuxtla, Mexique» (original citation). Syntype(s) [4 originally cited] in MHNP (collection Chaudoir). Synonymy established by Nichols (in Bousquet 2009: 38).

*Clivina dissimilis* Blatchley, 1923: 15 [primary homonym of *Clivina dissimilis* Putzeys, 1846]. Type locality: «Dunedin [Pinellas County, Florida]» (original citation). Holotype [by monotypy] (♂) in PURC. Synonymy established by Erwin (2011b: 171).

*Clivina floridae* Csiki, 1927: 503. Replacement name for *Clivina dissimilis* Blatchley, 1923.

**Distribution.** This species has been reported from several islands of the West Indies and several countries from southern Mexico to South America (Erwin 2011b: 171). It is also known from one specimen, the holotype of *C. dissimilis* Blatchley, collected in Pinellas County, central Florida. The species is apparently adventive in the Philippines and the Marianas (Darlington 1970: 12).

**Records. USA:** FL – Bahamas, Brazil, Cayman Islands, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Grenada, Guadeloupe, Haiti, Honduras, Jamaica, Mexico, Panama, Puerto Rico, Saint Croix, Saint Thomas, Venezuela, Virgin Islands

### *Paraclivina ferrea* (LeConte, 1857)

*Clivina ferrea* LeConte, 1857b: 81. Type locality: «Illinois; Catskill [New York]» (original citation). Two syntypes in MCZ [# 5477].

**Distribution.** This species occurs from southeastern New York (LeConte 1857b: 82) to southeastern South Dakota (Kirk and Balsbaugh 1975: 17), south to southern Texas (Wickham 1897: 103; Johnson 1978: 67) and northern Florida (Leon County, USNM), west along southern United States to southern California (Imperial, Riverside, and Kern Counties, CAS, USNM) and the Baja California Peninsula (Horn 1894: 307).

**Records. USA:** AL, AR, AZ, CA, CO, DC, FL, GA, IA, IL, IN, KS, LA, MD, MO, MS, NC, NJ, NM, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI – Mexico

**Note.** This species has been recorded by mistake as *Clivina ferruginea* LeConte by Horn (1872c: 384).

### *Paraclivina marginipennis* (Putzeys, 1846)

*Clivina marginipennis* Putzeys, 1846: 101. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana] et Yucatan [Mexico]; Guadeloupe» (original citation), restricted to «Louisiane» by Putzeys (1867b: 149). Syntype(s) [4 originally cited but restricted to one by Putzeys (1867b: 149)] in MHNP (collection Chaudoir).

**Distribution.** This species is known from northeastern Mississippi (Tishomingo County, Drew A. Hildebrandt pers. comm. 2009), southeastern Louisiana (Putzeys 1867b: 149), and some islands of the West Indies (Nichols 1988a: 143; Peck 2009b: 5).

**Records. USA:** LA, MS – Dominica, Dominican Republic, Guadeloupe, Puerto Rico, Saint Lucia



**Figure 16.** *Pasimachus elongatus* LeConte. Because of its large size and robust shape, this species is one of the most conspicuous carabid elements of the grassland regions of North America. It belongs to a genus which is endemic to North and Middle America. Although not firmly established, the sister taxon to *Pasimachus* could be *Mouhotia*, a genus of massive and handsome species endemic to southeast Asia.

***Paraclivina postica* (LeConte, 1846)**

*Clivina postica* LeConte, 1846b: 213. Type locality: «ad Rocky Mountains» (original citation). Syntype(s) in MCZ [# 5479].

**Distribution.** This species ranges from southwestern Ohio (Dury 1882: 218) to southeastern South Dakota (Kirk and Balsbaugh 1975: 17), including southern Wisconsin (Messer 2010: 35), south to east-central Texas (Riley 2011), southeastern Louisiana (Jefferson Parish, MCZ; Allen 1965: 62; LeConte 1879a: 34), southern Mississippi (Hancock County, Drew A. Hildebrandt pers. comm. 2008), central Alabama (Shelby County, CMNH), and southwestern South Carolina (Ciegler 2000: 42).

**Records. USA:** AR, AL, GA, IA, IL, IN, KS, LA, MO, MS, NE, OH, OK, SC, SD, TN, TX, WI

***Paraclivina stigmula* (Putzeys, 1846)**

*Clivina stigmula* Putzeys, 1846: 104. Type locality: «Texas» (original citation). Syntype(s) [2 originally cited] in MHNP (collection Chaudoir).

**Distribution.** This species is known for sure only from “Texas” (Putzeys 1846: 104; MCZ). The record from “Kansas” (Bousquet and Larochelle 1993: 104) needs confirmation.

**Records. USA:** TX [KS]

***Paraclivina striatopunctata* (Dejean, 1831)**

*Clivina striatopunctata* Dejean, 1831: 505. Type locality: «Amérique septentrionale» (original citation). Four possible syntypes in MHNP (Lindroth 1955b: 13).

*Clivina picea* Putzeys, 1846: 103. Type locality: «Louisiane» (original citation). Holotype [by monotypy] location unknown (possibly in UMO, collection Chevrolat). Synonymy established by Putzeys (1867b: 155).

**Distribution.** This species may be restricted to the Coastal Plain and Piedmont Plateau. It is known from Staten Island, New York (Leng 1915: 569) and New Jersey (Hamilton 1889a: 30; Leng and Beutenmüller 1893: 96) south to southern Florida (Peck and Thomas 1998: 17), west to south-central Texas (Bexar County, CMNH, USNM). The record from eastern Iowa (Wickham 1911b: 5) is probably in error. One specimen simply labeled from Tennessee (CMNH) is also known.

**Records. USA:** AL, DE, FL, GA, LA, MS, NJ, NY, SC, TX [TN]

***Paraclivina sulcipennis* (Putzeys, 1867)**

*Clivina sulcipennis* Putzeys, 1867b: 156. Type locality: «États-Unis du Sud» (original citation). Holotype [by monotypy] probably in IRSN.

**Distribution.** This species is known only from the Atlantic shore of Virginia (Hoffman et al. 2006: 18), southern North Carolina (Brunswick County, Ken Karns pers.



comm. 2009), southeastern South Carolina (Charleston County, USNM), Florida as far south as Collier County (USNM), and southwestern Alabama (Van Dyke 1925: 125; Baldwin County, MCZ).

**Records. USA:** AL, FL, NC, SC, VA

### Genus *SCHIZOGENIUS* Putzeys, 1846

*Schizogenius* Putzeys, 1846: 131. Type species: *Schizogenius strigicollis* Putzeys, 1846 designated by Desmarest (1851: 102). Etymology. From the Greek *schizo* (cleave, split) and *geneion* (chin, by extension mentum), alluding to the indented shape of the lateral lobes of the mentum (“lobes lateraux [du menton] profondément échancrés, tellement que chacun d’eux semble partagé en deux ailes”) of the adult [masculine].

**Diversity.** Western Hemisphere, with 75 species in temperate, subtropical, and tropical areas of the Nearctic (24 species) and Neotropical (about 60 species) Regions arrayed in three subgenera: *Genioschizus* (10 species), *Listropus* Putzeys (eight Neotropical species), and *Schizogenius s.str.* (57 species). One species has been described by Baehr (1983) from the Fiji Islands in the Central Pacific Ocean based upon a single specimen. In my opinion, the specimen could be mislabeled and confirmation is needed.

**Identification.** Whitehead (1972) revised all the North American and some of the Neotropical species.

### Subgenus *Genioschizus* Whitehead, 1972

*Genioschizus* Whitehead, 1972: 144. Type species: *Schizogenius crenulatus* LeConte, 1849 by original designation. Etymology (original). From the Greek *geneion* (chin, by extension mentum) and *schizo* (cleave, split); also an anagram of *Schizogenius* [*q.v.*] [masculine].

**Diversity.** Ten species in North America (one species) and Middle and South America (ten species).

### *Schizogenius crenulatus crenulatus* LeConte, 1852

*Schizogenius crenulatus* LeConte, 1852a: 197. Type locality: «ad flumen Colorado» (original citation), restricted to «Colorado River opposite Yuma, Yuma County, Arizona» by Whitehead (1972: 150). Lectotype, designated by Whitehead (1972: 150), in MCZ [# 5480].

**Distribution.** This subspecies is found in southeastern California and Arizona south to southern Sinaloa and northern Nayarit [see Whitehead 1972: Fig. 74].

**Records. USA:** AZ, CA – Mexico

**Note.** The subspecies *S. crenulatus chiapatecus* Whitehead is found in Mexico and Honduras.

**Subgenus *Schizogenius* Putzeys, 1846**

*Schizogenius* Putzeys, 1846: 131. Type species: *Schizogenius strigicollis* Putzeys, 1846 designated by Desmarest (1851: 102).

**Diversity.** Fifty-seven species in the Nearctic (23 species) and Neotropical (45 species) Regions.

**[brevisetosus group]*****Schizogenius brevisetosus* Whitehead, 1972**

*Schizogenius brevisetosus* Whitehead, 1972: 206. Type locality: «Sanderson [Terrell County], Tex[as]» (original citation). Holotype (♂) in CNC [# 12868].

**Distribution.** This species is found along the Colorado River in eastern New Mexico to the Rio Grande drainage system in central Texas and Coahuila [see Whitehead 1972: Fig. 146]; it is also recorded from southwestern Oklahoma (Kondratieff et al. 2005: 173).

**Records. USA:** NM, OK, TX – Mexico

**[depressus group]*****Schizogenius depressus* LeConte, 1852**

*Schizogenius depressus* LeConte, 1852a: 197. Type locality: «ad flumen Colorado» (original citation). Lectotype (♂), designated by Whitehead (1972: 287), in MCZ [# 5843].

**Distribution.** This species ranges from the Okanagan Valley in southern British Columbia to northwestern South Dakota, south to the state of Mexico and southern California [see Whitehead 1972: Fig. 241].

**Records. CAN:** BC **USA:** AZ, CA (CHI), CO, ID, MT, NM, OR, SD, TX, UT, WA, WY – Mexico

***Schizogenius falli* Whitehead, 1972**

*Schizogenius falli* Whitehead, 1972: 281. Type locality: «4.8 mi[les] e[ast] Sabinas Hidalgo (800'), Rio Sabinas Hidalgo, Nuevo Leon, Mex[ico]» (original citation). Holotype (♂) in MCZ [# 31981]. Etymology. The specific name honors Henry Clinton Fall [1862-1939], a high school teacher in Chicago, Pomona, and Pasadena, and reputed coleopterist.

**Distribution.** The known range of this species extends from southern Illinois to southern California, south to Baja California Sur and Colima in Mexico [see Whitehead 1972: Fig. 240].

**Records. USA:** AR, AZ, CA, CO, IL, MO, NE, NM, OK, TX, UT – Mexico

***Schizogenius litigosus* Fall, 1901**

*Schizogenius litigosus* Fall, 1901a: 210. Type locality: «middle and northern California» (original citation), restricted to «Sylvania [Sonoma County]» by Whitehead (1972: 268). Syntype(s) in MCZ [# 23858].

**Distribution.** This species ranges west of the Rocky Mountains from Vancouver Island to western Idaho, south to southern California [see Whitehead 1972: Fig. 237].

**Records.** CAN: BC (VCI) USA: CA, ID, NV, OR, WA

***Schizogenius ochthocephalus* Whitehead, 1972**

*Schizogenius ochthocephalus* Whitehead, 1972: 285. Type locality: «Davis [Yolo County], Cal[ifornia]» (original citation). Holotype (♂) in UCD.

**Distribution.** This species is known only from a few localities in northern and central California [see Whitehead 1972: Fig. 240] and from San Bernardino County in the southeast (Dajoz 2007: 20).

**Records.** USA: CA

***Schizogenius pygmaeus* Van Dyke, 1925**

*Schizogenius pygmaeus* Van Dyke, 1925: 125. Type locality: «shores of Clear Lake, Lake County, California» (original citation). Holotype in CAS [# 1632].

*Schizogenius championi* Kult, 1950a: 142. Type locality: «Pantaleon (700 ft.), Guatemala» (original citation). Holotype in BMNH. Synonymy established by Whitehead (1972: 270). Etymology. The specific name was proposed in honor of the British coleopterist George Charles Champion [1851-1927] who is best known for his contribution to the *Biologia Centrali-Americana*. Engaged by Godman and Salvin, the editors and publishers of the series, Champion collected in Guatemala, Panama, and Colombia between 1879 and 1883. He served as Secretary and Chief Assistant to the editors and contributed major sections to nine volumes of the series on the Heteroptera and Coleoptera.

**Distribution.** This widely distributed species ranges from northern California south through Arizona and western New Mexico to Colombia, including Baja California [see Whitehead 1972: Fig. 239].

**Records.** USA: AZ, CA, NM – Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama

***Schizogenius scopaeus* Whitehead, 1972**

*Schizogenius scopaeus* Whitehead, 1972: 278. Type locality: «Limpia Canyon, 2 mi[les] n[orth] w[est] Fort Davis [Jeff Davis County], Texas» (original citation). Holotype (♂) in MCZ [# 31980].

**Distribution.** This species ranges from southern Missouri to southeastern Colorado south to Nuevo León and Tamaulipas [see Whitehead 1972: Fig. 238].

**Records. USA:** AR, CO, MO, OK, TX – Mexico

### *Schizogenius sulcifrons* Putzeys, 1846

*Schizogenius sulcifrons* Putzeys, 1846: 134. Type locality: «Amérique boréale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1961a: 167). Lectotype (♀), designated by Lindroth (1961a: 167), in UMO.

**Distribution.** This species is widely distributed east of the Mississippi River from New Brunswick (Lindroth 1961a: 167) to eastern Illinois, south to east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009), southern Mississippi (Clairborne, Covington, Pearl River, Stone, and Wilkinson Counties, Drew A. Hildebrandt pers. comm. 2008), and western North Carolina (Whitehead 1972: 267, Fig. 236). Old specimens simply labeled from “Georgia,” “South Carolina,” and “Wisconsin” are known (Whitehead 1972: 267). The record from “Alabama” (Bousquet and Laroche 1993: 106) needs confirmation.

**Records. CAN:** NB, ON, QC **USA:** DC, IL, IN, KY, LA, MA, MD, ME, MS, NC, NH, NJ, NY, OH, PA, TN, VA, VT, WV [AL, GA, SC, WI]

### [ferrugineus group]

### *Schizogenius auripennis* Bates, 1881

*Schizogenius auripennis* Bates, 1881: 38. Type locality: «Teleman, Guatemala» (original citation). Lectotype, designated by Whitehead (1972: 182), in BMNH.

*Schizogenius peninsularis* Van Dyke, 1949a: 50. Type locality: «5 miles south of Miraflores, Lower California» (original citation). Holotype in CAS [# 6010]. Synonymy established by Whitehead (1972: 182).

**Distribution.** This species ranges from southern Arizona south to Costa Rica in Pacific drainage areas [see Whitehead 1972: Fig. 101].

**Records. USA:** AZ – Belize, Costa Rica, Guatemala, Honduras, Mexico

### *Schizogenius ferrugineus* Putzeys, 1846

*Schizogenius ferrugineus* Putzeys, 1846 [January]: 135. Type locality: «Galveston [Galveston County], Texas» (original citation). Holotype [by monotypy] probably in MHNP (collection Chaudoir).

*Clivina sulcata* LeConte, 1846b [August]: 214. Type locality: «NovEboraci [= New York]» (original citation). Two syntypes in MCZ [# 31157]. Synonymy established by LeConte (1853c: 396), confirmed by Lindroth (1961a: 168).

**Distribution.** This species ranges from southern Quebec (Laroche 1975: 106) to South Dakota (Kirk and Balsbaugh 1975: 16), north to southwestern Saskatchewan (CNC), south to central Texas and northern Florida, west along southern United



States to southeastern Arizona [see Whitehead 1972: Fig. 100]. Also recorded from the Bahamas (Erwin 2011b: 215).

**Records.** CAN: ON, QC, SK USA: AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, ME, MD, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, SC, SD, TX, VA, VT, WI – Bahamas

[**lindrothi group**]

***Schizogenius lindrothi* Whitehead, 1972**

*Schizogenius lindrothi* Whitehead, 1972: 199. Type locality: «7 mi[les] n[orth] Southport, Bay Co[unty], Florida» (original citation). Holotype (♂) in MCZ [# 31970]. Etymology. The specific name honors Carl Hildebrand Lindroth [1905-1979], Swedish naturalist and carabid taxonomist. His systematic treatment of the carabid fauna of Canada and Alaska, achieved after 20 years, was the main catalyzer behind the interest for carabid taxonomy in North America that arose in the 1960s.

**Distribution.** This species is currently known only from a few specimens collected in Florida, Guatemala, and Costa Rica (Whitehead 1972: 201). Also recorded from Honduras and Panama (Erwin 2011b: 218).

**Records.** USA: FL – Costa Rica, Guatemala, Honduras, Panama

**Note.** Whitehead (1972: 201) stated that he was uncertain if the two Central American specimens he saw were conclusively conspecific with those from Florida.

[**lineolatus group**]

***Schizogenius lineolatus* (Say, 1823)**

*Clivina lineolata* Say, 1823a: 22. Type locality: «Allegheny [Allegheny County], P[ennsylvania]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 334), in MCZ [# 33078].

**Distribution.** This species is distributed from New Brunswick (Webster and Bousquet 2008: 16) to northeastern Montana, south to the Rio Grande Valley in south-central Texas, Tamaulipas in Mexico, and central Alabama [see Whitehead 1972: Fig. 206]. One old specimen simply labeled from “South Carolina” is known (Whitehead 1972: 251). Except for four apparently mislabeled “Florida” specimens, the species is unknown south of New Jersey along the Atlantic Coast.

**Records.** CAN: NB, ON, QC USA: AL, AR, CT, DC, IA, IL, IN, KS, KY, MA, MD, ME, MN, MO, MS, MT, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SD, TN, TX, VA, VT, WI, WV, WY [SC] – Mexico

[**longipennis group**]

***Schizogenius chiricahuanus* Whitehead, 1972**

*Schizogenius chiricahuanus* Whitehead, 1972: 257. Type locality: «Cave C[ree]k (ca. 6000'), Chiricahua M[oun]t[ain]s, Cochise Co[unty], Ariz[ona]» (original citation). Holotype (♂) in MCZ [# 31968].

**Distribution.** This species is known only from a few localities in southern Arizona [see Whitehead 1972: Fig. 209].

**Records. USA:** AZ

***Schizogenius longipennis* Putzeys, 1867**

*Schizogenius tristriatus* var. *longipennis* Putzeys, 1867b: 227. Type locality: «Mexique» (original citation), restricted to «Fortin de las Flores, Veracruz» by Whitehead (1972: 254). Lectotype (♀), designated by Whitehead (1972: 254), in IRSN.

*Schizogenius validus* Fall, 1901a: 210. Type locality: «Rio Verdi [= Verde River] in central Arizona» (original citation). Lectotype (♂), designated by Whitehead (1972: 254), in MCZ [# 23860]. Synonymy established by Whitehead (1972: 254).

**Distribution.** The range of this species extends from southern Arizona to Tamaulipas, south to Costa Rica [see Whitehead 1972: Fig. 208].

**Records. USA:** AZ – Belize, Costa Rica, Guatemala, Honduras, Mexico

***Schizogenius neovalidus* Whitehead, 1972**

*Schizogenius neovalidus* Whitehead, 1972: 252. Type locality: «Gila River, n[ea]r Cliff, Grant Co[unty], New Mexico» (original citation). Holotype (♂) in MCZ [# 31967].

**Distribution.** This species is known from eastern Arizona and southwestern New Mexico [see Whitehead 1972: Fig. 207].

**Records. USA:** AZ, NM

**[pluripunctatus group]**

***Schizogenius pluripunctatus* LeConte, 1852**

*Schizogenius pluripunctatus* LeConte, 1852a: 197. Type locality: «ad flumen Colorado» (original citation). Lectotype, designated by Whitehead (1972: 221), in MCZ [# 5484].

*Schizogenius simplex* LeConte, 1852a: 197. Type locality: «Colorado [River]» (original citation). Lectotype, designated by Whitehead (1972: 221), in MCZ [# 5485]. Synonymy established by LeConte (1857b: 83), confirmed by Whitehead (1972: 221).

**Distribution.** This species ranges from Arizona and western New Mexico, south to Nayarit [see Whitehead 1972: Fig. 147].

**Records. USA:** AZ, NM – Mexico

***Schizogenius seticollis seticollis* Fall, 1901**

*Schizogenius seticollis* Fall, 1901a: 209. Type locality: «Pomona [Los Angeles County], Cal[ifornia]» (lectotype label). Lectotype, designated by Whitehead (1972: 209), in MCZ [# 23859].

**Distribution.** This subspecies is restricted to central and western California, from Shasta County in the north to San Diego County in the south [see Whitehead 1972: Fig. 147].

**Records. USA:** CA

**Note.** The subspecies *S. seticollis vandykei* Whitehead is known only from a few localities in Baja California Sur (Whitehead 1972: 213).

[**sallei group**]

***Schizogenius sallei* Putzeys, 1867**

*Schizogenius sallei* Putzeys, 1867b: 228. Type locality: «Texas» (original citation), herein restricted to Garner State Park, Uvalde County (see Whitehead 1972: 230). Lectotype (♂), designated by Whitehead (1972: 229), in IRSN. Etymology. The specific name was proposed for Auguste Sallé [1820-1896], a naturalist traveller and later insect dealer in Paris. Sallé, accompanied by his mother, lived most of the time between 1832 and 1860 in Mexico and Venezuela and travelled also to southern United States, the West Indies, and Central America where he collected insects. Most of these specimens were sent to Louis Alexandre August Chevrolat who divided them in lots and sold them. In 1839, these lots were offered at 30 francs for 100 specimens plus 3 francs 40 centimes for the transport from America to Paris. His Central American collections were purchased by Godman and Salvin for the *Biologia Centrali-Americana* (Papavero 1971: 178-179).

**Distribution.** This species ranges from Kansas south to the Rio Grande Valley in southern Texas [see Whitehead 1972: Fig. 185]. One specimen simply labeled from “Ohio” (Whitehead 1972: 229) could be mislabeled. The record from south-central Colorado (Wickham 1902: 232) is probably in error.

**Records. USA:** KS, OK, TX [OH]

[**tristriatus group**]

***Schizogenius amphibius* (Haldeman, 1843)**

*Clivina amphibia* Haldeman, 1843b: 299. Type locality: southeastern Pennsylvania (Haldeman 1843a: 295). Lectotype, designated by Whitehead (1972: 236), in MCZ (collection LeConte).

*Clivina frontalis* LeConte, 1846b: 215. Type locality: «Westchester Co[unty], N[ew] Y[ork]» (original citation). Lectotype (♂), designated by Whitehead (1972: 236), in MCZ [# 5482]. Synonymy established by Melsheimer (1853: 8), confirmed by Whitehead (1972: 236).

**Distribution.** This species ranges from Maine, southern Quebec, and Michigan south to Tennessee and North Carolina [see Whitehead 1972: Fig. 190]; also seen from eastern Oklahoma (Le Flore County, FFPC). The records from eastern Iowa (Wickham 1911b: 6) and Missouri (Summers 1873: 133) need confirmation; that from southwestern Colorado (Wickham 1902: 232) must be in error.

**Records.** CAN: QC USA: CT, DC, IL, IN, KY, MA, MD, ME, MI, NC, NH, NJ, NY, OH, OK, PA, RI, TN, VA, VT, WV [IA, MO, TX]

**Note.** Whitehead (1972: 237) noted that four specimens from Texas, without definite locality data, may represent an isolated form of this species.

***Schizogenius ozarkensis* Whitehead, 1972**

*Schizogenius ozarkensis* Whitehead, 1972: 240. Type locality: «5 mi[les] n[orth] Stringtown, Atoka Co[unty], Oklahoma» (original citation). Holotype (♂) in MCZ [# 31978].

**Distribution.** This species is known only from a few specimens collected in or near the Ozark Mountains in southern Missouri, western Arkansas, and eastern Oklahoma [see Whitehead 1972: Fig. 189].

**Records.** USA: AR, MO, OK

***Schizogenius planulatus* LeConte, 1863**

*Schizogenius planulatus* LeConte, 1863c: 5. Type locality: «New York» (original citation), herein restricted to Ithaca, Tompkins County (see Whitehead 1972: 240). Lectotype (♀), designated by Whitehead (1972: 238), in MCZ [# 5481].

**Distribution.** This species is known for sure only from a few specimens collected in New York, West Virginia, and Kentucky [see Whitehead 1972: Fig. 189]; it was also reported from southwestern Ohio (Dury 1910: 66) and northeastern Georgia (Fattig 1949: 15).

**Records.** USA: KY, NY, WV [GA, OH]

***Schizogenius planuloides* Whitehead, 1972**

*Schizogenius planuloides* Whitehead, 1972: 241. Type locality: «Cypress Mills [Blanco County], Texas» (original citation). Holotype (♂) in USNM [# 74164].

**Distribution.** This species is known from a few localities throughout much of Texas [see Whitehead 1972: Fig. 189].

**Records.** USA: TX

***Schizogenius tibialis* Whitehead, 1972**

*Schizogenius tibialis* Whitehead, 1972: 234. Type locality: «19.3 mi[les] n[orth]w[est] Tamazunchale (500'), S[an] L[uis] P[otosí], Mexico» (original citation). Holotype (♂) in MCZ [# 31979].

**Distribution.** This species occurs from southern Texas south to southeastern Oaxaca and northern Chiapas [see Whitehead 1972: Fig. 188].

**Records.** USA: TX – Mexico



### Genus *HALOCORYZA* Alluaud, 1919

*Halocoryza* Alluaud, 1919: 100. Type species: *Halocoryza maindroni* Alluaud, 1919 by monotypy. Etymology. From the Greek *halos* (sea) and generic name *Coryza*, alluding to the presence along the sea (under “*de grosses pierres le long de la jetée ... ces pierres sont vraisemblablement submergées à marée haute*”) of adults of these *Coryza*-like species [feminine].

**Diversity.** Four species are placed in this genus: one (*H. acapulcana* Whitehead) is found on the Pacific Coast of Mexico and on the Galápagos Islands, one (*H. arenaria*) in southeastern North America, the West Indies, Brazil, and the west coast of Africa, another one (*H. maindroni* Alluaud) on the east coast of Africa and several islands along the western part of the Indian Ocean, including Madagascar, and the southern part of the Red Sea, and the last one (*H. whiteheadiana* Erwin) on Baja California Sur. **Identification.** Whitehead (1967) and Erwin (2011a) reviewed the species and provided keys for their identification.

### *Halocoryza arenaria* (Darlington, 1939)

*Schizogenius arenarius* Darlington, 1939: 84. Type locality: «near Barahona, Dominican Republic» (original citation). Holotype in MCZ [# 23505].

**Distribution.** This species is known from southern Florida, the Yucatán Peninsula, Jamaica (Nichols 1988b: Fig. 5-12), Puerto Rico, the Dominican Republic (Whitehead 1969: 36), the Bahamas, Cuba, Cayman Islands (Peck 2005: 29) and several islands of the Lesser Antilles (Peck 2009a: 12). The species has been recorded also from the Gulf of Biafra in Africa (Bruneau de Miré 1979) and the state of Pernambuco, Brazil (Nichols 1988b: 89).

**Records. USA:** FL – Bahamas, Barbados, Brazil, Cayman Islands, Cuba, Dominica, Dominican Republic, Jamaica, Martinique, Mexico, Puerto Rico, Saint Lucia, Saint Vincent, Virgin Islands

### Genus *OXYDREPANUS* Putzeys, 1867

*Oxydrepanus* Putzeys, 1867b: 103. Type species: *Dyschirius rufus* Putzeys, 1846 designated by Bousquet and Larochelle (1993: 107). Etymology. From the Greek *oxys* (acute) and *drepanos* (sickle), probably alluding to the acute, sickle-shaped mandibles (“*mandibules ... très arquées, très aigües à l’extrémité*”) of the adult [masculine].

**Diversity.** Thirteen species in the subtropical and tropical regions of the Western Hemisphere, including the West Indies, with one species reaching southeastern North America.

**Identification.** Nichols (1988a: 172-182) covered the four species found in the West Indies in his thesis and provided a key for their identification.

***Oxydrepanus rufus* (Putzeys, 1846)**

*Dyschirius rufus* Putzeys, 1846: 44. Type locality: «Havane, Cuba» (original citation). Holotype [by monotypy] in UMO (Nichols 1988a: 180).

*Dyschirius brevicarinatus* Putzeys, 1846: 53. Type locality: «Cuba» (original citation). Syntype(s) [2 originally cited] probably in IRSN. Synonymy established by Putzeys (1861: 70).

**Distribution.** This species has been reported from southeastern Louisiana (Colby 2002: 37), southern Florida (Darlington 1935a: 161), the Bahamas (Peck and Thomas 1998: 18), Cuba (Darlington 1934: 70), Cayman Islands and Puerto Rico (Peck 2005: 29), Dominican Republic (Erwin 2011b: 204), Jamaica, and eastern Mexico in Veracruz and Campeche (Nichols 1988a: 181).

**Records. USA:** FL, LA – Bahamas, Cayman Islands, Cuba, Dominican Republic, Jamaica, Mexico, Puerto Rico

**Subtribe ARDISTOMINA Putzeys, 1867**

*Ardistomides* Putzeys, 1867b: 4, 200. Type genus: *Ardistomis* Putzeys, 1846.

**Diversity.** Western Hemisphere, with about 90 species, arrayed in three genera. All but five species are found in the Neotropical Region. One of the North American species has been collected in Japan.

**Identification.** Bousquet (2006c) revised the North American species and provided a key for their identification.

**Genus ARDISTOMIS Putzeys, 1846**

*Ardistomis* Putzeys, 1846: 118. Type species: *Ardistomis fasciolata* Putzeys, 1846 designated by Desmarest (1851: 102). Etymology. From the Greek *ardis* (point of an arrow) and *stoma* (mouth), probably alluding to the apex of the glossal sclerite which is membranous and markedly projected forward (“*la languette ... se rétrécit de la base à l’apex qui se termine en une longue pointe membraneuse*”), one of the main characteristics of adults of this genus according to Putzeys [feminine]. NOTE. Lorenz (1998: 48) treated *Ardistomis* as masculine. However, the ending *-is* in Latin is of variable gender (masculine or feminine) and in such case the Commission (ICZN 1999: Article 30.1.4.2) rules that the name is to be treated as masculine unless its author, when establishing the name treated it as feminine in combination with an adjectival species-group name. Putzeys (1846) treated *Ardistomis* as feminine and so the name is feminine.

*Ardistomus* Csiki, 1927: 547. Unjustified emendation of *Ardistomis* Putzeys, 1846.

**Diversity.** This genus contains 44 species (Valdés 2009: 70) restricted to the temperate, subtropical, and tropical regions of the Nearctic (two species) and Neotropical (42 species) Regions, including the West Indies.

***Ardistomis obliquata* Putzeys, 1846**

*Ardistomis obliquata* Putzeys, 1846: 120. Type locality: «Amérique boréale» (original citation), restricted to «Saint Catherines Island [Liberty County], Georgia» by Bousquet (2006c: 19). Holotype [by monotypy] in MHNP (Nichols 1988a: 94).

**Distribution.** This species ranges along the Coastal Plain and Piedmont Plateau from New Jersey (Smith 1890: 76; Smith 1910: 202) and southeastern Pennsylvania (Rathvon 1969: 524) to southern Florida, west to central Louisiana [see Bousquet 2006c: Fig. 35].

**Records. USA:** AL, DC, FL, GA, LA, MS, NC, NJ, NY, PA, SC, TN, VA

***Ardistomis schaumii* LeConte, 1857**

*Ardistomis schaumii* LeConte, 1857b: 80. Type locality: «Louisiana» (original citation), restricted to «Alexandria, Rapides Parish» by Bousquet (2006c: 18). Lectotype, designated by Bousquet (2006c: 12), in MCZ [# 5486]. Etymology. The specific name honors Hermann Rudolphe Schaum [1819-1865], a German physician who eventually turned entomologist and worked primarily on Coleoptera. Schaum made a trip to eastern United States from 1847 to 1849 and stayed for some time with LeConte. In 1857 he became professor at the Royal University in Berlin.

**Distribution.** This species is found from South Carolina (Ciegler 2000: 43) to southern Florida, west to the Rio Grande in south-central Texas, north along the Mississippi River drainage to southern Illinois [see Bousquet 2006c: Fig. 34].

**Records. USA:** AL, AR, FL, GA, IL, LA, MS, OK, SC, TN, TX, VA

**Genus *SEMIARDISTOMIS* Kult, 1950**

*Semiardistomis* Kult, 1950b: 301. Type species: *Clivina labialis* Chaudoir, 1837 by original designation. Etymology. From the Latin prefix *semi-* (half) and the generic name *Ardistomis* [*q.v.*] [masculine]. NOTE. As for *Ardistomis*, this name could be masculine or feminine because of its ending *-is*. In such case, the Commission (ICZN 1999: Article 30.1.4.2) rules that the name is to be treated as masculine unless its author, when establishing the name treated it as feminine in combination with an adjectival species-group name. Kult (1950: 301) proposed *Semiardistomis* as a subgenus and so did not combine it with a species-group name. However, he treated *Ardistomis* as masculine and *Semiardistomis*, contrary to *Ardistomis*, is masculine.

*Ardistomiellus* Kult, 1950b: 303. Type species: *Clivina viridis* Say, 1823 by original designation. Synonymy established by Whitehead (in Reichardt 1977: 392). Etymology. From the generic name *Ardistomis* [*q.v.*] and the suffix *-ellus* (small, little) [masculine].

**Diversity.** Twenty species (Valdés 2012) restricted to the temperate, subtropical, and tropical regions of the Western Hemisphere, including the West Indies.

***Semiardistomis puncticollis* (Dejean, 1831)**

*Clivina puncticollis* Dejean, 1831: 508. Type locality: «Amérique septentrionale» (original citation), restricted to «Highlands Hammock State Park, Hardee Co[unty], Florida» by Bousquet (2006c: 12). Lectotype (♀), designated by Bousquet (2006c: 15), in MHNP.

**Distribution.** This species ranges from southeastern Iowa (Wickham 1911b: 6; King 1914: 321) to western Kentucky, south to the Rio Grande in southeastern Texas, east to southern Florida, north along the coast to southern Virginia [see Bousquet 2006c: Fig. 33]. The record from southeastern Pennsylvania (Rathvon 1869: 524) is probably in error.

**Records. USA:** AL, AR, FL, GA, IA, IL, IN, KS, KY, LA, MO, MS, NC, OK, SC, TX, VA

***Semiardistomis viridis* (Say, 1823)**

*Clivina viridis* Say, 1823a: 21. Type locality: «Phila[delphia] Neck, P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 334), in MCZ [# 33077].

*Clivina rostrata* Dejean, 1825: 419. Type locality: «Géorgie» (original citation). Lectotype, designated by Bousquet (2006c: 12), in MHNP. Synonymy established by Dejean (1826: 478), confirmed by Nichols (1988a: 195).

*Ardistomis vicina* Putzeys, 1846: 129. Type locality: «Amérique boréale» (original citation). Lectotype, designated by Bousquet (2006c: 12), in MHNP. Synonymy established by LeConte (1857b: 80), confirmed by Nichols (1988a: 195).

**Distribution.** The range of this species extends from Long Island, New York to southwestern Wisconsin (Messer 2010: 35), south to the Rio Grande in south-central Texas and southern Florida [see Bousquet 2006c: Fig. 32]; also recorded from the Bahamas (Turnbow and Thomas 2008: 15).

**Records. USA:** AL, AR, CT, DC, DE, FL, GA, IL, IN, KS, KY, LA, MD, MO, MS, NC, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WI, WV – Bahamas

**Genus *ASPIDOGLOSSA* Putzeys, 1846**

*Aspidoglossa* Putzeys, 1846: 108. Type species: *Aspidoglossa submetallica* Putzeys, 1846 designated by Desmarest (1851: 102). Etymology. From the Greek *aspidos* (shield) and *glossa* (tongue), probably alluding to the shape of the glossal sclerite [feminine].

**Diversity.** Twenty-six species (Lorenz 2005: 146-147) in the temperate, subtropical, and tropical regions of the Western Hemisphere, including the West Indies. One species only is found in North America.



***Aspidoglossa subangulata* (Chaudoir, 1843)**

*Dyschirius subangulatus* Chaudoir, 1843b: 738. Type locality: «Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype, designated by Bousquet (2006c: 10), in MHNP.

*Dyschirius humeralis* Chaudoir, 1843b: 737. Type locality: «Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) in MHNP. Synonymy established by Melsheimer (1853: 9).

*Aspidoglossa fraterna* Putzeys, 1846: 114. Type locality: «Amérique boréale» (original citation). Syntype(s) [7 originally cited] in MHNP (collection Chaudoir) and UMO. Synonymy established by Melsheimer (1853: 9).

*Aspidoglossa vicina* Putzeys, 1846: 114. Type locality: «Caroline» (original citation). Syntype(s) [2 ♂ originally cited] location unknown (possibly in UMO in collection Chevrolat). Synonymy established by Melsheimer (1853: 9).

**Distribution.** This species ranges over eastern United States from Washington D.C. to northeastern Kansas, including southeastern Iowa (Wickham 1911b: 6; King 1914: 323), south to the big bend along the Rio Grande in Texas and northeastern Mexico (Bousquet 2006c: 9) and southern Florida; also known from southeastern Arizona [see Bousquet 2006c: Fig. 31]. Two specimens labeled from Klamath County, Oregon (AMNH) and Gallatin County, Montana (CAS) are known (Bousquet 2006c: 9). The species has been recorded also from Japan (Habu 1963: 19).

**Records. USA:** AL, AR, AZ, DC, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MO, MS, NC, NM, OH, OK, PA, SC, TN, TX, VA [MT, OR] – Mexico

**Tribe DYSCHIRIINI Kolbe, 1880**

Dyschiriini Kolbe, 1880: 266. Type genus: *Dyschirius* Bonelli, 1810.

**Diversity.** Worldwide, with about 300 species arrayed in nine genera: *Akephorus* (two species), *Clivinopsis* Bedel (three species in northern Africa, Kazakhstan, and Turkmenistan), *Cribrodyschirius* Bruneau de Miré (seven species in Africa, Madagascar, and Asia), *Dyschirius* (about 255 species), *Neodyschirius* Kult (one Afrotropical species), *Reicheiodes* Ganglbauer (16 Palaearctic species, including the Himalayas), *Setodyschirius* Fedorenko (13 species from Australia), *Torretassoa* Schatzmayr (one species in Egypt and Yemen), and *Caledyschirius* Bulirsch (five species in New Caledonia). The Northern Hemisphere is well represented with about 220 species (73.5% of the world fauna).

**Genus AKEPHORUS LeConte, 1852**

*Akephorus* LeConte, 1852a: 194. Type species: *Akephorus marinus* LeConte, 1852 by monotypy. Etymology. From the Greek *ake* (point) and *phoro* (to bear, carry), possibly alluding to the acute apical spur of the protibia of the adult (“*tibiae anticae spinis terminalibus longissimis*”) [masculine]. NOTE. *Acephorus* is an incorrect subsequent spelling for *Akephorus*, first used by LeConte (1853c: 396), not in prevailing usage.

**Diversity.** Two species restricted to the seashore of the Pacific in North America.

**Identification.** The two species can be differentiated using Lindroth's (1961a) and Bousquet's (1988a) keys to *Dyschirius*.

**Taxonomic Note.** This taxon has been considered a subgenus of *Dyschirius* by Lindroth (1961a) and a distinct genus by Fedorenko (1996). The phylogenetic analysis of Fedorenko (1996) did not yield clear evidence as to the position of the group. Furthermore there are little structural characteristics for members of *Akephorus*. The presence of conspicuous microsculpture on the body is also found in a few *Dyschirius* groups, such as the *exochus* group, phenetically similar to the remaining *Dyschirius*. The body shape, however, is distinctive. With the current phylogenetic knowledge of the tribe, I see no harm in retaining this taxon as a distinct genus.

### *Akephorus marinus* LeConte, 1852

*Akephorus marinus* LeConte, 1852a: 195. Type locality: «circa San Diego [San Diego County, California]» (original citation). Three syntypes in MCZ [# 685].

**Distribution.** This species is confined to the seashore of the Pacific Coast of California, as far north as San Mateo County (CAS), and of the Baja California Peninsula (CNC).

**Records. USA:** CA (CHI) – Mexico

### *Akephorus obesus* (LeConte, 1863)

*Dyschirius obesus* LeConte, 1863b: 50. Type locality: «San Francisco [San Francisco County], Cal[ifornia]» (original citation). One syntype in MCZ [# 679].

**Distribution.** This species ranges along the seashore of the Pacific from Kunghit Island in the Queen Charlotte Islands (James C. Bergdahl pers. comm. 2009) south at least to central California (LeConte 1867b: 363; San Mateo County, CAS).

**Records. CAN:** BC (QCI, VCI) **USA:** CA, OR, WA

### Genus *DYSCHIRIUS* Bonelli, 1810

*Dyschirius* Bonelli, 1810: Tabula Synoptica. Type species: *Scarites thoracicus* Rossi, 1790 designated by Curtis (1831: plate 354). Etymology. Possibly from the Greek *dis* (twice, double) and *cheiros* (hand), alluding to the presence of a curved spine laterally and a movable spur medially on the protibia of the adult [masculine].

*Dischirius* Duponchel, 1844: 151. Unjustified emendation of *Dyschirius* Bonelli, 1810.

*Dyschiridius* Jeannel, 1941b: 260. Type species: *Dyschirius arenosus* Stephens, 1827 (= *Scarites thoracicus* Rossi, 1790) by original designation.

**Diversity.** About 245 species (Lorenz 2005: 151-154) in the Nearctic (about 60 species, one of them adventive), Neotropical (about 20 species, five shared with North America), Oriental (about 25 species), Palaearctic (about 140 species, many shared with the Oriental and Afrotropical Regions), and Afrotropical (about 30 species) Regions.

**Identification.** The North American species have never been revised. Bousquet (1988a) published a key to all species found in the area and briefly discussed each species-group. Subsequently five new species have been described by Bousquet (1997a) and Dajoz (2004), an adventive species has been detected (*D. globosus*) in North America, two species have been treated as junior synonyms (*D. filiformis* with *D. sublaevis* and *D. integer* with *D. dejeanii*), and two species had their names changed (*D. nigricornis* for *D. melancholicus* and *D. integer* for *D. dejeanii*).

**Taxonomic Note.** Fedorenko (1996) recognized two genera within *Dyschirius* (minus *Akephorus*): *Dyschirius* with about 20 Palearctic species and *Dyschiriodes* for the remaining species. However, there seems to be no consistent character state that separates the two “genera” except possibly for the basal sclerite of the endophallus which is “strongly sclerotized” in *Dyschirius* and “poorly sclerotized” in *Dyschiriodes*. In addition there is no solid evidence presented suggesting that the genus *Dyschirius* of authors is polyphyletic or that *Dyschirius sensu* Fedorenko and *Dyschiriodes* are sister-taxa. The genus *Dyschirius sensu auctorum* (prior to Fedorenko 1996) is a well-defined taxon and I see no reason to recognize *Dyschiriodes* as generically distinct. A similar approach was adopted by Balkenohl (2003: 223–230) in the *Catalogue of Palearctic Coleoptera*, Lorenz (2005: 151–154), and Erwin (2011b: 97–128).

Fedorenko (1996) recognized five subgenera within “*Dyschiriodes*”: *Antidyschirius* Fedorenko, 1996 [type species: *Dyschirius laevifasciatus* Horn, 1878], *Eudyschirius* Fedorenko, 1996 [type species: *Dyschirius lafertei* Putzeys, 1846], *Chiridysus* Fedorenko, 1996 [type species: *Dyschirius strumosus* Erichson, 1837], *Dyschiriodes* Jeannel, 1941 [type species: *Clivina punctata* Dejean *sensu* Jeannel, 1941 (= *Clivina minuta* Dejean, 1825)], and *Paradyschirius* Fedorenko, 1996 [type species: *Dyschirius parallelus* Motschulsky, 1844]. In my opinion there are several other species groups actually recognized within *Dyschirius* that deserve a subgeneric name. For that reason I have listed the North American species under species-group names and did not retain Fedorenko’s subgenera until further studies are done on the North American fauna. For information, the species of the *laevifasciatus* group belong to *Antidyschirius*; those of the *tridentatus*, *ferrugineus*, and *brevispinus* groups, as well as *D. globosus* (classified here in the *dejeanii* group), *D. comatus* (placed here in the *pilosus* group), *D. criddlei* and *D. edentulus* (both included here in the *politus* group) belong to *Eudyschirius*; those of the *analisis* and *quadrinaculatus* groups to *Paradyschirius*; and those of all remaining North American groups to *Dyschiriodes sensu stricto*.

#### [*analisis* group]

##### *Dyschirius affinis* Fall, 1901

*Dyschirius affinis* Fall, 1901a: 209. Type locality: «Massachusetts, eastern New York» (original citation). Syntype(s) in MCZ [# 23848].

*Dyschirius duplicatus* Fall, 1901a: 209. Type locality: «Luling and El Paso, Texas» (original citation). Syntype(s) in MCZ [# 23851]. Synonymy established by Bousquet (1988a: 372).

**Distribution.** This species ranges from Maine (Larochelle and Larivière 1990a: 28; Androscoggin County, CNC) to southeastern Montana (Herman 1986: 62), south to westernmost (Fall 1901a: 209, as *D. duplicatus*) and southern Texas (Cameron, San Patricio, and Zapata Counties, CMNH, MCZ) and Maryland (Erwin 1981b: 140). The record from “Arizona” (Bousquet and Larochelle 1993: 98) needs confirmation.

**Records.** CAN: ON, QC USA: AR, CO, CT, DC, IA, IL, IN, KS, MA, MD, ME, MT, ND, NE, NH, NM, NY, OH, OK, PA, TN, TX, VA, VT, WI, WY [AZ]

### *Dyschirius analis* LeConte, 1852

*Dyschirius analis* LeConte, 1852a: 196. Type locality: «ad fluminis Colorado ripas» (original citation). Four syntypes in MCZ [# 684].

*Dyschirius hintoni* Kult, 1950a: 137. Type locality: «Jalapa, Veracruz, Mexico» (original citation). Holotype location unknown (originally in Kult’s collection). Synonymy established by Fedorenko (1996: 200). Etymology. The specific name was proposed for the British entomologist Howard Everest Hinton [1912-1977] who worked at the British Museum of Natural History and later at Bristol University. Hinton published mainly on insect anatomy, physiology, biochemistry, and behavior.

**Distribution.** The range of this species extends from eastern Washington (Hatch 1953: 67) to southern California (Fall 1901a: 41; Moore 1937: 5), east to southwestern Louisiana (Cameron Parish, LSAM), south to Veracruz in Mexico (Kult 1950a: 138, as *D. hintoni*). The records from southeastern British Columbia (Hatch 1953: 67) and “Idaho” (Bousquet and Larochelle 1993: 98) need confirmation; that from “Nebraska” (Bousquet and Larochelle 1993: 98) is probably in error.

**Records.** USA: AZ, CA, LA, NM, NV, OR, TX, WA [BC, ID] – Mexico

### *Dyschirius haemorrhoidalis* (Dejean, 1831)

*Clivina haemorrhoidalis* Dejean, 1831: 511. Type locality: «Amérique septentrionale» (original citation), herein restricted to Bent Creek, Appomattox County, Virginia (CNC). Four possible syntypes in MHNP (Lindroth 1955b: 13).

**Distribution.** This species is found from southern New Hampshire (Hillsborough County, Ross T. Bell pers. comm. 2008) to “North Dakota” (Donald P. Schwert pers. comm. 1989), south to eastern Texas (San Augustine and Wood Counties, CMNH; Bousquet 1988a: 373; Riley 2011) and southern Florida (Peck and Thomas 1998: 17). The record from “New Mexico” (Bousquet and Larochelle 1993: 99) needs confirmation.

**Records.** CAN: ON USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, WI, WV [NM]



***Dyschirius terminatus* LeConte, 1846**

*Dyschirius terminatus* LeConte, 1846b: 212. Type locality: «NovEboraci [= New York]» (original citation). Two syntypes in MCZ [# 5467].

**Distribution.** This species ranges from Massachusetts (Hampshire County, CNC) to northeastern Kansas (Douglas County, MCZ), including central Wisconsin (Messer 2010: 34) and southeastern Iowa (Des Moines County, MCZ), south to San Luis Potosí in Mexico (Bousquet 1988a: 373) and the Florida Panhandle (Peck and Thomas 1998: 17), west along southern United States to southeastern California (Imperial County, CAS; Dajoz 2007: 16). One old specimen simply labeled “Neb” is known (MCZ).

**Records. USA:** AL, AR, AZ, CA, CT, DE, FL, IA, IL, IN, KS, LA, MA, MD, MI, MO, MS, NC, NJ, NM, NY, OH, OK, PA, SC, TN, TX, VA, WI [NE] – Mexico

**[brevispinus group]*****Dyschirius brevispinus* LeConte, 1878**

*Dyschirius brevispinus* LeConte, 1878c: 593. Type locality: «Detroit [Wayne County, Michigan]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 678].

**Distribution.** This species is known from scattered localities from the Saint Lawrence Plain in southern Quebec (Larochelle 1975: 81; Bousquet 1987a: 112) to southeastern Michigan (LeConte 1878c: 593), south to southeastern Pennsylvania (Dauphin County, MCZ; Lindroth 1961a: 139); also known from northeastern Nebraska (Clifton 1991: 61).

**Records. CAN:** ON, QC **USA:** MI, NE, OH, PA, VT

***Dyschirius tenuispinus* Lindroth, 1961**

*Dyschirius tenuispinus* Lindroth, 1961a: 139. Type locality: «Medicine Hat, Al[ber]ta» (original citation). Holotype (♂) in CNC [# 7753].

**Distribution.** This species is known only from a few specimens collected in southern Alberta (Lindroth 1961a: 139; Bousquet 1987a: 113), northeastern Colorado (Bell 1971: 56; Lavigne 1978: 104), and northeastern Arizona (Apache County, UASM).

**Records. CAN:** AB **USA:** AZ, CO

**[carrorum group]*****Dyschirius carrorum* Bousquet, 1997**

*Dyschirius carrorum* Bousquet, 1997a: 92 (as *carri*). Type locality: «Tp. 8 Rge. 14 W.1 Mer. [= about 8 km north of Glenboro], Manitoba» (original citation). Holotype (♂) in CNC [# 22220]. Etymology. This specific name was proposed for John Lawrence Carr [1922–2006] and Bertha Carr of Calgary, Alberta, who collected the holotype. Over several decades of collecting in western North America, the couple assembled a large and extremely valuable collection of beetles which they gave to the

Canadian National Collection of Insects in 2000. NOTE. By a lapsus, *carri* was the original spelling of the specific name despite having been proposed for a man and a woman together. Because there is a clear evidence of an inadvertent error in the original publication, the spelling must be corrected (ICZN 1999: Article 32.5.1) and the original spelling is deemed to be *carrorum* (see ICZN 1999: Article 31.1.2).

**Distribution.** This species is known only from the holotype collected in south-central Manitoba.

**Records.** CAN: MB

[**exochus group**]

***Dyschirius exochus* Whitehead, 1970**

*Dyschirius exochus* Whitehead, 1970: 183. Type locality: «Cedar Lane [Matagorda County], Tex[as]» (original citation). Holotype (♂) in SMEK.

**Distribution.** This species is known from the type locality in southeastern Texas, from Jackson County in southeastern Mississippi (CMNH), and from two localities in the Florida Panhandle (Frank 1985: 481; Herman 1986: 63).

**Records.** USA: FL, MS, TX

***Dyschirius sculptus* Bousquet, 1988**

*Dyschirius sculptus* Bousquet, 1988a: 370. Type locality: «Pass-a-Grille Beach [Pinellas County], Fl[orida]» (original citation). Holotype (♂) in CUIIC [# 6456].

**Distribution.** This species is known only from the holotype collected along the Gulf Coast of Florida.

**Records.** USA: FL

[**ferrugineus group**]

***Dyschirius ferrugineus* Bousquet, 1988**

*Dyschirius ferrugineus* Bousquet, 1988a: 371. Type locality: «Goose Isl[and] St[ate] P[ar]k, Aransas County, Texas» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from a few localities along the Gulf Coast in southern Texas (Bousquet 1988a: 371; FMNH).

**Records.** USA: TX

[**globulosus group**]

***Dyschirius aeneolus* LeConte, 1850**

*Dyschirius aeneolus* LeConte, 1850: 204. Type locality: Lake Superior (inferred from title of the paper), herein restricted to Marquette, Marquette County, Michigan (see Hubbard and Schwarz 1878: 627). Two syntypes [2 originally cited] in MCZ [# 692].

*Dyschirius frigidus* Mannerheim, 1853: 123. Type locality: «ad fl. Tchunitén peninsulae Kenai [Alaska]» (original citation). Holotype [by monotypy] location unknown. Synonymy established by Lindroth (1961a: 152).

**Distribution.** This species ranges from southern Labrador to the Kenai Peninsula in Alaska (Lindroth 1961a: 152, as *D. frigidus*), south to northern Idaho (Hatch 1953: 67), northeastern Minnesota (Gandhi et al. 2005: 923), northeastern Illinois (Peter W. Messer pers. comm. 2008), and the upper and lower peninsulas of Michigan (Hubbard and Schwarz 1878: 627, 644). The records from Colorado (LeConte 1879d: 500; Wickham 1902: 232), Washington and southwestern Oregon (Herman 1986: 60, as *D. frigidus*; Hatch 1953: 67), and “California” (Leng and Beutenmüller 1894: 184) need confirmation; that from Iowa (Wickham 1911b: 5) is probably in error.

**Records.** CAN: AB, BC, LB, NT, ON, QC, SK, YT USA: AK, ID, IL, MI, MN, WI [CA, CO, OR, WA]

### *Dyschirius alticola* Lindroth, 1961

*Dyschirius alticola* Lindroth, 1961a: 152. Type locality: «Rossland Trail, B[ritish] C[olumbia]» (original citation). Holotype in CNC [#7607].

**Distribution.** This species is known from a few montane locations in south-central British Columbia (Lindroth 1961a: 152; Bousquet 1987a: 116), Idaho (Bear Lake County, CNC), and the Sierra Nevada of California (Papp 1978: 165; Mono and Placer Counties, USNM). The record from “Wyoming” (Bousquet and Laroche 1993: 101) needs confirmation.

**Records.** CAN: BC USA: CA, ID [WY]

### *Dyschirius chiricahuae* (Dajoz, 2004)

*Dyschiriodes chiricahuae* Dajoz, 2004: 117. Type locality: «en haut du Pinery Canyon (vers 2000 mètres), monts Chiricahua, à 20 km environ à l’ouest de la localité de Portal, Cochise County, Arizona» (original citation). Holotype in Dajoz’s collection (Paris, France).

**Distribution.** This species is known only from two specimens collected at the type locality in southeastern Arizona.

**Records.** USA: AZ

### *Dyschirius compactus* Lindroth, 1961

*Dyschirius compactus* Lindroth, 1961a: 152. Type locality: «Stanley, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CAS [# 8161].

**Distribution.** This species is known from a few montane locations from southwestern Alberta to south-central British Columbia (Lindroth 1961a: 152; Bousquet 1987a: 116).

**Records.** CAN: AB, BC



**Figure 17.** *Clivina fossor* (Linnaeus). This *Clivina* is one of the 62 carabid species accidentally introduced and established in North America and one of 18 that have been introduced independently on the Atlantic and Pacific Coasts. Many of the adventive species reached our borders in ballast used by Europeans to improve the stability of their trade ships on their way to America. Ballast consisted of stones, broken slates, mortar, bricks, rubbish, soil, and sand that were usually dumped along the shore at ports of entry and certainly constituted a good environment for the survival of carabids during ocean voyages.



***Dyschirius consobrinus* LeConte, 1852**

*Dyschirius consobrinus* LeConte, 1852a: 196. Type locality: «San Francisco [San Francisco County, California]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 690].

**Distribution.** This species ranges from southwestern Washington (Herman 1986: 60) to Riverside County (CAS) in southeastern California and “the middle Sierras” (Fall 1901a: 41). The records from southeastern British Columbia and northern Idaho (Hatch 1953: 67) are probably in error.

**Records. USA:** CA, OR, WA

***Dyschirius dejeanii* Putzeys, 1846**

*Dyschirius dejeanii* Putzeys, 1846: 25. Type locality: «Amérique boréale» (original citation). Holotype [by monotypy] in MHNP (collection Chaudoir).

*Dyschirius apicalis* LeConte, 1850: 204 [primary homonym of *Dyschirius apicalis* Putzeys, 1846]. Type locality: Lake Superior (inferred from title of the paper). Syntype(s) in MCZ [# 691]. Synonymy established implicitly by Bousquet (2008a: 517).

*Dyschirius integer* LeConte, 1852a: 196. Type locality: «ad flumen Colorado» (original citation). Three syntypes in MCZ [# 689]. Synonymy established with the name *D. apicalis* LeConte by Lindroth (1961a: 149), confirmed by Bousquet (2008a: 517).

*Dyschirius nigripes* LeConte, 1853c: 396. Replacement name for *Dyschirius apicalis* LeConte, 1850.

*Dyschirius transmarinus* Mannerheim, 1853: 122 [*nomen dubium*]. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Syntype(s) location unknown (possibly in ZILR). Synonymy established with doubt, under the name *D. integer* LeConte, by Bousquet (1988a: 379).

*Dyschirius basalis* LeConte, 1857b: 77. Type locality: «Fort Yuma, Colorado River [Imperial County], California» (original citation). Four syntypes in MCZ [# 7401]. Synonymy established, under the name *D. integer* LeConte, by Bousquet (1988a: 379). NOTE. Fort Yuma was located on the California side of the Colorado River, opposite Yuma, on a bluff one hundred feet above the river and at an altitude of 260 feet.

*Dyschirius sulcatus* LeConte, 1859c: 34. Replacement name for *Dyschirius apicalis* LeConte, 1850.

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 42, as *D. nigripes*) to east-central Alaska (Lindroth 1961a: 150), south to southern California (Fall 1901a: 41, as *D. basalis*), central New Mexico (Socorro County, CNC), Kansas (Popenoe 1877: 22; Horn 1872c: 384, as *D. sulcatus*), central Pennsylvania (Northumberland County, CMNH), and northeastern New Jersey (Smith 1910: 201, as *D. nigripes*; Bergen County, MCZ).

**Records.** **CAN:** AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, AZ, CA, CO, CT, IA, ID, IL, IN, KS, MA, ME, MI, MN, MT, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SD, UT, VT, WA, WI, WY

***Dyschirius gibbipennis* LeConte, 1857**

*Dyschirius gibbipennis* LeConte, 1857b: 77. Type locality: «San Diego [San Diego County], California» (original citation). Holotype [by monotypy] (♀) in MCZ [# 682].

**Distribution.** This species ranges from southwestern Oregon (Herman 1986: 60) to southern California (Fall 1901a: 41; San Diego County, CAS). The record from “Arizona” (Bousquet and Laroche 1993: 101) needs confirmation.

**Records.** **USA:** CA (CHI), OR [AZ]

***Dyschirius globosus* (Herbst, 1784)**

*Carabus globosus* Herbst, 1784: 142. Type locality: «Berlin [Germany]» (original citation). Syntype(s) location unknown (possibly in ZMHB).

*Scarites gibbus* Fabricius, 1792: 96. Type locality: «Germania» (original citation). Two syntypes in ZMUC (Zimsen 1964: 42). Synonymy established by Fuessly (1794: 160).

*Dyschirius glomeratus* Bousquet, 1997a: 94. Type locality: «Lulu Island, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CNC [# 22221]. Synonymy established by Bousquet (2002a: 84).

**Distribution.** This European species is adventive in North America where it is known only from the Vancouver area in southwestern British Columbia (Bousquet 1997a: 94, as *D. glomeratus*). The first inventoried specimen collected on this continent was found in 1978.

**Records.** **CAN:** BC – **Adventive**

***Dyschirius globulosus* (Say, 1823)**

*Clivina globulosa* Say, 1823a: 23. Type locality: «Arlington [Middlesex County], Mass[achusetts]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 333), in MCZ [# 33081].

*Dyschirius parvus* LeConte, 1850: 204. Type locality: Lake Superior (inferred from title of the paper). Syntype(s) in MCZ [# 683]. Synonymy established by LeConte (1879a: 31), confirmed by Lindroth (1961a: 154).

**Distribution.** The range of this species extends from Newfoundland to central Alaska, south to southern British Columbia (Lindroth 1961a: 155), northern Arizona (Coconino County, CMNH), southern New Mexico (Otero County, CNC), east-central Texas (Riley 2011), southeastern Louisiana (Summers 1874a: 79), northern Mississip-

pi (Drew A. Hildebrandt pers. comm. 2007), and southern Florida (Peck and Thomas 1998: 17).

**Records.** **CAN:** AB, BC, MB, NB, NF, NS (CBI), ON, PE, QC, SK, YT **USA:** AK, AL, AZ, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TX, VA, VT, WI, WV, WY

### *Dyschirius hiemalis* Bousquet, 1987

*Dyschirius hiemalis* Bousquet, 1987a: 116. Type locality: «R.B. Miller Res[earch] St[at]io[n], 17 mi[les] w[est] Turner Valley (4,900'), Alberta» (original citation). Holotype (♂) in CNC [# 19238].

**Distribution.** This species ranges from Labrador and the Ungava Bay area to Alaska, south to south-central British Columbia; isolated on the Shickshock Mountains in Gaspé Peninsula, Quebec [see Bousquet 1987a: map 1]. Fossil remnants, dated between 10,400 and 12,600 years B.P., have been unearthed in Cape Breton Island, Nova Scotia (Miller 1997: 250).

**Records.** **CAN:** AB, BC, LB, MB, NT, ON, QC, SK, YT **USA:** AK

**Note.** This taxon has been treated as a subspecies of *D. melancholicus* Putzeys by Fedorenko (1996: 149) but retained as a distinct species by Bousquet (1987a: 116) and Balkenohl and Lompe (2003: 99).

### *Dyschirius longulus* LeConte, 1850

*Dyschirius longulus* LeConte, 1850: 204. Type locality: Lake Superior (inferred from title of the paper). Three syntypes in MCZ [# 693].

**Distribution.** This species is found from Newfoundland (Lindroth 1955a: 43) to south-central British Columbia (Lindroth 1961a: 156), south to northwestern Minnesota (Gandhi et al. 2005: 924). The records from South Dakota (Kirk and Balsbaugh 1975: 16), Indiana (Blatchley 1910: 57), the upper and lower peninsulas of Michigan (Hubbard and Schwarz 1878: 627, 644; Hatch 1925: 548; Silvey 1936: 657), Ohio (Leng and Beutenmüller 1893: 91; Dury 1902: 110), and “Pennsylvania” (Bousquet and Laroche 1993: 101) are in error.

**Records.** **CAN:** AB, BC, MB, NF, QC, SK **USA:** MN

### *Dyschirius melancholicus* Putzeys, 1867

*Dyschirius melancholicus* Putzeys, 1867b: 41. Type locality: «Daourie» (original citation). Holotype [by monotypy] probably in IRSN.

*Dyschirius helleni* J. Müller, 1923: 78. Type locality: «Dudinka [Taimyr Autonomous Okrug, Russia]» (original citation). Lectotype, designated by Fedorenko (1996: 148), in MSNT. Synonymy established by Fedorenko (1990: 37). Etymology. The specific name was proposed for Wolter Hellén [1890-1979], curator at the Zoo-

logical Museum of the University of Helsinki, excellent collector, and specialist on parasitic Hymenoptera of the Finnish fauna.

*Dyschirius norvegicus* Munster, 1923b: 249. Type locality: «Sørum i Våge (antagelig i Tromsdalen) ved Tromsø og Gorzzejok i Karasjok» (original citation), restricted to «Sørum, Vågå, Norway» by Lindroth (1961a: 153). Syntype(s) [4 originally cited] location unknown (possibly in ZMUO). Synonymy established, under the name *D. helleni* Müller, by Hellén (1934: 52), confirmed by Fedorenko (1990: 37).

*Dyschirius secretus* Fall, 1926a: 130. Type locality: «Anchorage, Alaska» (original citation). Holotype (♀) in MCZ [# 23854]. Synonymy established, under the name *D. helleni* Müller, by Lindroth (1954b: 122).

**Distribution.** This Holarctic species ranges from Scandinavia (Balkenohl 2003: 226) to the Hudson Bay in northeastern Manitoba (Garry 1993: 94, as *D. nigricornis*). Fossil remnants, dated between 10,800 and 20,530 years B.P., have been unearthed in central North Dakota (Ashworth and Schwert 1992: 260), northeastern Iowa (Schwert 1992: 76; Woodman et al. 1996: 17), and southeastern Iowa (Baker et al. 1986: 96).

**Records.** CAN: MB, NT, NU, YT USA: AK – **Holarctic**

**Note.** This species has long been known under the name *D. nigricornis* Motschulsky, 1844 in the North American literature.

### *Dyschirius planatus* Lindroth, 1961

*Dyschirius planatus* Lindroth, 1961a: 155. Type locality: «Waterton Park, Al[ber]ta» (original citation). Holotype (♂) in CNC [# 7603].

**Distribution.** This species is known from the southern part of the Prairie Provinces (Lindroth 1961a: 155; Bousquet 1987a: 118) and from northwestern Montana (Teton County, CNC). The records from British Columbia (Jarrett and Scudder 2001: 382), “Wyoming,” and “Minnesota” (Bousquet and Laroche 1993: 101) need confirmation.

**Records.** CAN: AB, MB, SK USA: MT [BC, MN, WY]

### *Dyschirius subarcticus subarcticus* Lindroth, 1961

*Dyschirius subarcticus* Lindroth, 1961a: 151. Type locality: «Circle, Alaska» (original citation). Holotype in MCZ [# 30423].

**Distribution.** This subspecies is found from Alaska to the Great Slave Lake area in Northwest Territories (Lindroth 1961a: 151).

**Records.** CAN: NT, YT USA: AK

**Note.** The subspecies *D. subarcticus altaicus* Fedorenko occurs in the eastern part of the Palaearctic Region.

### *Dyschirius timidus* Lindroth, 1961

*Dyschirius timidus* Lindroth, 1961a: 154. Type locality: «Onah, Mani[oba]» (original citation). Holotype (♂) in CNC [# 7605].



**Distribution.** This species is known only from southern Manitoba (Lindroth 1961a: 154) and Alberta (Langor et al. 2006: 13).

**Records.** CAN: AB, MB

***Dyschirius wayah* (Dajoz, 2005)**

*Dyschiriodes wayah* Dajoz, 2005: 208. Type locality: «Wayah Bald, dans la Nantahala National Forest, Macon County, Caroline du Nord» (original citation). Holotype in Dajoz's collection (Paris, France).

**Distribution.** This species is known only from the type locality in southwestern North Carolina.

**Records.** USA: NC

**[laevifasciatus group]**

***Dyschirius laevifasciatus* Horn, 1878**

*Dyschirius laevifasciatus* G.H. Horn, 1878b: 52. Type locality: «Oregon» (original citation), herein restricted to Blodgett, Benton County (CNC). Syntype(s) [3 originally cited] in MCZ [# 8181] and CMNH (collection Ulke).

**Distribution.** This species is found from the foothills of the Rocky Mountains in southern Alberta to south-central British Columbia (Lindroth 1961a: 140), south at least to central Oregon (Benton and Lincoln Counties, CNC, MCZ, USNM). One old specimen labeled “Cal” is known (MCZ).

**Records.** CAN: AB, BC USA: OR, WA [CA]

**[pilosus group]**

***Dyschirius comatus* Bousquet, 1988**

*Dyschirius comatus* Bousquet, 1988a: 378. Type locality: «Highland Hammock, Highland[s] Co[unty], Fl[orid]a» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is confined to the Coastal Plain ranging from North Carolina to central Florida, west to southeastern Louisiana (Tangipahoa and Saint Tammany Parishes, LSAM) [see Bousquet 1988a: Fig. 38]. One specimen simply labeled from Texas (CMNH) is known.

**Records.** USA: AL, FL, LA, MS, NC, SC [TX]

***Dyschirius pilosus* LeConte, 1857**

*Dyschirius pilosus* LeConte, 1857b: 80. Type locality: «New Orleans [Orleans Parish, Louisiana]» (original citation). Lectotype, designated by Bousquet (1988a: 377), in MCZ [# 697].

*Dyschirius hispidus* LeConte, 1863c: 4. Type locality: «western states» (original citation). Lectotype (♀), designated by Bousquet (1988a: 377), in MCZ [# 34045]. Synonymy established by Lindroth (1961a: 156).

**Distribution.** This species ranges from southern New Brunswick (Webster and Bousquet 2008: 16) to southern Manitoba, south to eastern Texas, southeastern Louisiana (LeConte 1857b: 80; East Baton Rouge Parish, LSAM), Mississippi (Bolivar and Isaquena Counties, Drew A. Hildebrandt pers. comm. 2009), and northeastern North Carolina [see Bousquet 1988a: Fig. 38]. The records from southwestern Georgia (Fattig 1949: 13) and southwestern Alabama (Löding 1945: 12) probably refer to *D. comatus*; that from “Montana” (Bousquet and Larochelle 1993: 100) is probably in error.

**Records.** CAN: MB, NB, ON, QC USA: CT, DC, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, TN, TX, VA, VT, WI, WV

***Dyschirius setosus* LeConte, 1857**

*Dyschirius setosus* LeConte, 1857b: 79. Type locality: «Massachusetts and New York» (original citation), restricted to «Mass[achusetts]» by Lindroth (1961a: 157). Three syntypes in MCZ [# 696].

*Dyschirius alternatus* Hatch, 1949b: 117. Type locality: «Grand Coulee [Grant County], Washington» (original citation). Holotype in USNM. Synonymy established by Lindroth (1961a: 157).

**Distribution.** This species is found from Prince Edward Island (Larochelle and Larièvre 1990a: 27) to south-central British Columbia (Lindroth 1961a: 157), south to eastern Washington (Hatch 1953: 68, as *D. alternatus*), northern Utah (Utah County, USNM), Oklahoma (Custer and Latimer Counties, CMNH, UASM), and Long Island in New York (MCZ). Seemingly isolated at Fairbanks, Alaska (Lindroth 1961a: 157). The records from “New Jersey,” “Maryland” (Bousquet and Larochelle 1993: 100), and “Colorado” (Wickham 1902: 232) need confirmation.

**Records.** CAN: AB, BC, MB, NB, NS, ON, PE, QC, SK USA: AK, IA, ID, IL, MA, ME, MI, MN, MT, ND, NE, NH, NY, OK, PA, RI, SD, UT, VT, WA, WI, WY [CO, MD, NJ]

[**politus group**]

***Dyschirius cerberus* Larson, 1968**

*Dyschirius cerberus* Larson, 1968: 1108. Type locality: «Atchison [Atchison County], Kansas» (original citation). Holotype (♀) in USNM [# 69973].

**Distribution.** This species is known only from the holotype collected in northeastern Kansas.

**Records.** USA: KS

***Dyschirius criddlei* Fall, 1925**

*Dyschirius criddlei* Fall, 1925: 309. Type locality: «Baldur, Manitoba» (original citation). Holotype (♂) in MCZ [# 23849]. Etymology. This specific name honors

Norman Criddle [1875-1933], a naturalist and entomologist established in Manitoba who collected extensively in his province.

**Distribution.** This species is known from southern Manitoba (Lindroth 1961a: 148), North Dakota (Grand Forks County, CNC, UASM), southeastern Nebraska (Foster F. Purrington pers. comm. 2010), Kansas (Stafford County, CNC, UASM), New Mexico (Chaves County, CNC, UASM), northwestern Texas (Hutchinson County, Darren A. Pollock pers. comm. 2011), and southern Florida (Monroe County, FFPC, UASM).

**Records.** CAN: MB USA: FL, KS, ND, NE, NM, TX

### *Dyschirius edentulus* Putzeys, 1846

*Dyschirius edentulus* Putzeys, 1846: 51. Type locality: «Galveston [Galveston County], Texas» (original citation). Holotype [by monotypy] in MHNP (collection Chaudoir).

*Dyschirius colossus* Larson, 1968: 1110. Type locality: «Goose Island State Park, 9 mi[les] north of Rockport [Aransas County], Texas» (original citation). Holotype (♂) in USNM [# 69974]. Synonymy established by Whitehead (1970: 182).

**Distribution.** This species is known only from north-central Oklahoma (Herman 1986: 61), southeastern Texas (Putzeys 1846: 52; Larson 1968: 1110, as *D. colossus*; Cameron and Aransas Counties, MCZ, UASM), and Florida (Dixie County, CMNH; Monroe County, FFPC). The record from the lower peninsula of Michigan (Hubbard and Schwarz 1878: 644) is in error.

**Records.** USA: FL, OK, TX

### *Dyschirius erythrocerus* LeConte, 1857

*Dyschirius erythrocerus* LeConte, 1857b: 78. Type locality: «Ohio; Pennsylvania» (original citation). Lectotype (♀), designated by Bousquet (1988a: 375), in MCZ [# 680].

**Distribution.** This species ranges from southern New Brunswick (Webster and Bousquet 2008: 16) to southeastern South Dakota (Kirk and Balsbaugh 1975: 16), south to southwestern Oklahoma (Kondratieff et al. 2005: 172), southern Louisiana (Saint Martin Parish, LSAM), northern Mississippi (Bolivar, Marshall, and Warren Counties, Peter W. Messer pers. comm. 2009), and Delaware [see Bousquet 1988a: Fig. 37]. The records from the Bahamas (Turnbow and Thomas 2008: 12) and Horn Island, Mississippi (Richmond 1968: 233) refer to *D. larochei* Bousquet; that from Colorado (Wickham 1902: 232) is in error.

**Records.** CAN: NB, ON, QC USA: AR, CT, DE, IA, IL, IN, KS, KY, LA, MA, ME, MI, MN, MS, NE, NH, NJ, NY, OH, OK, PA, SD, TN, VT, WI

**Note.** Bulirsch (2009: 19) reported that *D. weyrauchi* Kult, described from one specimen collected in Peru in 1900, is a junior synonym of *D. erythrocerus*. If this synonymy is correct, then the specimen from Peru is probably mislabeled.

***Dyschirius larochellei* Bousquet, 1988**

*Dyschirius larochellei* Bousquet, 1988a: 374. Type locality: «6 mi[les] s[outh] L[ake] Placid, Archb[old] B[iological] St[ation], Florida» (original citation). Holotype (♂) in CNC [# 19659].

**Distribution.** This species is found along the Atlantic Coast from western Newfoundland (Lindroth 1955a: 45, as *D. erythrocerus*) to southern Florida, including the Keys (Peck and Thomas 1998: 17), the Bahamas, Cuba, and Hispaniola (Nichols 1988b: Fig. 5-6, as *D. nr. erythrocerus*), west along the Gulf Coast to southern Texas; also known from Yucatán in southern Mexico (Whitehead 1970: 181, as *D. erythrocerus*) [see Bousquet 1988a: Fig. 37].

**Records.** CAN: NB, NF, NS USA: CT, FL, LA, MA, MS, NH, NJ, NY, SC, VA, TX – Bahamas, Cuba, Hispaniola, Mexico

***Dyschirius pacificus* Lindroth, 1961**

*Dyschirius pacificus* Lindroth, 1961a: 144. Type locality: «Tofino, Vanc[ouver] Isl[and], B[ritish] C[olumbia]» (original citation). Holotype in CNC [# 7609].

**Distribution.** This species is confined to the Pacific Coast ranging from the Queen Charlotte Islands (Kavanaugh 1992: 59) south at least to northern California (Mendocino County, CNC).

**Records.** CAN: BC (QCI, VCI) USA: CA, OR, WA

***Dyschirius perversus* Fall, 1922**

*Dyschirius perversus* Fall, 1922c: 172. Type locality: «Miami, Manitoba» (original citation). Holotype in MCZ [# 23853].

*Dyschirius desertus* Fall, 1925: 310. Type locality: «Olancho (Owen's Lake) [Inyo County], California» (original citation). Holotype (♀) in MCZ [# 23850]. Synonymy established by Bousquet (1988a: 374).

**Distribution.** This rarely collected species is known from scattered localities in the southern parts of the Prairie Provinces (Lindroth 1961a: 147; Bousquet 1988a: 373), southeastern Oregon (Harney County, CNC), northwestern (Pershing County, MCZ) and west-central (Bechtel et al. 1983: 474) Nevada, north-central Utah (Utah County, USNM), and eastern California (Fall 1925: 310, as *D. desertus*; Inyo and Plumas Counties, CAS).

**Records.** CAN: AB, MB USA: CA, NV, OR, UT

***Dyschirius politus politus* (Dejean, 1825)**

*Clivina polita* Dejean, 1825: 422. Type locality: «environs de Paris; aussi en Allemagne» (original citation). Syntype(s) in MHNP.

*Dyschirius irkutensis* Fleischer, 1899: 11, 23. Type locality: «Quellgebiet des Irkut [= Irkutsk, Russia]» (original citation). At least one syntype in NMP (Fedorenko 1996: 160). Synonymy established by Ganglbauer (1906 : 266).

*Dyschirius aureolus* Notman, 1920b: 26. Type locality: «Schoharie [Schoharie County], N[ew] Y[ork]» (original citation). Two syntypes [2 ♂ originally cited] in SIM (Hennessey 1990: 466). Synonymy established by Lindroth (1954b: 122).

*Dyschirius politus jennisensis* G. Müller, 1924: 68. Type locality: «Dudinka, nella regione del fiume Jenissei [Taymyr Autonomous Okrug, northern Russia]» (original citation). Holotype [by monotypy] location unknown. Synonymy established by Fedorenko (1992: 102).

**Distribution.** This Holarctic subspecies is known from the British Islands to eastern Siberia, as far south as Italy, Bulgaria, Iran, Turkmenistan, Kyrgyzstan, and Mongolia (Balkenohl 2003: 226), and in the Nearctic Region from Alaska (Lindroth 1961a: 146) to Newfoundland (Lindroth 1955a: 36), south to southwestern Pennsylvania (Allegheny County, CMNH), eastern South Dakota (Kirk and Balsbaugh 1975: 16), northern New Mexico (Rio Arriba County, USNM), northeastern Nevada (Elko County, MCZ), and southwestern California (Los Angeles County, CAS).

**Records.** **CAN:** AB, BC, MB, NB, NF, NT, ON, QC, SK, YT **USA:** AK, CA, CO, ID, MA, ME, MI, MT, NH, NM, NV, NY, OH, OR, PA, SD, UT, VT, WA, WI, WY – **Holarctic**

**Note.** The subspecies *D. politus chamunensis* Fedorenko and *D. politus meridianus* Fedorenko occur in Asia.

### *Dyschirius sphaericollis* (Say, 1823)

*Clivina sphaericollis* Say, 1823a: 23. Type locality: «Rumney [Grafton County], N[ew] H[ampshire]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 334), in MCZ [# 33080].

*Dyschirius subpunctatus* Hatch, 1949b: 116. Type locality: «Vantage [Kittitas County], Washington» (original citation). Holotype (♂) in USNM. Synonymy established by Bousquet (1988a: 374).

**Distribution.** The range of this species extends from Newfoundland (Lindroth 1955a: 44) to south-central British Columbia, south to eastern Oregon (Baker County, MCZ), southeastern Arizona (Greenlee and Graham Counties, CMNH), central New Mexico (Socorro County, CNC), southern Texas (Herman 1986: 61; Dajoz 2004: 117), eastern Tennessee (Knox County, MCZ), and North Carolina (Herman 1986: 63). The records from “Georgia” (J.E. LeConte 1849: 25), Florida (Leng 1915: 568), and San Bernardino County in southwestern California (Riley 1893: 239) need confirmation.

**Records.** **CAN:** AB, BC, MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** AR, AZ, CO, CT, DC, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY [CA, FL, GA]



***Dyschirius truncatus* LeConte, 1857**

*Dyschirius truncatus* LeConte, 1857b: 78. Type locality: «Illinois» (original citation). Holotype [by monotypy] (♀) in MCZ [# 681].

**Distribution.** This species ranges from southern Manitoba to south-central British Columbia, north to east-central Alaska (Lindroth 1961a: 147), south to southern California (Fall 1901a: 41), central Arizona (Griffith 1900: 565), and southern Colorado (LeConte 1879d: 500; Wickham 1902: 232; Douglas County, CNC); also recorded from Baja California Sur (Horn 1895: 225). One old specimen labeled “Pittsburg VI Pa” (CMNH) is known.

**Records.** CAN: AB, BC, MB, NT, SK USA: AK, AZ, CA, CO, IA, ID, IL, IN, MO, ND, NE, NV, SD, UT, WA, WI [PA] – Mexico

**[pumilus group]*****Dyschirius abbreviatus* Putzeys, 1846**

*Dyschirius abbreviatus* Putzeys, 1846 [January]: 12. Type locality: «Texas» (Putzeys 1861: 71), restricted to «Galveston [Galveston County]» by Putzeys (1867b: 51). Holotype [by monotypy] in MHNP (collection Chaudoir). NOTE. Putzeys (1846: 13) originally gave «Yucatan» as type locality but changed it to «Texas» later (Putzeys 1861: 71). This species is a senior primary homonym of *Dyschirius abbreviatus* Chaudoir, 1846 [June].

**Distribution.** This species inhabits the Coastal Plain ranging from the coast of southern North Carolina (Brunswick County, Ken Karns pers. comm. 2009) to southern Florida (Nichols 1988b: Fig. 5-5; Peck and Thomas 1998: 17), west to southeastern Texas (Putzeys 1867b: 51).

**Records.** USA: AL, FL, GA, LA, MS, NC, TX

**Note.** According to Whitehead (1970: 185), members of *D. darlingtoni* Kult, 1950 from Mexico are probably conspecific with those of *D. abbreviatus*.

***Dyschirius aratus* LeConte, 1852**

*Dyschirius aratus* LeConte, 1852a: 196. Type locality: «ad flumis Gilae ripas» (original citation). Two syntypes in MCZ [# 701].

**Distribution.** This species ranges from west-central Wisconsin (Messer 2010: 34) and southern Manitoba (Lindroth 1961a: 142, as *D. dentiger*) to the Okanagan Valley in south-central British Columbia (Bousquet 1987a: 115), south to southeastern California (Whitehead 1970: 186), Sonora (CNC), Chihuahua (CNC), southeastern Texas (Galveston County, CNC), and southeastern Mississippi (Jackson County, Drew A. Hildebrandt pers. comm. 2007).

**Records.** CAN: AB, BC, MB USA: AZ, CA, CO, ID, KS, MS, MT, NE, NM, NV, OK, OR, TX, UT, WA, WI, WY – Mexico

***Dyschirius curvispinus* Putzeys, 1846**

*Dyschirius curvispinus* Putzeys, 1846: 41. Type locality: «Galveston [Galveston County], Texas» (original citation). Holotype [by monotypy] in MHNP (collection Chaudoir).

**Distribution.** This species is known from southern Maine (Kennebec County, Robert E. Nelson pers. comm. 1989), Connecticut (Litchfield County, CMNH) and “Rhode Island” (Sikes 2003: 7) in the northeast and from the Florida Panhandle (Peter W. Messer pers. comm. 2008) to southeastern Texas (Putzeys 1846: 42; Whitehead 1970: 186; Herman 1986: 61) in the southeast.

**Records. USA:** CT, FL, LA, ME, MS, RI, TX

***Dyschirius montanus* LeConte, 1879**

*Dyschirius montanus* LeConte, 1879d: 507. Type locality: «[Fort] Garland [Costilla County], Colo[rado]» (original citation). Two syntypes in MCZ [# 699].

*Dyschirius thompsoni* Hatch, 1949b: 117. Type locality: «Condon [Gilliam County], Oregon» (original citation). Holotype (♀) in USNM. Synonymy established by Hatch (1953: 68), confirmed by Lindroth (1961a: 141).

**Distribution.** This species ranges from southern Quebec (Laroche 1975: 82) to south-central British Columbia (Lindroth 1961a: 141), south to the Sierra Nevada in California (Dajoz 2004: 119), southeastern Arizona (Graham County, CNC), south-central Colorado (Wickham 1902: 232), Nebraska (Clopton 1991: 61), Wisconsin (Messer 2010: 34), and “Michigan” (Garry A. Dunn pers. comm. 1986). One old specimen simply labeled from New Mexico is known (Fall and Cockerell 1907: 156).

**Records. CAN:** AB, BC, MB, ON, QC, SK **USA:** AZ, CA, CO, MI, MN, NE, NV, OR, SD, WA, WI, WY [NM]

***Dyschirius owen* (Dajoz, 2004)**

*Dyschiriodes owen* Dajoz, 2004: 118. Type locality: «Lieu dit Fish Slough, 25 km au nord de Bishop, Inyo County, Californie» (original citation). Holotype in Dajoz’s collection (Paris, France).

**Distribution.** This species is known only from the two specimens collected at the type locality in eastern California.

**Records. USA:** CA

***Dyschirius pumilus* (Dejean, 1825)**

*Clivina pumila* Dejean, 1825: 425. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Nichols 1988a: 209).

*Dyschirius dentiger* LeConte, 1857b: 79. Type locality: «New York and Pennsylvania» (original citation). Two syntypes in MCZ [# 695]. Synonymy established by Putzeys (1867b: 55), confirmed by Bousquet (1988a: 373).

*Dyschirius rufiventris* LeConte, 1857b: 79. Type locality: «Louisiana» (original citation). Holotype [by monotypy] (♂) in MCZ [# 698]. Synonymy established by Leng (1920: 48), confirmed by Bousquet (1988a: 373).

*Dyschirius falciger* LeConte, 1878b: 373. Type locality: «Tampa and Lake Harney [Florida]» (original citation). At least two syntypes, possibly four, in MCZ. Synonymy established by LeConte (1879a: 31).

**Distribution.** This species is known along the Coastal Plain and Piedmont Plateau from southeastern New York (Notman 1928: 212) to southern Florida including the Keys (Peck and Thomas 1998: 17), west to southern Texas (Aransas and Brooks Counties, CNC), and also from Minnesota (Gandhi et al. 2005: 924) and west-central Wisconsin (Messer 2010: 34). The record from southern Arizona (Wickham 1898: 300) is probably in error (Nichols 1988a: 209).

**Records. USA:** AL, DC, FL, GA, LA, MD, MN, MS, NC, NJ, NY, PA, SC, TX, VA, WI

### *Dyschirius sextoni* Bousquet, 1987

*Dyschirius sextoni* Bousquet, 1987a: 113. Type locality: «Belleville, Ont[ario]» (original citation). Holotype (♂) in CNC [# 19237]. Etymology. The specific name was proposed for Richard Sexton [1930-2003], a friend of the author and a beetle collector in Quebec.

**Distribution.** This species is known only from the type locality in southern Ontario, from Monroe and Sheboygan Counties in Wisconsin (Purrington and Maxwell 1998: 190; Messer 2010: 35), and from Highlands County in central Florida (Vince Golia collection).

**Records. CAN:** ON **USA:** FL, WI

### *Dyschirius soda* (Dajoz, 2004)

*Dyschiriodes soda* Dajoz, 2004: 119. Type locality: «Soda Lake près de Baker, San Bernardino County, Californie» (original citation). Holotype in Dajoz's collection (Paris, France).

**Distribution.** This species is known only from eight specimens collected at the type locality in southeastern California.

**Records. USA:** CA

### *Dyschirius sublaevis* Putzeys, 1846

*Dyschirius sublaevis* Putzeys, 1846: 42. Type locality: «Galveston [Galveston County], Texas» (original citation). Syntype(s) [2 originally cited] in MHNP (collection Chaudoir).

*Dyschirius filiformis* LeConte, 1857b: 78. Type locality: «Coney Island [Kings County], near New York [New York]» (original citation). Three syntypes in MCZ [#

694]. Synonymy established by Erwin (2011b: 124) based on Nichols' (1988) unpublished thesis.

**Distribution.** This species is found along the Atlantic and Gulf of Mexico coasts from Maine (Larochelle and Larivière 1990a: 27, as *D. filiformis*; York County, CNC) and New Hampshire (Rockingham County, CNC) to southern Florida including the Keys (Nichols 1988b: Fig. 5-6; Peck and Thomas 1998: 17), west to southeastern Texas (Putzeys 1846: 43; Wickham 1897: 103); also recorded from the Bahamas (Turnbow and Thomas 2008: 12), Cuba (Nichols 1988b: Fig. 5-4), Cayman Islands (Erwin 2011b: 124), and Yucatán, Mexico (Peck 2005: 28). The record from northeastern Kansas (Popenoe 1878: 78, as *D. filiformis*) needs confirmation; one old specimen labeled “Milwaukee WIS” is also known (MCZ).

**Records.** USA: AL, CT, DE, FL, GA, LA, MA, MD, ME, MS, NC, NH, NJ, NY, RI, TX, VA [KS, WI] – Bahamas, Cayman Islands, Cuba, Mexico

#### [quadrinaculatus group]

##### *Dyschirius quadrinaculatus* Lindroth, 1961

*Dyschirius quadrinaculatus* Lindroth, 1961a: 148. Type locality: «Irvine, Al[ber]ta» (original citation). Holotype (♂) in CNC [# 7606].

**Distribution.** This species is known from the Prairie Provinces (Lindroth 1961a: 148), “Montana” (Bousquet 1988a: 372), Wyoming (Park County, CNC), and “North Dakota” (Bousquet 1988a: 372). The record from “Idaho” (Bousquet and Larochelle 1993: 98) needs confirmation.

**Records.** CAN: AB, MB, SK USA: MT, ND, WY [ID]

#### [sellatus group]

##### *Dyschirius campicola* Lindroth, 1961

*Dyschirius campicola* Lindroth, 1961a: 143. Type locality: «Del Rio [Val Verde County], Tex[as]» (original citation). Holotype (♂) in MCZ [# 30422].

**Distribution.** This species ranges from the southern part of the Prairie Provinces (Lindroth 1961a: 143; Bousquet 1987a: 115) to southern Arizona (Bousquet 1987a: 115; Dajoz 2007: 21), southern Texas, and central Arkansas, east to northeastern Ohio [see Davidson and Lee 1990: Fig. 1)].

**Records.** CAN: AB, MB USA: AR, AZ, CO, ID, IL, KS, ND, NE, NM, OH, OK, SD, TX, UT, WY

##### *Dyschirius pallipennis* (Say, 1823)

*Clivina pallipennis* Say, 1823a: 24. Type locality: «Angl[e]sea [Cape May County], N[ew] J[ersey]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 334), in MCZ [# 33079]. NOTE. «Egg-harbour [New Jersey], coast of Virginia and Florida» were the areas originally cited by Say (1823a: 24).

**Distribution.** The range of this species extends from southern Quebec (Larochelle 1975: 82) to southern Alberta (Bousquet 1987a: 115), south to northern Texas (Bowie and Winkler Counties, CMNH, USNM), southeastern Louisiana (West Baton Rouge Parish, LSAM), and southern Florida (Herman 1986: 63).

**Records.** CAN: AB, ON, QC, SK USA: AR, FL, GA, IL, KS, LA, MI, MO, MS, MT, ND, NE, NJ, NY, OK, PA, SD, TX, VA

***Dyschirius salivagens* LeConte, 1875**

*Dyschirius salivagens* LeConte, 1875c: 169. Type locality: «Great Salt Lake [Davis County], Utah» (original citation). Holotype [by monotypy] (♀) in MCZ [# 700].

**Distribution.** This species has been reported from southern Oregon (Herman 1986: 60), western Nevada (Bousquet 1988a: 376), and Utah (Knowlton 1939: 2; Lindroth 1961a: 144; Herman 1986: 61). The records from South Dakota (Kirk and Balsbaugh 1975: 16) and Albuquerque in New Mexico (Fall and Cockerell 1907: 156) need confirmation.

**Records.** USA: NV, OR, UT [NM, SD]

***Dyschirius sellatus* LeConte, 1857**

*Dyschirius sellatus* LeConte, 1857b: 78. Type locality: «Atlantic City [Atlantic County], on the coast of New Jersey» (original citation). Three syntypes in MCZ [# 677].

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 45) to central Florida (Peck and Thomas 1998: 17), west to northeastern Texas (Lindroth 1961a: 143), including southeastern Mississippi (George and Greene Counties, Drew A. Hildebrandt pers. comm. 2008), and north to southern North Dakota (Burleigh County, Donald P. Schwert pers. comm. 1989) and eastern Minnesota (Gandhi et al. 2005: 924). The record from “Pennsylvania” (Bousquet and Larochelle 1993: 100) needs confirmation.

**Records.** CAN: NB, NF, NS, PE, QC USA: FL, GA, IL, LA, MD, MN, MO, MS, NC, ND, NE, NJ, NY, OK, SD, TX [PA]

**[tridentatus group]**

***Dyschirius interior* Fall, 1922**

*Dyschirius interior* Fall, 1922c: 172. Type locality: «Baldur, Manitoba» (original citation). Holotype in MCZ [# 23852].

*Dyschirius arizonicus* Van Dyke, 1943: 22. Type locality: «Holbrook [Navajo County], Arizona» (original citation). Holotype in CAS [# 5303]. Synonymy established by Bousquet (1988a: 371).

**Distribution.** This species ranges from the southern part of the Prairie Provinces (Lindroth 1961a: 139) south to east-central California (Dajoz 2004: 119), northern Arizona (Van Dyke 1943: 22, as *D. arizonicus*; Mojave and Navajo Counties, MCZ,



USNM), and western Texas (Randall and Ward Counties, CMNH, USNM); also known from southwestern Oregon (Curry County, DAPC).

**Records.** CAN: AB, MB, SK USA: AZ, CA, CO, ID, NE, NM, NV, OR, TX, UT, WY

### *Dyschirius patruelis* LeConte, 1852

*Dyschirius patruelis* LeConte, 1852a: 196. Type locality: «San Diego [San Diego County, California]» (original citation). Three syntypes in MCZ [# 686].

**Distribution.** This species is found along the Pacific Coast in southern California (LeConte 1852a: 196). The record from “Oregon” (Leng 1920: 47) needs confirmation; that from southwestern British Columbia (Hatch 1953: 67) is in error.

**Records.** USA: CA [OR]

### *Dyschirius tridentatus* LeConte, 1852

*Dyschirius tridentatus* LeConte, 1852a: 195. Type locality: «ad San Diego [San Diego County, California]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 688].

*Dyschirius convexus* LeConte, 1852a: 195. Type locality: «San Diego [San Diego County, California]» (original citation). Syntype(s) in MCZ [# 687]. Synonymy established by LeConte (1858a: 29), confirmed by Lindroth (1961a: 138).

*Dyschirius quadridens* Motschulsky, 1859a: 133. Type locality: California (inferred from title of the paper). One syntype, listed as “corruptum,” in ZMMU (Keleinikova 1976: 213). Synonymy established by LeConte (1863b: 3).

**Distribution.** This species is found from northern Washington (Lindroth 1961a: 138) to western Montana (Russell 1968: 47), south to southwestern New Mexico (Sierra County, CMNH) and southwestern California (LeConte 1852a: 195; Moore 1937: 5). The records from “Nebraska” (Bousquet and Laroche 1993: 98) and northwestern British Columbia (Hatch 1953: 67) are probably in error. One old specimen simply labeled “Van” is known (MCZ).

**Records.** USA: AZ, CA, ID, MT, NM, NV, OR, WA [BC]

### *Dyschirius unipunctatus* Fall, 1901

*Dyschirius unipunctatus* Fall, 1901a: 207. «Pomona, San Bernardino, Riverside [California]» (original citation). Syntype(s) in MCZ [# 23855].

**Distribution.** This species is found in southern California (Fall 1901a: 207).

**Records.** USA: CA

### *Dyschirius varidens* Fall, 1910

*Dyschirius varidens* Fall, 1910: 93. Type locality: «Los Angeles [Los Angeles County], California» (original citation). Holotype in MCZ [# 23856].

**Distribution.** This species ranges from “Washington” (Hatch 1953: 67) to western Montana (Jefferson County, CNC), south to northeastern Nevada (Elko County, CNC) and southern California (Fall 1910: 93; San Diego County, CAS, UASM). The record from “Wyoming” (Bousquet and Larochelle 1993: 98) needs confirmation.

**Records. USA:** CA, ID, MT, NV, OR, WA [WY]

### Tribe PROMECOGNATHINI LeConte, 1853

Promecognathi LeConte, 1853c: 371, 394. Type genus: *Promecognathus* Chaudoir, 1846.

Axinidiini Basilewsky, 1963a: 307. Type genus: *Axinidium* Sturm, 1843.

**Diversity.** Eight species in North America (two species) and South Africa (six species) arrayed in five genera: *Axinidium* Sturm (two species), *Holaxinidium* Basilewsky (one species), *Metaxinidium* Basilewsky (two species), *Paraxinidium* Basilewsky (one species), and *Promecognathus* (two species).

### Genus *PROMECOGNATHUS* Chaudoir, 1846

*Promecognathus* Chaudoir, 1846: 524. Type species: *Eripus laevissimus* Dejean, 1829 by monotypy. Etymology (original). From the Greek *promeces* (advanced, in front of, by extension elongate) and *gnathos* (jaw), alluding to the elongate mandibles (“*mandibulae longissimae*”) of the adults [masculine].

**Diversity.** Two species restricted to western North America.

**Identification.** Lindroth (1961a: 125-128) commented on the structural differences between the two species.

**Taxonomic Note.** The status of the two forms as distinct species is questionable in my opinion. Van Dyke (1925: 123) considered the two forms as conspecific.

### *Promecognathus crassus* LeConte, 1868

*Promecognathus crassus* LeConte, 1868b: 62. Type locality: «California» (original citation), herein restricted to Monterey, Monterey County (see Casey 1913: 94, as *P. corpulentus*). Three syntypes in MCZ [# 640].

*Promecognathus contractus* Casey, 1913: 94. Type locality: «Napa Co[unty], Cal[ifornia]» (syntype label). One syntype in USNM [# 46872]. Synonymy established by Lindroth (1961a: 127). NOTE. Casey (1913: 94) cited, probably by error, the type locality as “Lake Co[unty], California.”

*Promecognathus corpulentus* Casey, 1913: 94. Type locality: «Monterey [Monterey County], California» (original citation). Lectotype, designated by Lindroth (1975: 113), in USNM [# 46873]. Synonymy established by Lindroth (1961a: 127).

*Promecognathus grandiceps* Casey, 1913: 94. Type locality: «California» (original citation). Lectotype, designated by Lindroth (1975: 113), in USNM [# 46874]. Synonymy established by Lindroth (1961a: 127).

**Distribution.** This species is found along the Pacific Coast from southwestern British Columbia, including Vancouver Island (Lindroth 1961a: 128), to central California (Casey 1913: 94, as *P. corpulentus*).

**Records.** CAN: BC (VCI) USA: CA, OR, WA

### ***Promecognathus laevisissimus* (Dejean, 1829)**

*Eripus laevisissimus* Dejean, 1829: 11. Type locality: «Californie» (original citation), restricted to «San Francisco [San Francisco County]» by Lindroth (1961a: 127).

Holotype [by monotypy (see Dejean 1829: 9)] in MHNP (Lindroth 1955b: 13).

*Promecognathus debilis* Casey, 1897: 346. Type locality: «S[an]ta Cruz [Santa Cruz County], California» (original citation). Holotype [by monotypy] in USNM [#46871]. Synonymy established by Lindroth (1961a: 127).

**Distribution.** This species is known from “Oregon” south at least to central California (Lindroth 1961a: 127; Fresno County, CAS), east to Washoe County in northwestern Nevada (La Rivers 1947: 139; Lindroth 1961a: 127).

**Records.** USA: CA, NV, OR

## **Subfamily BROSCINAE Hope, 1838**

Broschidae Hope, 1838: 80. Type genus: *Broscus* Panzer, 1813.

**Diversity.** One tribe is included in this subfamily.

### **Tribe BROSCINI Hope, 1838**

Broschidae Hope, 1838: 80. Type genus: *Broscus* Panzer, 1813.

**Diversity.** About 290 species (Häckel et al. 2010) in the Nearctic (four species, one of them adventive), Neotropical (about 30 species, one in Mexico, the other ones in South America), Australian (about 180 species), Oriental (five species), and Palaearctic (about 70 species) Regions placed in 34 genera. The genera are arrayed in five subtribes (Roig-Juñent 2000): Broscina (about 75 species), Creobiina (about 95 species in South America and the Australian Region), Anoxyina (five species in Mexico, Iran, and the Oriental Region), Baripodina (about 25 South American species), and Nothobroscina (about 90 species in the Australian Region and one in Chile). The group is better represented in the New World with about 215 species (74% of the world fauna) than in the Old World.

### **Subtribe BROSCINA Hope, 1838**

Broschidae Hope, 1838: 80. Type genus: *Broscus* Panzer, 1813.

Cephalotida Heer, 1838: 7. Type genus: *Cephalotes* Bonelli, 1810 (= *Broscus* Panzer, 1813). NOTE. This family-group name is permanently invalid, being based on a preoccupied type genus (ICZN 1999: Article 39).

Zacotini G.H. Horn, 1881: 165, 169. Type genus: *Zacotus* LeConte, 1869.

**Diversity.** About 75 species in the Nearctic (four species), Oriental (four species), and Palaearctic (about 65 species) Regions. One species (*Miscodera arctica*) is Holarctic and one is adventive (*Broscus cephalotes*) in North America.

### Genus *MISCODERA* Eschscholtz, 1830

*Miscodera* Eschscholtz, 1830: 63. Type species: *Scarites arcticus* Paykull, 1798 by monotypy. Etymology (original). From the Greek *mischos* (peduncle) and *dere* (neck, by extension pronotum), alluding to the pedunculate body shape of the adults [feminine].

*Leiochiton* Curtis, 1831: plate 346. Type species: *Scarites arcticus* Paykull, 1798 by original designation. Etymology. From the Greek *leios* (smooth) and *chiton* (tunic, by extension cuticle), alluding to the smooth body (“very smooth and highly polished”) of the adults [masculine].

*Liochiton* Agassiz, 1846: 203, 212. Unjustified emendation of *Leiochiton* Curtis, 1831.

**Diversity.** One Holarctic species in the subarctic and boreal regions.

**Identification.** Lindroth (1961a: 170-171) covered the species.

**Taxonomic Note.** Cladistic analysis of broscine genera performed by Roig-Juñent (2000) placed this genus as the sister-group of the Holarctic genus *Broscodera* Lindroth.

### *Miscodera arctica* (Paykull, 1798)

*Scarites arcticus* Paykull, 1798: 85. Type locality: «Botnia occidentali & orientali [= Gulf of Bothnia, Sweden]» (original citation). Syntype(s) probably in NRSS.

*Leiochiton readii* Curtis, 1831: plate 346. Type locality: «on Cold-edge [Road], the moor due north of Halifax [West Yorkshire, United Kingdom]» (original citation). Syntype(s) location unknown. Synonymy established by Ganglbauer (1891a: 145).

*Miscodera erythropus* Motschulsky, 1844: 76. Type locality: «montagnes du Hamar-Daban près de la station Chybet [Irkutsk Oblast, Russia]» (original citation). Three syntypes in ZMMU (Keleinikova 1976: 196). Synonymy established by Horn (1881: 168).

*Miscodera americana* Mannerheim, 1853: 134. Type locality: «ad fl[umen] Skeljanktnu peninsulae Kenai [Alaska]» (original citation). Holotype [by monotypy] location unknown. Synonymy established by Horn (1881: 168).

*Miscodera hardyi* Chaudoir, 1861b: 525. Type locality: «S[ain]t Pierre [et] Miquelon» (original citation). Syntype(s) [2 originally cited] in MHNP. Synonymy established by Horn (1881: 168).

**Distribution.** This circumpolar species ranges from Ireland to the Bering Sea coast (Bousquet 2003b: 237) and from Alaska (Lindroth 1961a: 171) to Newfoundland (Lindroth 1955a: 133), south to northeastern New York (Notman 1928: 241), the upper peninsula of Michigan (Chippewa County, MCZ), northern Wisconsin (Bayfield County, MCZ), northern Colorado (Dajoz 1989: 337; Gilpin County, CMNH),

southern Montana, and northern Washington (Hatch 1933b: 7). Fossil remnants of this species, believed to be 2.0–2.5 million years old, have been found in Greenland (Bennike and Böcher 1990: 336; Böcher 1995: 23); others, about 20,530 years B.P., have been unearthed in northeastern Iowa (Woodman et al. 1996: 17).

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, QC, SK, YT **USA:** AK, CO, ME, MI, MT, NH, NY, VT, WA, WI, WY – **Holarctic**

### **Genus** *BROSCODERA* Lindroth, 1961

*Broscodera* Lindroth, 1961b: 150. Type species: *Miscodera insignis* Mannerheim, 1852 by original designation. Etymology. From the generic name *Broscus* [*q.v.*] and the Greek *dere* (neck, by extension pronotum) [feminine].

**Diversity.** Northern Hemisphere, with four species in the Nearctic (one species) and Palaearctic (three species) Regions arrayed in two subgenera: *Broscodera s.str.* (one species) and *Sinobrosculus* Deuve (three species in Nepal, Gansu, and Sichuan).

**Taxonomic Note.** Cladistic analysis of broscine genera performed by Roig-Juñent (2000) placed this genus as the sister-group of the Holarctic genus *Miscodera* Eschscholtz.

### **Subgenus** *Broscodera* Lindroth, 1961

*Broscodera* Lindroth, 1961b: 150. Type species: *Miscodera insignis* Mannerheim, 1852 by original designation.

**Diversity.** One species in the temperate regions of western North America.

**Identification.** Lindroth (1961a: 171–172) treated the species.

### *Broscodera insignis* (Mannerheim, 1852)

*Miscodera insignis* Mannerheim, 1852: 296. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Holotype [by monotypy; designated lectotype by Lindroth (1969a: 1111)] (♂) in ZMH.

**Distribution.** This species is confined to the Pacific Coast and adjacent Coast Ranges, ranging from the Alexander Archipelago in southeastern Alaska to western Oregon (Lindroth 1961a: 172). The record from southeastern Wyoming (Lavigne 1977: 45) must be based on a mislabeled specimen.

**Records.** **CAN:** BC (QCI) **USA:** AK, OR, WA

### **Genus** *ZACOTUS* LeConte, 1869

*Zacotus* LeConte, 1869c: 373. Type species: *Zacotus matthewsii* LeConte, 1869 by monotypy. Etymology. From the Greek *zacotos* (very angry) [masculine].

**Diversity.** One species in temperate western North America.

**Identification.** The species is covered in Lindroth's (1961a: 172–173) monograph.



**Taxonomic Note.** Cladistic analysis of broscine genera performed by Roig-Juñent (2000) placed this genus as the sister-group of the Asian genus *Eobroscus* Kryzhanovskij.

***Zacotus matthewsii* LeConte, 1869**

*Zacotus matthewsii* LeConte, 1869c: 373. Type locality: Vancouver Island, British Columbia (inferred from title of the paper), herein restricted to Tofino (see Lindroth 1961a: 173). Holotype [by monotypy] (♀) in MCZ [# 5854]. Etymology. The specific name was proposed for Henry and Joseph Matthews, brothers of the British Coleopterist Reverend Andrew Matthews [1815-1897] who specialized in small beetles. Henry and Joseph Matthews collected in British Columbia, including Vancouver Island. NOTE. There is a clear evidence of an inadvertent error in the original publication of the name *matthewsii*. It should have been spelled *matthewsiorum* since the species was proposed for two men together (see ICZN 1999: Article 31.1.2). However, the spelling *matthewsii* has been in use since LeConte proposed the name and I believe it should be preserved. The case should be submitted to the Commission for a ruling.

*Zacotus angustus* Casey, 1920: 290. Type locality: «Josephine Co[unty], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 113), in USNM [47697]. Synonymy established by Hatch and Fender (1944: 188).

*Zacotus subopacus* Hopping, 1925: 206. Type locality: «Princeton, B[ritish] C[olumbia]» (original citation). Holotype (♀) in CNC [# 1380]. Synonymy established by Hatch and Fender (1944: 188).

*Zacotus fredericki* Nunenmacher, 1944: 12. Type locality: «Lincoln County, Oregon» (original citation). Holotype (♂) in FMNH (Goldman 2006). Synonymy established by Hatch and Fender (1944: 188).

**Distribution.** This species ranges from the southern part of the Alexander Archipelago to northwestern California, east to the Bitter Root Mountains in southwestern Montana (Ball 1956b: 34, Fig. 1).

**Records.** CAN: BC (QCI, VCI) USA: AK, CA, ID, MT, OR, WA

**Note.** Based on variation in color, lustre, and surface sculpture in adults, Ball (1956b) recognized a western and eastern “races” for this species.

**Genus *BROSCUS* Panzer, 1813**

*Cephalotes* Bonelli, 1810: Tabula Synoptica [junior homonym of *Cephalotes* Latreille, 1802]. Type species: *Carabus cephalotes* Linnaeus, 1758 by subsequent monotypy in Panzer (1813: 62). Etymology. From the Greek *cephalotos* (headed) [masculine].

*Broscus* Panzer, 1813: 62. Replacement name for *Cephalotes* Bonelli, 1810. Etymology. Uncertain, possibly a contracted form of the Greek *bibrosco* (eat, gnaw, consume) [masculine].

**Diversity.** Twenty-three species in the Palearctic Region, one of them adventive in eastern North America.



**Figure 18.** *Schizogenius amphibius* (Haldeman). This small clivinine belongs to a genus endemic to the Western Hemisphere and is closely related to *Halocoryza* which is represented, besides North America, along the east and west coast of Africa and on many islands in the eastern parts of the Indian Ocean. The adults usually live along river banks near the water and this ecological preference was hinted at by Samuel Haldeman through the species' epithet.

**Identification.** Larochelle and Larivière (1989a) provided a description of the external structures as well as the male and female genitalia of the species found in North America.

**Taxonomic Note.** Cladistic analysis of broscine genera performed by Roig-Juñent (2000) placed this genus as the sister-group of the temperate Asian genus *Craspedonotus* Schaum.

***Broscus cephalotes* (Linnaeus, 1758)**

*Carabus cephalotes* Linnaeus, 1758: 414. Type locality: «Europa» (original citation), restricted to «Suecia [Sweden]» by Lindroth (1957b: 339). Three possible syntypes in LSL (Lindroth 1957b: 330).

**Distribution.** This Palearctic species is adventive in North America where it is known from Cape Breton Island and eastern Prince Edward Island (Larochelle and Larivière 1989a: Fig. 4). The first inventoried specimen found on this continent was caught in 1987.

**Records.** CAN: NS (CBI), PE – **Adventive**

**Subfamily GEHRINGIINAE Darlington, 1933**

Gehringiini Darlington, 1933b: 110. Type genus: *Gehringia* Darlington, 1933.

**Diversity.** Five species placed in two subtribes: Gehringiina (one species) and Helenaena (three rarely collected species in the genus *Helenaena* Schatzmayr and Koch from Egypt, Turkey, and Yemen and one species in the genus *Afrogehringia* Baehr, Schüle and Lorenz from Namibia).

**Identification.** Baehr et al. (2009: 106) provided a key to all species of this subfamily.

**Tribe GEHRINGIINI Darlington, 1933**

Gehringiini Darlington, 1933b: 110. Type genus: *Gehringia* Darlington, 1933.

**Diversity.** Three genera and five species are placed in this tribe.

**Subtribe GEHRINGIINA Darlington, 1933**

Gehringiini Darlington, 1933b: 110. Type genus: *Gehringia* Darlington, 1933.

**Diversity.** One North American species belongs to this subtribe.

**Genus *GEHRINGIA* Darlington, 1933**

*Gehringia* Darlington, 1933b: 110. Type species: *Gehringia olympica* Darlington, 1933 by original designation. Etymology. From the surname of Dr. John George Gehring [1857-1932] of Bethel, Maine, from whom Darlington was collecting “on shares” when he secured his specimens on Olympic Mountains. Born in Cleveland, Ohio, Gehring came to Bethel at 30 and eventually opened a clinic for the treatment of persons with nervous disorders. Dr. Gehring and his “inn” were the prototype and scene of Novelist Robert Herrick’s *The Master of the Inn*. The name is feminine.

**Diversity.** One species in western North America.

**Identification.** The species was covered in Lindroth's (1961a: 4-5) monograph on the carabids of Canada and Alaska.

### ***Gehringia olympica* Darlington, 1933**

*Gehringia olympica* Darlington, 1933b: 111. Type locality: «near Sol Duc Hot Springs [Clallam County], Olympic M[oun]t[ain]s, Washington» (original citation). Holotype (♀) in MCZ [# 17243].

**Distribution.** This minute species ranges from central Alaska (66.79376°N, 150.73164°W, Derek S. Sikes pers. comm. 2008) to southern Northwest Territories (CNC), south to northwestern Montana (Edwards 1975: 48), southeastern Idaho (Caribou County, CNC), and northeastern Oregon (Lindroth 1961a: 5).

**Records.** CAN: AB, BC, NT, YT USA: AK, ID, MT, OR, WA

## **Subfamily TRECHINAE Bonelli, 1810**

Trechii Bonelli, 1810: Tabula Synoptica. Type genus: *Trechus* Clairville, 1806.

**Diversity.** Worldwide, with about 5,410 species arrayed in four tribes: Bembidiini (about 2,630 species), Pogonini (about 80 species), Trechini (about 2,650 species), and Zolini (about 50 species). The North American fauna is represented by about 615 species (roughly 11.3% of the world fauna).

## **Tribe TRECHINI Bonelli, 1810**

Trechii Bonelli, 1810: Tabula Synoptica. Type genus: *Trechus* Clairville, 1806.

**Diversity.** Worldwide, with about 2,650 species arrayed in two subtribes: Trechina (about 2,470 species) and Trechodina (about 180 species). Only the subtribe Trechina is represented in North America.

## **Subtribe TRECHINA Bonelli, 1810**

Trechii Bonelli, 1810: Tabula Synoptica. Type genus: *Trechus* Clairville, 1806.

**Diversity.** Worldwide, with about 2,470 species (Lorenz 2005: 168-200). The North American fauna is represented by about 225 species (roughly 9% of the world fauna) arrayed in nine genera.

## **Genus TRECHOBLEMUS Ganglbauer, 1891**

*Trechoblemus* Ganglbauer, 1891a: 187. Type species: *Carabus micros* Herbst, 1784 by monotypy. Etymology. From the generic names *Trechus* [*q.v.*] and *Blemus* [*q.v.*] [masculine].



**Diversity.** Northern Hemisphere, with six species in temperate areas of the Nearctic (one western species) and Palaearctic (five species) Regions.

**Identification.** Barr (1972) provided a description of the external structures and male genitalia of the North American species.

### *Trechoblemus westcotti* Barr, 1972

*Trechoblemus westcotti* Barr, 1972: 142. Type locality: «Hillsboro, Washington County, Oregon» (original citation). Holotype (♂) in ODAC.

**Distribution.** This species is known only from a few localities in the Willamette Valley in northwestern Oregon.

**Records. USA:** OR

### Genus *PSEUDANOPHTHALMUS* Jeannel, 1920

*Pseudanophthalmus* Jeannel, 1920b: 154. Type species: *Anophthalmus menetriesi* Motschulsky, 1862 by original designation. Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Anophthalmus* [masculine].

*Aphanotrechus* Barr, 1960c: 65. Type species: *Aphanotrechus virginicus* Barr, 1960 by original designation. Synonymy established by Barr and Krekeler (1967: 1322). Etymology. From the Greek *aphanes* (invisible, obscure) and the generic name *Trechus* [q.v.] [masculine].

**Diversity.** About 145 described species, though more than 220 are known (Barr 2004: 1), restricted to eastern North America south of the last glaciation.

**Identification.** Barr (2004: 11-16) provided a key for the identification of the 26 species groups currently recognized. Barr (1959) revised the species of the *robustus* group (four species). Krekeler (1973) revised the species of the *barri* (two species), *horni* (13 species), *inexpectatus* (six species), and *rittmani* (three species) groups and provided keys for the identification of the species of the *horni* and *inexpectatus* groups. Barr (1981) revised the species of the *alabamae* (two species), *hirsutus* (seven species), *hubrichti* (six species), *hypolithos* (five species), *jonesi* (eight species), and *tennesseensis* (four species) groups but did not provide keys for their identification. He also treated the *engelhardti* group but many species were added subsequently.

**Taxonomic Note.** *Duvaliopsis* Jeannel, with six species in Carpathian and Transylvanian Alps of eastern Europe, is listed as a synonym of *Pseudanophthalmus* by Barr (2004: 7). Most other trechine students treat *Duvaliopsis* as a distinct genus.

*Tenessarius* Valentine (1952: 15), listed as a junior synonym of *Pseudanophthalmus* Jeannel by Barr (1962b: 111), is an unavailable name since the original description was not accompanied by the fixation of a type species (ICZN 1999: Article 13.3). Barr (2004: 7) provided a type species for *Tenessarius* along with a bibliographic reference to a previously published description but since he listed *Tenessarius* in synonymy with *Pseudanophthalmus*, the name is still unavailable (ICZN 1999: Article 11.6).



**[alabamae group]*****Pseudanophthalmus alabamae* Valentine, 1932**

*Pseudanophthalmus alabamae* Valentine, 1932a: 273. Type locality: «Manitou Cave, 1.5 miles southwest of F[or]t Payne, at the foot of Lookout M[oun]t[ain] [DeKalb County], Ala[bama]» (original citation). Holotype (♂) in USNM [#44279].

**Distribution.** This species is known from a number of caves in DeKalb County, north-eastern Alabama (Barr 2004: 40).

**Records. USA:** AL

***Pseudanophthalmus georgiae* Barr, 1981**

*Pseudanophthalmus georgiae* Barr, 1981: 90. Type locality: «Blowing Spring Cave, 4 km N[orth]E[ast] Cloudland and 1.6 km N[orth]W[est] Chelsea at the east base of Lookout Mountain, Chattooga Co[unty], Georgia» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from a few caves in Chattooga and Walker Counties, northwestern Georgia (Barr 2004: 40).

**Records. USA:** GA

**[audax group]*****Pseudanophthalmus audax* (Horn, 1883)**

*Anophthalmus audax* G.H. Horn, 1883b: 272. Type locality: «Ronald's cave [Hart County, Kentucky]» (original citation). Holotype [by monotypy] (♂) in MCZ [#8229].

**Distribution.** This species is known only from two caves in Hart and Edmonson Counties, Kentucky (Barr 2004: 24).

**Records. USA:** KY

***Pseudanophthalmus emersoni* Krekeler, 1958**

*Pseudanophthalmus emersoni* Krekeler, 1958: 176. Type locality: «Donnehue's Cave, one mile southwest of Bedford, Lawrence Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH. Etymology. The specific name honors Professor Alfred Edward Emerson [1896-1976] of the University of Chicago who worked on the systematics, phylogeny, distribution, and natural history of termites. His collection of more than one million specimens was given to the American Museum of Natural History.

**Distribution.** This species is known only from two caves in Lawrence County, southern Indiana (Barr 2004: 24).

**Records. USA:** IN

***Pseudanophthalmus packardi* Barr, 1959**

*Pseudanophthalmus packardi* Barr, 1959: 22. Type locality: «Bat Cave, Carter Caves State Park, Carter Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH. Etymology. The specific name was proposed for Alpheus Spring Packard, Jr. [1839-1905], American geologist and entomologist, professor of zoology and geology at Brown University, who collected the first specimen of this species.

**Distribution.** This species is known from several caves in Carter and Elliott Counties, northeastern Kentucky (Barr 2004: 24).

**Records. USA:** KY

[barri group]

***Pseudanophthalmus barri* Krekeler, 1973**

*Pseudanophthalmus barri* Krekeler, 1973: 64. Type locality: «Indian Cave, 0.5 mile southwest of Charlestown, Clark Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known from several caves in southern Clark County, southern Indiana (Barr 2004: 24).

**Records. USA:** IN

***Pseudanophthalmus troglodytes* Krekeler, 1973**

*Pseudanophthalmus troglodytes* Krekeler, 1973: 65. Type locality: «Highbaugh Cave, 4.5 miles northwest of Jeffersontown, Jefferson Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from two nearby caves in Jefferson County, north-central Kentucky (Barr 2004: 24).

**Records. USA:** KY

[cumberlandus group]

***Pseudanophthalmus acherontis* Barr, 1959**

*Pseudanophthalmus tiresias acherontis* Barr, 1959: 20. Type locality: «Echo Cave, 2 miles northeast of Rockvale, Rutherford Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from several caves in Rutherford and Wilson Counties, Tennessee (Barr 2004: 33).

**Records. USA:** TN

***Pseudanophthalmus bendermani* Barr, 1959**

*Pseudanophthalmus tiresias bendermani* Barr, 1959: 21. Type locality: «Benderman Cave, Maury Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave located two miles west of Southport in west-central Tennessee (Barr 2004: 34).

**Records. USA:** TN

***Pseudanophthalmus catherinae* Barr, 1959**

*Pseudanophthalmus tiresias catherinae* Barr, 1959: 17. Type locality: «Petty Cave, Marshall Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in south-central Tennessee (Barr 2004: 33).

**Records. USA:** TN

***Pseudanophthalmus cumberlandus* Valentine, 1937**

*Pseudanophthalmus cumberlandus* Valentine, 1937: 96. Type locality: «Piper Cave, Monoville [Smith County], Tennessee» (original citation). Holotype (♂) in USNM [# 56124].

**Distribution.** This species is known from a few caves in Smith and Macon Counties, northern Tennessee (Barr 1980: 91; Barr 2004: 33).

**Records. USA:** TN

***Pseudanophthalmus inquisitor* Barr, 1980**

*Pseudanophthalmus inquisitor* Barr, 1980: 94. Type locality: «Sheals Cave, Clay Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in northern Tennessee (Barr 2004: 34).

**Records. USA:** TN

***Pseudanophthalmus insularis* Barr, 1959**

*Pseudanophthalmus tiresias insularis* Barr, 1959: 18. Type locality: «Baker Station Cave, in northern Davidson Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in north-central Tennessee (Barr 2004: 33).

**Records. USA:** TN

***Pseudanophthalmus occidentalis* Barr, 1959**

*Pseudanophthalmus tiresias occidentalis* Barr, 1959: 18. Type locality: «De Priest Branch Cave, Lewis Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from two nearby caves in Lewis and Hickman Counties, western Tennessee (Barr 1980: 93; Barr 2004: 33).

**Records. USA:** TN

***Pseudanophthalmus productus* Barr, 1980**

*Pseudanophthalmus productus* Barr, 1980: 91. Type locality: «Neil Fisher Cave (= Rip Van Winkle Cave), Smith Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from several caves in Smith, Putnam, and Jackson Counties, northern Tennessee (Barr 1980: 92; Barr 2004: 33).

**Records. USA:** TN

***Pseudanophthalmus tiresias* Barr, 1959**

*Pseudanophthalmus tiresias tiresias* Barr, 1959: 16. Type locality: «Indian Grave Point Cave, 6 miles southwest of Smithville, DeKalb Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is still known only from two nearby caves in central Tennessee (Barr 1980: 92; Barr 2004: 33).

**Records. USA:** TN

***Pseudanophthalmus tullahoma* Barr, 1959**

*Pseudanophthalmus tiresias tullahoma* Barr, 1959: 20. Type locality: «Carroll Cave, Coffee Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from Carroll and Riley Creek caves, Coffee County, south-central Tennessee (Barr 1980: 93; Barr 2004: 33).

**Records. USA:** TN

[engelhardti group]

***Pseudanophthalmus aladdini* Valentine, 1945**

*Pseudanophthalmus lodingi aladdini* Valentine, 1945: 637. Type locality: «Aladdin Cave, upper end of Sharp Cove, Madison Co[unty], Ala[bama]» (original citation). Holotype (♂) in USNM [# 57049].

**Distribution.** This species is known from a few caves in Madison County, northern Alabama (Barr 2004: 35).

**Records. USA:** AL

***Pseudanophthalmus deceptivus* Barr, 1981**

*Pseudanophthalmus deceptivus* Barr, 1981: 43. Type locality: «Fisher Cave, near the top of Newmans Ridge, between Blackwater and Kyles Ford, Lee Co[unty], Virginia» (original citation). Holotype (♀) in AMNH.

**Distribution.** This species is known only from the type-locality cave in southwestern Virginia (Barr 2004: 34).

**Records. USA:** VA

***Pseudanophthalmus distinguens* Valentine, 1948**

*Pseudanophthalmus lodingi distinguens* Valentine, 1948: 12. Type locality: «Inge Cave, 5½ miles south of Trinity, Morgan County, Ala[bama]» (original citation). Holotype (♂) probably in ALM.

**Distribution.** This species is known from a few caves in Morgan County, northern Alabama (Barr 2004: 36).

**Records. USA:** AL

***Pseudanophthalmus engelhardti* (Barber, 1928)**

*Anophthalmus engelhardti* Barber, 1928: 195. Type locality: «English Cave [Claiborne County], Powell River, six miles south of Cumberland Gap, Tennessee» (original citation). Holotype (♂) in USNM [# 40824]. Etymology. The specific name honors George Paul Engelhardt [1871-1942], curator of natural history at the Brooklyn Museum and an authority on clear-wing moths.

**Distribution.** This species is known only from the type-locality cave in northeastern Tennessee (Barr 2004: 34).

**Records. USA:** TN

***Pseudanophthalmus fastigatus* Barr, 1981**

*Pseudanophthalmus fastigatus* Barr, 1981: 50. Type locality: «Horseshoe Cave, 7 km S[outh]W[est] Chickamauga, Walker Co[unty], Georgia» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in northwestern Georgia (Barr 2004: 35).

**Records. USA:** GA

***Pseudanophthalmus fluviatilis* Valentine, 1948**

*Pseudanophthalmus lodingi fluviatilis* Valentine, 1948: 12. Type locality: «Rock House Cave, 1 mile south of Oleander, Marshall County, Ala[bama]» (original citation). Holotype (♂) probably in ALM.

**Distribution.** This species is known from several caves in Marshall and Morgan Counties, northern Alabama (Barr 2004: 36).

**Records. USA:** AL



***Pseudanophthalmus fulleri* Valentine, 1932**

*Pseudanophthalmus fulleri* Valentine, 1932a: 272. Type locality: «Tennessee Cave [= 41 Crystal Caves], [near] Chattanooga [Hamilton County], Tenn[essee]» (original citation). Holotype (♀) in USNM [# 44277].

**Distribution.** This species is known only from a number of caves in Hamilton County, southeastern Tennessee, and Dade County, northwestern Georgia (Barr 1981: 49; Barr 2004: 35).

**Records. USA:** GA, TN

***Pseudanophthalmus hesperus* Barr, 1959**

*Pseudanophthalmus hesperus* Barr, 1959: 15. Type locality: «Bethel Cave, Perry Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from a few caves in Perry and Wayne Counties, Tennessee (Barr 2004: 36).

**Records. USA:** TN

***Pseudanophthalmus holsingeri* Barr, 1965**

*Pseudanophthalmus holsingeri* Barr, 1965a: 63. Type locality: «Fugates Cave, at Gibson Station, Lee Co[unty], Virginia» (original citation). Holotype (♂) in USNM [# 75261].

**Distribution.** This species has been found yet only at the type-locality cave in southwestern Virginia (Barr 2004: 35).

**Records. USA:** VA

***Pseudanophthalmus humeralis* Valentine, 1931**

*Pseudanophthalmus humeralis* Valentine, 1931: 253. Type locality: «Crystal Cave, Monteagle [Grundy County], Tenn[essee]» (original citation). Holotype (♂) in USNM [# 44262].

*Pseudanophthalmus humeralis brevis* Valentine, 1932a: 273. Type locality: «Wonder Cave, Monteagle [Grundy County], Tenn[essee]» (original citation). Holotype (♂) in USNM [# 44278]. Synonymy established by Jeannel (1949b: 84).

**Distribution.** This species is known from a few caves in Grundy and Franklin Counties, southern Tennessee (Barr 2004: 35).

**Records. USA:** TN

***Pseudanophthalmus lodingi* Valentine, 1931**

*Pseudanophthalmus lödingi* Valentine, 1931: 252. Type locality: «Shelta Cave, Huntsville [Madison County], Ala[bama]» (original citation). Holotype (♂) in USNM [# 44261].

**Distribution.** This species is known from several caves in Madison County, northern Alabama (Barr 2004: 35).

**Records. USA:** AL

***Pseudanophthalmus meridionalis* Valentine, 1945**

*Pseudanophthalmus lodingi meridionalis* Valentine, 1945: 639. Type locality: «Salt-peter or Nyman Cave, ten miles southwest of Guntersville, Marshall Co[unty], Ala[bama]» (original citation). Holotype (♂) in USNM [# 57051].

**Distribution.** This species is known from a few caves in northern Alabama (Barr 2004: 36).

**Records. USA:** AL

***Pseudanophthalmus nickajackensis* Barr, 1981**

*Pseudanophthalmus nickajackensis* Barr, 1981: 51. Type locality: «Nickajack Cave, 1.0 km S[outh] Shellmound Station near the mouth of Nickajack Cove, Marion Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in southern Tennessee (Barr 2004: 35).

**Records. USA:** TN

***Pseudanophthalmus nortoni* Barr, 1981**

*Pseudanophthalmus nortoni* Barr, 1981: 48. Type locality: «Grassy Creek Cave, 0.7 km S[outh] Washington, Rhea Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in east-central Tennessee (Barr 2004: 35).

**Records. USA:** TN

***Pseudanophthalmus profundus* Valentine, 1945**

*Pseudanophthalmus lodingi profundus* Valentine, 1945: 637. Type locality: «Natural Well, Monte Sano, Madison Co[unty], Ala[bama]» (original citation). Holotype (♂) in USNM [# 57048].

*Pseudanophthalmus lodingi aquaticus* Valentine, 1945: 638. Type locality: «Cave Spring Cave, between Troy and Keels M[oun]t[ain]s, near Berkley, Madison Co[unty], Ala[bama]» (original citation). Holotype (♂) in USNM [# 57050]. Synonymy established by Barr (2004: 35).

**Distribution.** This species is known from a few caves in northern Alabama (Barr 2004: 35).

**Records. USA:** AL

***Pseudanophthalmus rotundatus* Valentine, 1932**

*Pseudanophthalmus rotundatus* Valentine, 1932a: 271. Type locality: «English Cave [Claiborne County], Tenn[essee]» (original citation). Holotype (♂) in USNM [#44276].

**Distribution.** This species has been reported from a number of caves in Claiborne and Hancock Counties in northeastern Tennessee and Lee County in southwestern Virginia (Barr 2004: 35).

**Records. USA:** TN, VA

***Pseudanophthalmus sequoyah* Barr, 1981**

*Pseudanophthalmus sequoyah* Barr, 1981: 52. Type locality: «Ellis (= Sequoyah) Cave, 3.3 km S[outh]W[est] Sulphur Springs, Dekalb Co[unty], Alabama» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in northeastern Alabama (Barr 2004: 35).

**Records. USA:** AL

***Pseudanophthalmus sidus* Barr, 1965**

*Pseudanophthalmus sidus* Barr, 1965a: 64. Type locality: «Meredith Saltpeter Cave, Shanghai Boat Dock, 6 miles southeast of LaFollette, Campbell Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH (Barr 1981: 48).

**Distribution.** This species is known only from the type-locality cave in northern Tennessee (Barr 2004: 35).

**Records. USA:** TN

***Pseudanophthalmus steevesi* Barr, 1981**

*Pseudanophthalmus steevesi* Barr, 1981: 53. Type locality: «Randolph Cave, 1.7 km S[outh]W[est] Blount Springs, Blount Co[unty], Alabama» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from a few caves in Blount County, north-central Alabama (Barr 2004: 35).

**Records. USA:** AL

***Pseudanophthalmus wallacei* Barr, 1981**

*Pseudanophthalmus wallacei* Barr, 1981: 46. Type locality: «Weaver Cave, 3.0 km N[orth] Clinton, Anderson Co[unty], Tennessee on the southeast (left) side of Clinch River» (original citation). Holotype (♀) in AMNH.

**Distribution.** This species is known only from the type-locality cave in eastern Tennessee (Barr 2004: 34).

**Records. USA:** TN

[**eremita group**]

***Pseudanophthalmus conditus* Krekeler, 1973**

*Pseudanophthalmus conditus* Krekeler, 1973: 73. Type locality: «Lawrence Cave, 0.5 mile south-southwest of Perryville, Boyle Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from two caves in central Kentucky (Barr 2004: 27).

**Records. USA:** KY

***Pseudanophthalmus eremita* (Horn, 1871)**

*Anophthalmus eremita* G.H. Horn, 1871: 328. Type locality: «Wyandotte Cave [Crawford County, Indiana]» (original citation). Holotype [by monotypy] in MCZ [# 34553].

**Distribution.** This species is known from two caves in Crawford and Harrison Counties, southern Indiana (Barr 2004: 27).

**Records. USA:** IN

[**gracilis group**]

***Pseudanophthalmus gracilis* Valentine, 1931**

*Pseudanophthalmus gracilis* Valentine, 1931: 253. Type locality: «Tommie's Cave [= Tawneys Cave], Newport [Giles County], V[irgini]a» (original citation). Holotype (♀) in USNM [# 44263].

**Distribution.** This species is known from a few caves in Giles and Craig Counties, western Virginia (Barr 2004: 21).

**Records. USA:** VA

***Pseudanophthalmus hadenoecus* Barr, 1965**

*Pseudanophthalmus hadenoecus* Barr, 1965a: 53. Type locality: «Mystic Cave, Pendleton Co[unty], West Virginia» (original citation). Holotype (♂) in USNM [# 75266].

**Distribution.** This species is known only from the type-locality cave, near Onego, in eastern West Virginia (Barr 2004: 21).

**Records. USA:** WV

**[grandis group]*****Pseudanophthalmus fuscus constrictus* Valentine, 1932**

*Pseudanophthalmus fuscus constrictus* Valentine, 1932a: 267. Type locality: «Organ Cave, 2 miles southeast of Ronceverte, east of the Greenbrier River [Greenbrier County], W[est] V[irgini]a» (original citation). Holotype (♂) in USNM [# 44272].

**Distribution.** This subspecies is known only from a few caves in Greenbrier and Monroe Counties, southeastern West Virginia (Barr 2004: 17).

**Records. USA:** WV

***Pseudanophthalmus fuscus fuscus* Valentine, 1931**

*Pseudanophthalmus fuscus* Valentine, 1931: 254. Type locality: «Kaufman's Cave [= Coffman Cave], Frankford [Greenbrier County], W[est] V[irgini]a» (original citation). Holotype (♀) in USNM [# 44266].

*Pseudanophthalmus subaequalis* Valentine, 1931: 255. Type locality: «Kaufman's Cave [= Coffman Cave], Frankford [Greenbrier County], W[est] V[irginia]» (original citation). Holotype (♂) in USNM [# 44265]. Synonymy established by Valentine (1932a: 267).

**Distribution.** This subspecies is known from several caves in Greenbrier County, southeastern West Virginia (Barr 2004: 17).

**Records. USA:** WV

***Pseudanophthalmus grandis elevatus* Valentine, 1932**

*Pseudanophthalmus grandis elevatus* Valentine, 1932a: 265. Type locality: «Organ Cave, 2 miles southeast of Ronceverte, east of the Greenbrier River [Greenbrier County], W[est] V[irgini]a» (original citation). Holotype (♂) in USNM [# 44269].

**Distribution.** This subspecies is known only from a few caves in Greenbrier and Monroe Counties, southeastern West Virginia (Barr 2004: 17).

**Records. USA:** WV

***Pseudanophthalmus grandis grandis* Valentine, 1931**

*Pseudanophthalmus grandis* Valentine, 1931: 254. Type locality: «Higginbotham's large cave, Frankford [Greenbrier County], W[est] V[irgini]a» (original citation). Holotype (♂) in USNM [# 44264].

**Distribution.** This subspecies is known from several caves in Greenbrier County, southeastern West Virginia (Barr 2004: 17).

**Records. USA:** WV



***Pseudanophthalmus henroti* Jeannel, 1949**

*Pseudanophthalmus henroti* Jeannel, 1949b: 69. Type locality: «Arbuckle's cave, près de Lewisburg, rive droite de Greenbrier river, Greenbrier County, West Virginia» (original citation). Holotype (♂) probably in MHNP. Etymology. The specific name was proposed for Henri Henrot [1913-1973], physician in Paris and specialist of the cave fauna, particularly the catopids. His collection was offered to the Muséum d'Histoire Naturelle, Paris, in 1973.

**Distribution.** This species is known from a few caves in southern Greenbrier County, West Virginia (Barr 2004: 17).

**Records. USA:** WV

***Pseudanophthalmus hypertrichosis* Valentine, 1932**

*Pseudanophthalmus hypertrichosis* Valentine, 1932a: 266. Type locality: «Martha Clarke Cave, 2 miles southwest of Hillsboro [Pocahontas County], W[est] V[irgini]a» (original citation). Holotype (♂) in USNM [# 44271].

**Distribution.** This species is known only from a few caves in southern Pocahontas County, east-central West Virginia (Barr 2004: 17).

**Records. USA:** WV

***Pseudanophthalmus krekeri* Barr, 1965**

*Pseudanophthalmus krekeri* Barr, 1965a: 52. Type locality: «Rich Mountain Cave, Randolph Co[unty], West Virginia» (original citation). Holotype (♂) in USNM [# 75264]. Etymology. This species is named after Carl Herman Krekeler [1920-2012], professor of biology at Valparaiso University in Indiana. Krekeler published three papers on cave carabids.

**Distribution.** This species is known only from a few specimens collected at the type-locality cave in northeastern West Virginia (Barr 2004: 18).

**Records. USA:** WV

***Pseudanophthalmus montanus* Barr, 1965**

*Pseudanophthalmus montanus* Barr, 1965a: 52. Type locality: «Bennett Cave, Tucker Co[unty], West Virginia» (original citation). Holotype (♂) in USNM [# 75265].

**Distribution.** This species is known only from two caves in Tucker County, northeastern West Virginia (Barr 2004: 18).

**Records. USA:** WV

***Pseudanophthalmus orthosulcatus* Valentine, 1932**

*Pseudanophthalmus grandis orthosulcatus* Valentine, 1932a: 265. Type locality: «cave opening about 800 ft. north of the village Greenville [= Greenville Saltpeter Cave]

[Monroe County], W[est] V[irgini]a» (original citation). Holotype (♀) in USNM [# 44270].

**Distribution.** This species is known only from a few caves in Monroe County, southeastern West Virginia (Barr 2004: 17).

**Records. USA:** WV

***Pseudanophthalmus sylvaticus* Barr, 1967**

*Pseudanophthalmus sylvaticus* Barr, 1967b: 167. Type locality: «east base of Kennison Mountain near the Cranberry Glades (1000 m), Pocahontas Co[unty], West Virginia» (original citation). Holotype (♂) in USNM [# 75271].

**Distribution.** This species is known only from two nearby places in the Yew Mountains, east-central West Virginia (Barr 2004: 17).

**Records. USA:** WV

***Pseudanophthalmus virginicus* (Barr, 1960)**

*Aphanotrechus virginicus* Barr, 1960c: 66. Type locality: «Hugh Young Cave, 0.5 mile southeast of Maiden Spring, Tazewell Co[unty], Virginia» (original citation). Holotype (♀) in AMNH [# 1046].

**Distribution.** This species is still known only from the type-locality cave in southwestern Virginia (Barr 2004: 18).

**Records. USA:** VA

**[hirsutus group]**

***Pseudanophthalmus assimilis* Barr, 1981**

*Pseudanophthalmus assimilis* Barr, 1981: 65. Type locality: «Ellis (= Sequoyah) Cave, 3.3 km S[outh]W[est] Sulphur Springs, DeKalb Co[unty], Alabama» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from two caves in DeKalb County, northeastern Alabama (Barr 2004: 37).

**Records. USA:** AL

***Pseudanophthalmus delicatus* Valentine, 1932**

*Pseudanophthalmus hirsutus delicatus* Valentine, 1932a: 270. Type locality: «Gilly's cave, 1 mile south of Pennington Gap [Lee County], V[irgini]a» (original citation). Holotype (♂) in USNM [# 44274].

**Distribution.** This species is known from several caves in Lee County, southwestern Virginia (Barr 1981: 60; Barr 2004: 37).

**Records. USA:** VA

***Pseudanophthalmus digitus* Valentine, 1932**

*Pseudanophthalmus digitus* Valentine, 1932a: 270. Type locality: «[Tennessee Caverns] on the south side of the Tennessee River about 5 miles west of Chattanooga [Hamilton County], Raccoon M[oun]t[ain], Tenn[essee]» (original citation). Holotype (♀) in USNM [# 44275].

**Distribution.** This species is known from caves in Hamilton County, Tennessee, and Dade County, Georgia (Barr 1981: 64; Barr 2004: 37).

**Records. USA:** GA, TN

***Pseudanophthalmus hirsutus* Valentine, 1931**

*Pseudanophthalmus hirsutus* Valentine, 1931: 252. Type locality: «King Solomon's Cave [= Cudjos Cave], Cumberland Gap [Lee County, Virginia], Tenn[essee]» (original citation). Holotype (♂) in USNM [# 44260].

**Distribution.** This species is known from two nearby caves in Cumberland Gap National Park, Lee County, southwestern Virginia (Barr 1981: 60; Barr 2004: 37).

**Records. USA:** VA

***Pseudanophthalmus paulus* Barr, 1981**

*Pseudanophthalmus paulus* Barr, 1981: 63. Type locality: «Nobleetts Cave, 4.8 km W[est] Sweetwater on the west side of Watson Ridge, Monroe Co[unty], Tennessee» (original citation). Holotype (♀) in AMNH.

**Distribution.** This species is known only from the type-locality cave in southeastern Tennessee (Barr 2004: 37).

**Records. USA:** TN

***Pseudanophthalmus sericus* Barr, 1981**

*Pseudanophthalmus sericus* Barr, 1981: 62. Type locality: «Lane Cave, in the valley of Moccasin Creek, Scott Co[unty], Virginia» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in southwestern Virginia (Barr 2004: 37).

**Records. USA:** VA

***Pseudanophthalmus ventus* Barr, 1981**

*Pseudanophthalmus ventus* Barr, 1981: 64. Type locality: «Blowing Cave, in town of Sequatchie, Marion Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in southern Tennessee (Barr 2004: 37).

**Records. USA:** TN

**[horni group]*****Pseudanophthalmus abditus* Krekeler, 1973**

*Pseudanophthalmus horni abditus* Krekeler, 1973: 44. Type locality: «Swope Cave, 4.5 miles north of Versailles, Woodford Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known from a few caves in Woodford and Jessamine Counties, Kentucky (Barr 2004: 22).

**Records. USA:** KY

***Pseudanophthalmus caecus* Krekeler, 1973**

*Pseudanophthalmus horni caecus* Krekeler, 1973: 43. Type locality: «Clifton Cave, 0.6 mile east-southeast of Clifton, Woodford Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the type-locality cave in east-central Kentucky (Barr 2004: 22).

**Records. USA:** KY

***Pseudanophthalmus chthonius* Krekeler, 1973**

*Pseudanophthalmus chthonius* Krekeler, 1973: 50. Type locality: «Wilson Cave, 1.5 miles northwest of Kent, Jefferson Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known from a few caves in Jefferson, Jennings, and Clark Counties, southern Indiana (Krekeler 1973: 51; Barr 2004: 23).

**Records. USA:** IN

***Pseudanophthalmus desertus* Krekeler, 1973**

*Pseudanophthalmus desertus desertus* Krekeler, 1973: 49. Type locality: «Jones Cave, 0.8 mile northeast of Locust Grove, Clark Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known from a few widely scattered caves in Clark, Henry, Scott, and Owen Counties, Kentucky (Krekeler 1973: 49; Barr 2004: 22).

**Records. USA:** KY

**Note.** According to Barr (2004: 22), the Henry and Owen County populations possibly represent a distinct species.

***Pseudanophthalmus elongatus* Krekeler, 1973**

*Pseudanophthalmus elongatus* Krekeler, 1973: 46. Type locality: «Old Fort Cave, 1.2 miles northeast of Harrodsburg, Mercer Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known from a few caves in Mercer and Garrard Counties, central Kentucky (Barr 2004: 22).

**Records. USA:** KY

***Pseudanophthalmus exoticus* Krekeler, 1973**

*Pseudanophthalmus exoticus* Krekeler, 1973: 53. Type locality: «Townsend Cave, 4 miles west-northwest of Zachariah, [Lee County] Estill Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the holotype collected in Lee County, not Estill County as reported by Krekeler (1973: 53), in eastern Kentucky (Barr 2004: 23).

**Records. USA:** KY

***Pseudanophthalmus horni* (Garman, 1892)**

*Anophthalmus horni* Garman, 1892: 241. Type locality: «within the corporate limits of Lexington [Fayette County, Kentucky]» (original citation), restricted to «Reid (= Picadome) Cave, at Picadome School» by Barr (2004: 22). Syntype(s) location unknown (probably in USNM). NOTE. Barber (1928: 196) stated that Garman sent six specimens of this species, labeled “Lexington, Ky. 10.9.92,” to the USNM. These specimens are probably syntypes.

*Pseudanophthalmus horni garmani* Jeannel, 1949b: 49. Type locality: «Reid’s cave, à 2 km W[est] de Lexington, Fayette County, Kentucky» (original citation). Holotype in MHNP. Synonymy established by Krekeler (1973: 41). Etymology. The sub-specific name was proposed for Harrison Garman [1856-1944], professor at the University of Illinois, later at the University of Kentucky, and state entomologist at the Kentucky Agricultural Experiment Station. Garman was an outstanding entomologist but not a specialist on any groups or subjects.

*Pseudanophthalmus horni minor* Jeannel, 1949b: 49. Type locality: «Phelp’s cave, à 5 miles S[outh]-W[est] de Lexington, Fayette County, Kentucky» (original citation). Holotype probably in MHNP. Synonymy established by Krekeler (1973: 42).

**Distribution.** This species is known from several caves in Fayette County, north-central Kentucky (Barr 2004: 22).

**Records. USA:** KY

***Pseudanophthalmus krameri* Krekeler, 1973**

*Pseudanophthalmus krameri* Krekeler, 1973: 54. Type locality: «Cave Hill Cave, 5 miles northwest of West Union, Adams Co[unty], Ohio» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the type-locality cave in southern Ohio (Barr 2004: 23).

**Records. USA:** OH



***Pseudanophthalmus major* Krekeler, 1973**

*Pseudanophthalmus desertus major* Krekeler, 1973: 50. Type locality: «Beaver Cave, 3 miles northeast of Oddville, Harrison Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the type-locality cave, 35 miles north-east of Lexington, northern Kentucky (Barr 2004: 22).

**Records. USA:** KY

***Pseudanophthalmus ohioensis* Krekeler, 1973**

*Pseudanophthalmus ohioensis* Krekeler, 1973: 52. Type locality: «Freeland Cave, 6 miles south-east of Peebles, Adams Co[unty], Ohio» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the type-locality cave in southern Ohio (Barr 2004: 23).

**Records. USA:** OH

***Pseudanophthalmus pholeter* Krekeler, 1973**

*Pseudanophthalmus pholeter* Krekeler, 1973: 55. Type locality: «Adams Cave, 5 miles south-southwest of Richmond, Madison Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the type-locality cave in east-central Kentucky (Barr 2004: 23).

**Records. USA:** KY

***Pseudanophthalmus solivagus* Krekeler, 1973**

*Pseudanophthalmus solivagus* Krekeler, 1973: 44. Type locality: «Weber Cave, 2 miles northwest of Nonesuch, Woodford Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known from a few caves in Woodford and Jessamine Counties, Kentucky (Barr 2004: 22).

**Records. USA:** KY

***Pseudanophthalmus tenebrosus* Krekeler, 1973**

*Pseudanophthalmus tenebrosus* Krekeler, 1973: 48. Type locality: «Stevens Creek Cave, 0.85 mile east-southeast of Orville, Henry Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the type-locality cave in northern Kentucky (Barr 2004: 22).

**Records. USA:** KY

**[hubbardi group]*****Pseudanophthalmus avernus* Valentine, 1945**

*Pseudanophthalmus hubbardi avernus* Valentine, 1945: 648. Type locality: «Endless Caverns, Rockingham Co[unty], V[irgini]a» (original citation). Holotype (♂) in USNM [# 57053].

**Distribution.** This species is known only from the type-locality cave in west-central Virginia (Barr 2004: 18).

**Records. USA:** VA

***Pseudanophthalmus hubbardi* (Barber, 1928)**

*Anophthalmus hubbardi* Barber, 1928: 196. Type locality: «Luray Cave, Page County, Virginia» (original citation). Holotype (♀) in USNM [# 40823].

**Distribution.** This species is known only from the type-locality cave in northern Virginia (Barr 2004: 18).

**Records. USA:** VA

***Pseudanophthalmus intersectus* Barr, 1965**

*Pseudanophthalmus intersectus* Barr, 1965a: 57. Type locality: «Crossroads Cave, near Millboro Springs, Bath Co[unty], Virginia» (original citation). Holotype (♂) location unknown (originally in T.C. Barr's collection).

**Distribution.** This species is known only from the type-locality cave in western Virginia (Barr 2004: 18).

**Records. USA:** VA

***Pseudanophthalmus limicola* Jeannel, 1931**

*Pseudanophthalmus hubbardi limicola* Jeannel, 1931: 450. Type locality: «Maddens cave, à 4 milles de New-Market, Shenandoah Co[unty], Virginia» (original citation). Holotype in MHNP.

**Distribution.** This species is known from a few nearby caves in Shenandoah County, northern Virginia (Barr 2004: 18).

**Records. USA:** VA

***Pseudanophthalmus parvicollis* Jeannel, 1931**

*Pseudanophthalmus hubbardi parvicollis* Jeannel, 1931: 450. Type locality: «Battlefield Crystal cave, située à un mille au nord de Strasburg [Rockingham County], Virginia» (original citation). Holotype (♀) in USNM [# 43665].

**Distribution.** This species is known only from the type-locality cave in northern Virginia (Barr 2004: 18).

**Records. USA:** VA



**Figure 19.** *Promecognathus crassus* LeConte. This species, along with its close relative *P. laevissimus*, are western coastal elements that feed on polydesmid millipedes. The adults straddle their prey, moving quickly toward the head to pierce the neck and sever the ventral nerve cord with their long mandibles, thereby preventing the millipedes from using their cyanide defense spray. Promecognathines represent a very old, relic lineage, likely originating from Pangea, represented today only in western North America and the Cape Province in South Africa.

***Pseudanophthalmus potomaca* Valentine, 1932**

*Pseudanophthalmus potomaca* Valentine, 1932a: 262. Type locality: «[Kenny] Simmons' Cave, on South Branch Potomac River, 10 miles south of Franklin [Pendleton County], W[est] V[irgini]a» (original citation). Holotype (♂) in USNM [# 44267].

**Distribution.** This species is known from two nearby caves in Pendleton County, eastern West Virginia, and Highland County, western Virginia (Barr 2004: 18).

**Records. USA:** VA, WV

***Pseudanophthalmus senecae* Valentine, 1932**

*Pseudanophthalmus potomaca senecae* Valentine, 1932a: 263. Type locality: «Seneca Caves [= Stratosphere Balloon Cave; see Barr 1965a: 58], on the North Fork Potomac River, 4 miles northeast of Riverton [Pendleton County], W[est] V[irgini]a» (original citation). Holotype (♂) in USNM [# 44268].

**Distribution.** This species is known from a few nearby caves in eastern West Virginia (Barr 2004: 19).

**Records. USA:** WV

**[hubrichti group]*****Pseudanophthalmus egberti* Barr, 1965**

*Pseudanophthalmus egberti* Barr, 1965a: 49. Type locality: «Starnes Cave, Giles Co[unty], Virginia» (original citation). Holotype (♂) in USNM [# 75268].

**Distribution.** This species is known from two caves in Giles County, western Virginia (Barr 1981: 69; Barr 2004: 38).

**Records. USA:** VA

***Pseudanophthalmus hubrichti* Valentine, 1948**

*Pseudanophthalmus hubrichti* Valentine, 1948: 13. Type locality: «Dougherty's Cave, 4½ miles north of Lebanon, Russell Co[unty], V[irgini]a» (original citation). Holotype (♂) probably in ALM. Etymology. The specific name was given in honor of Leslie Raymond Hubricht [1908-2005], world authority on the land snails of eastern United States, author of numerous articles on North American land and freshwater mollusks, and prolific collector.

**Distribution.** This species is known only from the type-locality cave in southwestern Virginia (Barr 2004: 38).

**Records. USA:** VA



***Pseudanophthalmus paradoxus* Barr, 1981**

*Pseudanophthalmus paradoxus* Barr, 1981: 70. Type locality: «Sensabaugh Saltpeter Cave, about 8 km W[est] Kingsport, Hawkins Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in northeastern Tennessee (Barr 2004: 38).

**Records. USA:** TN

***Pseudanophthalmus quadratus* Barr, 1965**

*Pseudanophthalmus quadratus* Barr, 1965a: 60. Type locality: «Straleys Cave, Giles Co[unty], Virginia» (original citation). Holotype (♂) in USNM [# 75262].

**Distribution.** This species is known only from two nearby caves near Eggleston, western Virginia (Barr 2004: 38).

**Records. USA:** VA

***Pseudanophthalmus sanctipauli* Barr, 1981**

*Pseudanophthalmus sanctipauli* Barr, 1981: 67. Type locality: «Banners Corner Cave, near S[ain]t Paul, Russell Co[unty], Virginia» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from two caves in Russell and Scott Counties, southwestern Virginia (Barr 2004: 38).

**Records. USA:** VA

***Pseudanophthalmus vicarius* Barr, 1965**

*Pseudanophthalmus vicarius* Barr, 1965a: 48. Type locality: «Hugh Young Cave, near Maiden Spring, Tazewell Co[unty], Virginia» (original citation). Holotype (♂) in USNM [# 75267].

**Distribution.** This species is known from a number of caves in Tazewell County, southwestern Virginia (Barr 1981: 70; Barr 2004: 38).

**Records. USA:** VA

**[hypolithos group]*****Pseudanophthalmus calcareus* Barr, 1981**

*Pseudanophthalmus calcareus* Barr, 1981: 85. Type locality: «Limestone Cave, on the northwest slope of Pine Mountain, 2.5 km N[orth]N[orth]W[est] of the common corner of Whitley Co[unty], Kentucky, and Campbell and Claiborne Co[untie]s, Tennessee, in Whitley Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.



**Distribution.** This species is known only from the type-locality cave in Whitley County, southeastern Kentucky (Barr 2004: 40).

**Records. USA:** KY

***Pseudanophthalmus frigidus* Barr, 1981**

*Pseudanophthalmus frigidus* Barr, 1981: 86. Type locality: «Icebox Cave, 25 m above L & N railroad tracks on north side of Cumberland River in the town of Pineville, 1.0 km S[outh]E[ast] of the courthouse, Bell Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in southeastern Kentucky (Barr 2004: 40).

**Records. USA:** KY

***Pseudanophthalmus hypolithos* Barr, 1981**

*Pseudanophthalmus hypolithos* Barr, 1981: 83. Type locality: «Old Quarry Cave, 1.8 km S[outh]S[outh]E[ast] Ashcamp, Pike Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from the type-locality cave in Pike County and two abandoned coal mines in Floyd County, eastern Kentucky (Barr 2004: 40).

**Records. USA:** KY

***Pseudanophthalmus praetermissus* Barr, 1981**

*Pseudanophthalmus praetermissus* Barr, 1981: 87. Type locality: «Kern's Cave No. 1, Scott Co[unty], Virginia» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in southwestern Virginia (Barr 2004: 40).

**Records. USA:** VA

***Pseudanophthalmus scholasticus* Barr, 1981**

*Pseudanophthalmus scholasticus* Barr, 1981: 84. Type locality: «Sawmill Hollow Cave, 2 km N[orth]N[orth]W[est] Nolansburg and 600 m E[ast]S[outh]E[ast] Pine Mountain Settlement School on the northwest side of Pine Mountain, Harlan Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in southeastern Kentucky (Barr 2004: 40).

**Records. USA:** KY

**[inexpectatus group]*****Pseudanophthalmus cnephosus* Krekeler, 1973**

*Pseudanophthalmus cnephosus* Krekeler, 1973: 61. Type locality: «Eli Reed Cave, 6.5 miles east-southeast of Hodgenville, Larue Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from two caves in Larue and Nelson Counties, central Kentucky (Barr 2004: 21).

**Records. USA:** KY

***Pseudanophthalmus inexpectatus* Barr, 1959**

*Pseudanophthalmus inexpectatus* Barr, 1959: 10. Type locality: «White Cave, Mammoth Cave National Park, Edmonson Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from a few caves located in Mammoth Cave National Park, Kentucky (Barr 2004: 21).

**Records. USA:** KY

***Pseudanophthalmus orientalis* Krekeler, 1973**

*Pseudanophthalmus inexpectatus orientalis* Krekeler, 1973: 59. Type locality: «Wilson Cave, 1 mile southeast of Black Gnat, Green Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known from several caves in Green, Hart, and Taylor Counties, central Kentucky (Barr 2004: 21).

**Records. USA:** KY

***Pseudanophthalmus parvus* Krekeler, 1973**

*Pseudanophthalmus parvus* Krekeler, 1973: 62. Type locality: «Tatum Cave, 1.8 miles west-southwest of Riley, Marion Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the type-locality cave in central Kentucky (Barr 2004: 21).

**Records. USA:** KY

***Pseudanophthalmus puteanus* Krekeler, 1973**

*Pseudanophthalmus puteanus* Krekeler, 1973: 60. Type locality: «Old Well Cave, 0.6 mile southeast of Nevada, Mercer Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from two nearby caves in Mercer and Boyle Counties, Kentucky (Barr 2004: 21).

**Records. USA:** KY

***Pseudanophthalmus umbratilis* Krekeler, 1973**

*Pseudanophthalmus umbratilis* Krekeler, 1973: 62. Type locality: «Robinson Cave, 4.5 miles west-northwest of Lancaster, Garrard Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known from several caves in Garrard, Fayette, Woodford, and Owen Counties, Kentucky (Barr 2004: 21).

**Records. USA:** KY

**[intermedius group]**

***Pseudanophthalmus intermedius* (Valentine, 1931)**

*Neaphaenops intermedius* Valentine, 1931: 249. Type locality: «Wonder Cave, Monteagle [Grundy County], Tenn[essee]» (original citation). Holotype [designated lectotype by Erwin and House (1978: 244)] (♂) in USNM [# 44256].

**Distribution.** This species is known from several caves in Grundy and Franklin Counties, southern Tennessee (Barr 2004: 29).

**Records. USA:** TN

***Pseudanophthalmus macradyi* Valentine, 1948**

*Pseudanophthalmus macradyi* Valentine, 1948: 9 (as *macradei*). Type locality: «Higinbotham's Cave, McMinnville, Warren Co[unty], Tenn[essee]» (original citation). Holotype (♂) probably in ALM. Etymology. The specific name was proposed for Edward McCrady [1906-1981], American teacher, research scientist, practicing portrait painter, and popular speaker. McCrady also played the violin, composed one symphony, published translations of Greek and Latin classics, explored caves in Tennessee, was president of the University of the South in Sewanee, Tennessee, and was *de facto* mayor of the city. NOTE. The spelling *macradyi*, introduced by Barr (2004: 29), is a justified emendation of *macradei* in my opinion, and the original name must be corrected (see ICZN 1999: Article 32.5.1).

**Distribution.** This species is known only from several caves in Warren and Grundy Counties, Tennessee (Barr 2004: 29).

**Records. USA:** TN

***Pseudanophthalmus templetoni* Valentine, 1948**

*Pseudanophthalmus intermedius templetoni* Valentine, 1948: 7. Type locality: «Higginbotham's Cave, McMinnville, Warren Co[unty], Tenn[essee]» (original citation). Holotype (♂) probably in ALM.

**Distribution.** This species is known from several caves in Warren and Grundy Counties, Tennessee (Barr 2004: 29).

**Records. USA:** TN

***Pseudanophthalmus vanburenensis* Barr, 1959**

*Pseudanophthalmus templetoni vanburenensis* Barr, 1959: 15. Type locality: «McElroy Cave, 1.5 miles northeast of Bone Cave P.O., Van Buren Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from caves in Van Buren County, central Tennessee (Barr 2004: 29).

**Records. USA:** TN

[jonesi group]

***Pseudanophthalmus cordicollis* Barr, 1981**

*Pseudanophthalmus cordicollis* Barr, 1981: 82. Type locality: «Little Kennedy Cave, Wise Co[unty], Virginia» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from a few caves in Wise County, southwestern Virginia (Barr 2004: 39).

**Records. USA:** VA

***Pseudanophthalmus jonesi* Valentine, 1945**

*Pseudanophthalmus jonesi* Valentine, 1945: 645. Type locality: «Saltpeter or Brady Cave, southeast slope of Walden Ridge, Grassy Cove, Cumberland Co[unty], Tenn[essee]» (original citation). Holotype (♂) in USNM [# 57052]. Etymology. This species was proposed for the American geologist and archaeologist Walter Bryan Jones [1895-1977] of the University of Alabama. Jones was the founder and director of the Alabama Museum of Natural History.

**Distribution.** This species is known only from three caves in Grassy Cove, Cumberland County, in east-central Tennessee (Barr 1981: 73; Barr 2004: 39).

**Records. USA:** TN

***Pseudanophthalmus longiceps* Barr, 1981**

*Pseudanophthalmus longiceps* Barr, 1981: 79. Type locality: «Fisher Cave, near the top of Newmans Ridge, between Blackwater and Kyles Ford, Lee Co[unty], Virginia» (original citation). Holotype (♂) in AMNH.



**Distribution.** This species is known from two caves in Lee County, southwestern Virginia, and Hancock County, northeastern Tennessee (Barr 1981: 80; Barr 2004: 39).

**Records. USA:** TN, VA

***Pseudanophthalmus pallidus* Barr, 1981**

*Pseudanophthalmus pallidus* Barr, 1981: 78. Type locality: «Chadwell Cave, 6 km N[orth]E[ast] Tazewell, 425 m S[outh] of Cedar Fork Road, and 1000 m N[orth] of Henderson Knob (400 m) [Claiborne County, Tennessee]» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from a few caves in Claiborne County, northeastern Tennessee (Barr 2004: 39). The record from “Virginia” (Bousquet and Laroche 1993: 114) is in error (see Hoffman et al. 2006: 19).

**Records. USA:** TN

***Pseudanophthalmus rogersae* Barr, 1981**

*Pseudanophthalmus rogersae* Barr, 1981: 75. Type locality: «Sawmill Hollow Cave, 2.0 km N[orth]N[orth]W[est] Nolansburg and 600 m E[ast]S[outh]E[ast] Pine Mountain Settlement School on the northwest slope of Pine Mountain (700 m) [Harlan County, Kentucky]» (original citation). Holotype (♀) in AMNH.

**Distribution.** This species is known only from the type-locality cave in southeastern Kentucky (Barr 2004: 39). The record from “Virginia” (Bousquet and Laroche 1993: 115) is in error (see Hoffman et al. 2006: 19).

**Records. USA:** KY

***Pseudanophthalmus scutilus* Barr, 1981**

*Pseudanophthalmus scutilus* Barr, 1981: 73. Type locality: «New Mammoth Cave, 1.5 km E[ast] Elk Valley on the north side of Pine Mountain, Campbell Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in northern Tennessee (Barr 2004: 39).

**Records. USA:** TN

***Pseudanophthalmus seclusus* Barr, 1981**

*Pseudanophthalmus seclusus* Barr, 1981: 76. Type locality: «Flannery Cave, Scott Co[unty], Virginia» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from several caves in the Rye Cove karst near Clinchport in southwestern Virginia (Barr 1981: 77).

**Records. USA:** VA



***Pseudanophthalmus thomasi* Barr, 1981**

*Pseudanophthalmus thomasi* Barr, 1981: 80. Type locality: «Blair-Collins Cave (490 m), Scott Co[unty], Virginia» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from two caves in Scott County, southwestern Virginia (Barr 2004: 39).

**Records. USA:** VA

**[leona group]*****Pseudanophthalmus leonae* Barr, 1960**

*Pseudanophthalmus leonae* Barr, 1960a: 310. Type locality: «Hert Hollow Cave, two miles S[outh]W[est] of Springville, Lawrence Co[unty], Indiana» (original citation). Holotype (♂) in AMNH [# 1047].

**Distribution.** This species is known only from the type-locality cave, located two miles southwest of Springville, southern Indiana (Barr 2004: 27).

**Records. USA:** IN

**[menetriesii group]*****Pseudanophthalmus cerberus cerberus* Barr, 1985**

*Pseudanophthalmus cerberus cerberus* Barr, 1985b: 123. Type locality: «Rhoton Cave, 3.3 km S[outh]W[est] Hestand on N[orth] side valley of Sweetwater Creek, Monroe Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This subspecies is known from several caves in Monroe, Barren, Metcalfe, Adair, Cumberland, and Clay Counties in southern Kentucky and Jackson County in northern Tennessee (Barr 1985b: 124).

**Records. USA:** KY, TN

***Pseudanophthalmus cerberus completus* Barr, 1985**

*Pseudanophthalmus cerberus completus* Barr, 1985b: 124. Type locality: «Cole Cave, 1.8 km N Austin, Barren Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This subspecies is known from a number of caves in central Barren County, southern Kentucky (Barr 2004: 32).

**Records. USA:** KY

**Note.** According to Barr (2004: 32), intergrades between this subspecies and the nominotypical subspecies occur in Bowles Branch Cave in Barren County.

***Pseudanophthalmus darlingtoni darlingtoni* Barr, 1985**

*Pseudanophthalmus darlingtoni darlingtoni* Barr, 1985b: 125. Type locality: «Jones Cave, 4.3 km N[orth]N[orth]E[ast] Columbia on E[ast] side valley of Butler Branch, Adair Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This subspecies is known from several caves in northeastern Metcalfe, northern Adair, and southern Green Counties, southern Kentucky (Barr 1985b: 126; Barr 2004: 32).

**Records. USA:** KY

***Pseudanophthalmus darlingtoni persimilis* Barr, 1985**

*Pseudanophthalmus darlingtoni persimilis* Barr, 1985b: 126. Type locality: «Woodard Cave, 5.0 km N[orth]W[est] Donansburg near Little Barren River, Green Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This subspecies is known from several caves in central Green and eastern Hart Counties, Kentucky (Barr 2004: 32).

**Records. USA:** KY

***Pseudanophthalmus globiceps* Barr, 1985**

*Pseudanophthalmus globiceps* Barr, 1985b: 122. Type locality: «Barnes Smith Cave, 5.7 km N[orth] Hinesdale, Hart Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in central Kentucky (Barr 2004: 31).

**Records. USA:** KY

***Pseudanophthalmus menetriesii campestris* Barr, 1985**

*Pseudanophthalmus menetriesii campestris* Barr, 1985b: 119. Type locality: «Walnut Hill Cave, 3.3 km S[outh] Park City, Barren Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This subspecies is found in several caves in Barren and Warren Counties, southern Kentucky (Barr 2004: 31).

**Records. USA:** KY

**Note.** According to Barr (2004: 31), intergrades between this subspecies and the nominotypical subspecies occur in caves in Warren County.

***Pseudanophthalmus menetriesii menetriesii* (Motschulsky, 1862)**

*Anophthalmus ménétrésii* Motschulsky, 1862b: 41. Type locality: «caverne des Mam-mouths [Edmonson County, Kentucky]» (original citation). One syntype in ZMMU (Keleinikova 1976: 205).

*Anophthalmus ventricosus* Motschulsky, 1862b: 42. Type locality: «caverne des Mam-mouths [Edmonson County, Kentucky]» (original citation). One syntype in ZMMU (Keleinikova 1976: 222). Synonymy established by Jeannel (1928: 121).

*Anophthalmus angulatus* LeConte, 1863c: 18. Type locality: «Mammoth Cave [Edmonson County], Kentucky» (original citation). One syntype in MCZ [# 5598]. Synonymy established by Horn (1869a: 127).

**Distribution.** This subspecies is known from several caves in Hart, Edmonson, Barren, and Warren Counties in Kentucky (Barr 2004: 31).

**Records. USA:** KY

***Pseudanophthalmus pilosus* Barr, 1985**

*Pseudanophthalmus pilosus* Barr, 1985b: 120. Type locality: «Bland Cave, 1.8 km N[orth]W[est] Spurrier on N[orth] side Akers Valley, Hardin Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from caves in Hardin and Hart Counties, central Kentucky (Barr 2004: 31).

**Records. USA:** KY

***Pseudanophthalmus simulans* Barr, 1985**

*Pseudanophthalmus simulans* Barr, 1985b: 120. Type locality: «Cub Run Cave, at Cub Run, Hart Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in central Kentucky (Barr 2004: 31).

**Records. USA:** KY

***Pseudanophthalmus striatus* (Motschulsky, 1862)**

*Anophthalmus striatus* Motschulsky, 1862b: 41. Type locality: «caverne des Mammoths [Edmonson County, Kentucky]» (original citation). One syntype in ZMMU (Keleinikova 1976: 218).

*Anophthalmus interstitialis* Hubbard, 1880: 52. Type locality: «Washington's Hall in the Mammoth Cave [Edmonson County, Kentucky]» (original citation). Holotype [by monotypy] (♀) in USNM [# 23860]. Synonymy established with doubt by Horn (1883b: 272), confirmed by Jeannel (1928: 124).

**Distribution.** This species is known from several caves in Hart, Edmonson, Metcalf, and Warren Counties, southern Kentucky (Barr 2004: 32).

**Records. USA:** KY

**Note.** The MCZ holds a specimen [# 7397], incorrectly labeled lectotype, of *P. interstitialis* Hubbard from Cave City, Kentucky.

***Pseudanophthalmus transfluvialis* Barr, 1985**

*Pseudanophthalmus transfluvialis* Barr, 1985b: 123. Type locality: «McGinnis Cave, 4.2 km S[outh]W[est] Bowling Green, Warren Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from a few caves in Warren and Logan Counties, southern Kentucky (Barr 1985b: 123; Barr 2004: 31).

**Records. USA:** KY

**[petrunkevitchi group]*****Pseudanophthalmus hoffmani* Barr, 1965**

*Pseudanophthalmus hoffmani* Barr, 1965a: 58. Type locality: «Buchanan Saltpeter Cave, at Ellendale, 6 miles northeast of Saltville, Smyth Co[unty], Virginia» (original citation). Holotype (♂) in USNM [# 75260].

**Distribution.** This species is known from a few caves in Smyth and Bland Counties, Virginia (Barr 2004: 19).

**Records. USA:** VA

***Pseudanophthalmus hortulanus* Barr, 1965**

*Pseudanophthalmus hortulanus* Barr, 1965a: 59. Type locality: «Cassells Cave, at the northwest end of Burkes Garden, Tazewell Co[unty], Virginia» (original citation). Holotype (♂) in USNM [# 75263].

**Distribution.** This species is known only from the type-locality cave in southwestern Virginia (Barr 2004: 19).

**Records. USA:** VA

***Pseudanophthalmus petrunkevitchi* Valentine, 1945**

*Pseudanophthalmus petrunkevitchi* Valentine, 1945: 652. Type locality: «Skyline Cavern, two miles southwest of Front Royal, Warren Co[unty], V[irgini]a» (original citation). Holotype (♂) in USNM [# 57054]. Etymology. The specific name was proposed in honor of the eminent arachnologist Alexander Ivanovitch Petrunkévitch [1875-1964]. Born in Ukraine, Petrunkévitch settled in New Haven, Connecticut, where he taught from 1910 to 1944 at Yale University. He published extensively on spiders and scorpions and wrote two volumes of poetry under the pseudonym of Alexandr Jan-Ruban.

**Distribution.** This species, the only one of the genus *Pseudanophthalmus* with pigmented eyespots, is known from a few specimens collected at two nearby caves in Warren and Pages Counties, northern Virginia (Barr 2004: 19).

**Records. USA:** VA



**[pubescens group]*****Pseudanophthalmus ciliaris ciliaris* Valentine, 1937**

*Pseudanophthalmus ciliaris* Valentine, 1937: 95. Type locality: «Dunbar's Cave, Clarksville [Montgomery County], Tennessee» (original citation). Holotype (♂) in USNM [# 56125].

**Distribution.** This subspecies occurs in several caves in Montgomery, Cheatham, and Robertson Counties in northern Tennessee and Christian and Logan Counties in southern Kentucky (Barr 2004: 30).

**Records. USA:** KY, TN

***Pseudanophthalmus ciliaris orlindae* Barr, 1959**

*Pseudanophthalmus orlindae* Barr, 1959: 7. Type locality: «Jesse James Cave, 1.5 miles southeast of Orlinda, Robertson Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This subspecies is known from a few caves in Logan and Simpson Counties, southern Kentucky, and Robertson County, northern Tennessee (Barr 2004: 30).

**Records. USA:** KY, TN

**Note.** According to Barr (2004: 30), intergrades between this subspecies and the nominotypical subspecies occur in one cave in Robertson County, Tennessee.

***Pseudanophthalmus colemanensis* Barr, 1959**

*Pseudanophthalmus ciliaris colemanensis* Barr, 1959: 6. Type locality: «Coleman Cave, 8 miles west of Clarksville, Montgomery Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from several caves in Montgomery County, northern Tennessee (Barr 2004: 31).

**Records. USA:** TN

***Pseudanophthalmus loganensis* Barr, 1959**

*Pseudanophthalmus ciliaris loganensis* Barr, 1959: 7. Type locality: «Cook Cave, 1 mile east of Adairville, Logan Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from several caves in Warren, Simpson, and Logan Counties, southern Kentucky, and Robertson and Sumner Counties, northern Tennessee (Barr 2004: 30).

**Records. USA:** KY, TN



***Pseudanophthalmus princeps* Barr, 1979**

*Pseudanophthalmus princeps* Barr, 1979a: 17. Type locality: «Hoy Cave, 1.9 miles north of county courthouse in Franklin under US 31W, Simpson County, Kentucky» (original citation). Holotype (♂) in AMNH [# 1418].

**Distribution.** This species is known from a few caves in Simpson and Warren Counties in southern Kentucky and Sumner County in northern Tennessee (Barr 2004: 30).

**Records. USA:** KY, TN

***Pseudanophthalmus pubescens intrepidus* Barr, 1985**

*Pseudanophthalmus pubescens intrepidus* Barr, 1985b: 127. Type locality: «Buchanan Cave, 1.3 km W[est] Gainesville and 30 m E[ast] KY Rt. 101, at head of hollow tributary to Difficult Creek, Allen Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.

**Distribution.** This subspecies is known two caves in Allen and Barren Counties, southern Kentucky (Barr 1985b: 128).

**Records. USA:** KY

***Pseudanophthalmus pubescens pubescens* (Horn, 1869)**

*Anophthalmus pubescens* G.H. Horn, 1869a: 126. Type locality: «Cave City cave [Barren County, Kentucky]» (original citation). Holotype [by monotypy] in MCZ [# 8230].

**Distribution.** This subspecies is known from several caves from Hart and Metcalfe Counties westwards to eastern Warren County, Kentucky (Barr 2004: 30).

**Records. USA:** KY

**Note.** According to Barr (2004: 30), intergrades between the two subspecies of *P. pubescens* are found in Beckton Cave, Barren County.

**[pusio group]*****Pseudanophthalmus higginbothami* Valentine, 1931**

*Pseudanophthalmus higginbothami* Valentine, 1931: 251. Type locality: «Higginbotham's large cave, within the radius of a mile at Frankford [Greenbrier County], W[est] V[irgini]a» (original citation). Holotype (♂) in USNM [# 44259].

**Distribution.** This species is known only from a few caves in Greenbrier and Pocahontas Counties, eastern West Virginia (Jeannel 1949b: 75; Barr 2004: 20).

**Records. USA:** WV

***Pseudanophthalmus lallemanti* Jeannel, 1949**

*Pseudanophthalmus lallemanti* Jeannel, 1949b: 74. Type locality: «Davis cave [= General Davis Cave], à 5 à 6 miles W[est] de Ronceverte et à 10 miles S[outh]W[est]

de Lewisburg, Greenbrier County, West Virginia» (original citation). Holotype probably in MHNP.

**Distribution.** This species is known only from the type-locality cave in southeastern West Virginia (Barr 2004: 20).

**Records. USA:** WV

***Pseudanophthalmus nelsoni* Barr, 1965**

*Pseudanophthalmus nelsoni* Barr, 1965a: 44. Type locality: «Old Tunnel Cave, Allegheny Co[unty], Virginia» (original citation). Holotype (♂) in USNM [# 75270]. Etymology. The specific name honors Gayle H. Nelson [1926-2005], professor of human anatomy for almost 60 years and entomologist with an interest in Buprestidae and Schizopodiidae (Coleoptera) and Pentatomidae (Hemiptera).

**Distribution.** This species is known only from two caves in Allegheny County, western Virginia (Barr 2004: 20).

**Records. USA:** VA

***Pseudanophthalmus pontis* Barr, 1965**

*Pseudanophthalmus pontis* Barr, 1965a: 45. Type locality: «Buck Hill Cave, at Natural Bridge, Rockbridge Co[unty], Virginia» (original citation). Holotype (♂) in USNM [# 75269].

**Distribution.** This species is still known only from the type-locality cave in northern Virginia (Barr 2004: 20).

**Records. USA:** VA

***Pseudanophthalmus punctatus* Valentine, 1931**

*Pseudanophthalmus pusio* var. *punctatus* Valentine, 1931: 250. Type locality: «Tommie's Cave [= Tawneys Cave], Newport [Giles County], V[irgini]a» (original citation). Holotype (♂) in USNM [# 44258].

**Distribution.** This species is known from a few caves in Giles County, western Virginia (Barr 2004: 20).

**Records. USA:** VA

***Pseudanophthalmus pusio* (Horn, 1869)**

*Anophthalmus pusio* G.H. Horn, 1869a: 125. Type locality: «Erhart's cave, Montgomery County, Virginia» (original citation). One syntype in MCZ.

*Pseudanophthalmus pusio bathycola* Valentine, 1932a: 268. Type locality: «Aunt Nellie's Cave, on tributary of the North Fork Roanoke River, 3 miles southeast of

Blacksburg [Montgomery County], V[irgini]a» (original citation). Holotype (♂) in USNM [# 44273]. Synonymy established by Barr (1965a: 43).

**Distribution.** This species is found in several caves in Montgomery and Roanoke Counties, western Virginia (Barr 2004: 20).

**Records. USA:** VA

[**rittmani group**]

***Pseudanophthalmus catoryctos* Krekeler, 1973**

*Pseudanophthalmus catoryctos* Krekeler, 1973: 72. Type locality: «Adams Cave, 5 miles south-southwest of Richmond, Madison Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the type-locality cave in east-central Kentucky (Barr 2004: 23).

**Records. USA:** KY

***Pseudanophthalmus exiguus* Krekeler, 1973**

*Pseudanophthalmus exiguus exiguus* Krekeler, 1973: 70. Type locality: «Watson Cave, 0.8 mile north-northeast of Cobhill, Estill Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

*Pseudanophthalmus exiguus furtivus* Krekeler, 1973: 71. Type locality: «California Cave, 1.5 miles north-northeast of Ravenna, Estill Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH. Synonymy established by Barr (2004: 23).

**Distribution.** This species is known from several caves in Estill, Powell, and Lee Counties, eastern Kentucky (Barr 2004: 23).

**Records. USA:** KY

***Pseudanophthalmus rittmani* Krekeler, 1973**

*Pseudanophthalmus rittmani* Krekeler, 1973: 68. Type locality: «Baker Cave, 1.7 miles east of Cobhill, Estill Co[unty], K[entuck]y» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known from several caves in Estill and Powell Counties, eastern Kentucky (Barr 2004: 23).

**Records. USA:** KY

[**robustus group**]

***Pseudanophthalmus beakleyi* Valentine, 1937**

*Pseudanophthalmus robustus beakleyi* Valentine, 1937: 97 (as *beaklei*). Type locality: «Bunkum Cave, Byrdstown [Pickett County], Tennessee» (original citation). Holotype (♂)

in USNM [# 56123]. NOTE. This species was named after John C. Beakley. The spelling *beakleyi*, introduced by Barr (2004: 28), is a justified emendation of *beaklei* in my opinion, and the original name must be corrected (see ICZN 1999: Article 32.5.1).

*Pseudanophthalmus robustus lupus* Barr, 1959: 14. Type locality: «Wolf River Cave, Fentress Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH. Synonymy established by Barr (1962b: 114).

**Distribution.** This species is known from several caves in Fentress, Overton, and Pickett Counties, northern Tennessee, and in McCreary and Wayne Counties, southern Kentucky (Barr 2004: 28).

**Records. USA:** KY, TN

### *Pseudanophthalmus farrelli* Barr, 1959

*Pseudanophthalmus robustus farrelli* Barr, 1959: 12. Type locality: «Indian Grave Point Cave, in Dry Creek Valley, DeKalb Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species occurs in several caves in DeKalb and Smith Counties, Tennessee (Barr 2004: 28).

**Records. USA:** TN

### *Pseudanophthalmus robustus* Valentine, 1931

*Pseudanophthalmus robustus* Valentine, 1931: 250. Type locality: «Johnson's Cave, Monterey [Putnam County], Tenn[essee]» (original citation). Holotype (♂) in USNM [# 44257].

*Pseudanophthalmus robustus neglectus* Jeannel, 1949b: 50. Type locality: «Higginbotham's caves, à 6 miles S[outh]E[ast] de Mc Minville, Warren County, Tennessee» (original citation). Holotype in MHNP. Synonymy established by Barr (1962b: 112).

*Pseudanophthalmus robustus megosteus* Barr, 1959: 12. Type locality: «Big Bone Cave, Van Buren Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH. Synonymy established by Barr (1962b: 112).

**Distribution.** This species is known from a several caves in DeKalb, Overtone, Putnam, Warren, White, Van Buren, and Grundy Counties, Tennessee (Barr 2004: 28).

**Records. USA:** TN

### *Pseudanophthalmus valentinei* Jeannel, 1949

*Pseudanophthalmus valentinei* Jeannel, 1949b: 51. Type locality: «Johnson's cave, à 7 miles S[outh]W[est] de Monterey, sur la route de Sparta, Putnam County, Tennessee» (original citation). Holotype probably in MHNP. Etymology. The specific name was proposed for Joseph Manson Valentine [1902-1994] who was associated for a time with the University of Alabama at Tuscaloosa and had an interest in cave

carabids. In the 1950s Valentine became interested in archaeology, particularly the association between caves and the Mayas (Stuart B. Peck pers. comm. 2008).

**Distribution.** This species is found in caves in Putnam and Overton Counties, northern Tennessee (Barr 2004: 28).

**Records. USA:** TN

[simplex group]

***Pseudanophthalmus fowlerae* Barr, 1980**

*Pseudanophthalmus fowlerae* Barr, 1980: 88. Type locality: «Sheals Cave, 0.8 km e[ast] of Celina, Clay Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH [# 1505].

**Distribution.** This species is known only from the type-locality cave in northern Tennessee (Barr 2004: 32).

**Records. USA:** TN

***Pseudanophthalmus simplex* Barr, 1980**

*Pseudanophthalmus simplex* Barr, 1980: 86. Type locality: «Carter Cave, 5.5 km s[outh] s[outh]w[est] of Flynns Lick, Jackson Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH [# 1506].

**Distribution.** This species is known from a few caves in Jackson County, northern Tennessee (Barr 2004: 32).

**Records. USA:** TN

[tennesseensis group]

***Pseudanophthalmus paynei* Barr, 1981**

*Pseudanophthalmus paynei* Barr, 1981: 56. Type locality: «Moores Bridge Cave, 1.3 km N[orth] Clinton on east (left) side of Clinch River, Anderson Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from a few caves in Anderson County, eastern Tennessee (Barr 2004: 37).

**Records. USA:** TN

***Pseudanophthalmus pusillus* Barr, 1981**

*Pseudanophthalmus pusillus* Barr, 1981: 56. Type locality: «Martin Cave, 7.2 km S[outh] W[est] Clinton beside Southern Railroad tracks, Anderson Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in eastern Tennessee (Barr 2004: 36).



**Records. USA:** TN

***Pseudanophthalmus tennesseensis* Valentine, 1937**

*Pseudanophthalmus tennesseensis* Valentine, 1937: 98 (as *tenesensis*). Type locality: «Grand Caverns [= Atomic Caverns], Byington [Knox County], Tennessee» (original citation). Holotype (♂) in USNM [# 56126]. NOTE. The spelling *tennesseensis* is an incorrect subsequent spelling, introduced by Barr (1981: 55), in prevailing usage and attributed to the publication of the original spelling; therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

**Distribution.** This species is known from a few caves in Knox and Roane Counties, eastern Tennessee (Barr 1981: 55; Barr 2004: 36).

**Records. USA:** TN

***Pseudanophthalmus unionis* Barr, 1981**

*Pseudanophthalmus unionis* Barr, 1981: 57. Type locality: «Wright Cave, Union Co[unty], Tennessee» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from two caves in Union County, northeastern Tennessee (Barr 2004: 37).

**Records. USA:** TN

[**tenuis group**]

***Pseudanophthalmus barberi* Jeannel, 1928**

*Pseudanophthalmus barberi* Jeannel, 1928: 133. Type locality: «Rockhaven cave, aux environs de Brandenburg, Meade Co[unty], Kentucky» (original citation). Holotype (♀) in USNM [# 75689]. Etymology. The specific name was proposed for Herbert Spencer Barber [1882-1950], protégé of Eugene Schwarz, who worked at the United State Department of Agriculture and at the USNM. Barber published mainly on chrysomelids, bruchids, and lampyrids.

**Distribution.** This species is known from several caves in Meade, Breckinridge, Hardin, Hart, and Larue Counties, Kentucky (Barr 2004: 26).

**Records. USA:** KY

***Pseudanophthalmus illinoisensis* Barr and Peck, 1966**

*Pseudanophthalmus illinoisensis* Barr and Peck, 1966: 520. Type locality: «Cave Spring Cave, Hardin Co[unty], Illinois» (original citation). Holotype (♂) in USNM [# 75259].

**Distribution.** This species is known only from the type-locality cave (Barr 2004: 26).

**Records. USA:** IL

***Pseudanophthalmus shilohensis mayfieldensis* Krekeler, 1958**

*Pseudanophthalmus mayfieldensis* Krekeler, 1958: 178. Type locality: «Mayfield's Cave, five miles west-by-northwest of Bloomington, Monroe Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH.

*Pseudanophthalmus boonensis* Krekeler, 1958: 180. Type locality: «Boone Cave, one mile north of Freeman, Owen Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH. Synonymy established by Barr (2004: 26).

**Distribution.** This subspecies is known from several caves in Monroe, Lawrence, and Owen Counties, southern Indiana (Barr 2004: 26).

**Records. USA:** IN

**Note.** Barr (2004: 26) noted that intergrades between this subspecies and *P. shilohensis shilohensis* occur in some caves in Lawrence County.

***Pseudanophthalmus shilohensis shilohensis* Krekeler, 1958**

*Pseudanophthalmus shilohensis* Krekeler, 1958: 178. Type locality: «Shiloh Cave, six miles west-by-northwest of Bedford, Lawrence Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH.

**Distribution.** This subspecies is known from a few caves in central Lawrence County, southern Indiana (Barr 2004: 26).

**Records. USA:** IN

***Pseudanophthalmus stricticollis* Jeannel, 1931**

*Pseudanophthalmus eremita stricticollis* Jeannel, 1931: 451. Type locality: «Marengo cave, Crawford Co[unty], Indiana» (original citation). Holotype in MHNP.

*Pseudanophthalmus eremita morrisoni* Jeannel, 1931: 451. Type locality: «Donnel-son's [= Donaldson] cave, à Mitchell, près de Bedford, Lawrence Co[unty], Indiana» (original citation). Holotype in MHNP. Synonymy established by Barr (2004: 25).

*Pseudanophthalmus jeanneli* Krekeler, 1958: 171. Type locality: «Elrod's Cave, two miles east of Orangeville, Orange Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH. Synonymy established by Barr (2004: 25).

*Pseudanophthalmus tenuis blatchleyi* Barr, 1960a: 316. Type locality: «Truitt's Cave, near Bloomington, Monroe Co[unty], Indiana» (original citation). Holotype (♂) in USNM [# 75258]. Synonymy established by Barr (2004: 26).

**Distribution.** This species is known from several caves in Crawford, Washington, Orange, Lawrence, and Monroe Counties, southern Indiana (Barr 2004: 25).

**Records. USA:** IN

***Pseudanophthalmus tenuis* (Horn, 1871)**

*Anophthalmus tenuis* G.H. Horn, 1871: 327. Type locality: «Wyandotte Cave [Crawford County], southern Indiana» (original citation). Syntype(s) [3 originally cited] in MCZ [# 34325].

*Pseudanophthalmus eremita longicollis* Jeannel, 1949b: 57. Type locality: «Bradford cave, à 5 à 6 miles au N[orth]E[ast] de Salisbury, et à 16 miles de New Albany [Harrison County], Crawford County, Indiana» (original citation). Holotype in MHNP. Synonymy established by Barr (1960a: 312).

*Pseudanophthalmus bloomi* Krekeler, 1958: 172. Type locality: «Langdon Cave, three miles southwest of White Cloud, Harrison Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH. Synonymy established by Barr (1960a: 312).

**Distribution.** This species is known from several caves in Crawford, Harrison, and Washington Counties, southern Indiana (Barr 2004: 25).

**Records. USA:** IN

***Pseudanophthalmus youngi* Krekeler, 1958**

*Pseudanophthalmus youngi* Krekeler, 1958: 175. Type locality: «Clifty Caves, four miles north of Campbellsburg, Washington Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH. Etymology. The specific name was proposed in honor of Frank Nelson Young, Jr. [1915-1998], professor at the University of Indiana. Young published on many subjects, including herpetology, malacology, and medical entomology, but he is best known for his work on water beetles and periodical cicadas.

*Pseudanophthalmus donaldsoni* Krekeler, 1958: 175. Type locality: «Donaldson Cave complex (Donaldson's Cave, Twin Caves, Bronson's Cave), four miles east of Mitchell, Lawrence Co[unty], Ind[iana]» (original citation). Holotype (♂) in FMNH. Synonymy established by Barr (2004: 26).

**Distribution.** This species is known from several caves in Crawford, Orange, Lawrence, and Washington Counties, southern Indiana (Barr 2004: 26).

**Records. USA:** IN

**Genus *NELSONITES* Valentine, 1952**

*Nelsonites* Valentine, 1952: 13. Type species: *Nelsonites jonesei* Valentine, 1952 by original designation. Etymology (original). From the first name of Nelson Bolling Jones, a cave explorer, killed in action in Germany on April 2, 1945 [masculine].

**Diversity.** Two cave-inhabiting Appalachian species.

**Identification.** Valentine (1952) discussed the structural differences between the two species.





**Figure 20.** *Broscus cephalotes* (Linnaeus). This relatively large Palearctic carabid is one of the most recently established species in North America. The first recorded specimen was found in the late 1980s and, considering the species' size, it is doubtful that it would have escaped notice for a long period. On this continent, the species has been found only on bare, fine sand along coastal beaches in Prince Edward Island and Cape Breton in company with amphipods of the genus *Gammarus* which probably make up part of their diet. The pathway of introduction of this broscine on American soil is uncertain.

***Nelsonites jonesei* Valentine, 1952**

*Nelsonites jonesei* Valentine, 1952: 16. Type locality: «Richardson's Cave, 2.5 miles east of Somerset, Pulaski County, K[entuck]y» (original citation). Holotype (♂) probably in ALM.

**Distribution.** This species is known from a few caves in Pulaski County, southeastern Kentucky.

**Records. USA:** KY

***Nelsonites walteri* Valentine, 1952**

*Nelsonites walteri* Valentine, 1952: 18. Type locality: «Johnson's Cave, 7 miles southwest of Monterey, Putnam County, Tenn[essee]» (original citation). Holotype (♂) probably in ALM. Etymology. The specific name is based on the first name of the American geologist and archaeologist Walter Bryan Jones [1895-1977] of the University of Alabama (see *Pseudanophthalmus jonesi*).

**Distribution.** This species is known from two nearby caves in Putnam and Van Buren Counties, Tennessee.

**Records. USA:** TN

**Genus *NEAPHAENOPS* Jeannel, 1920**

*Neaphaenops* Jeannel, 1920b: 154. Type species: *Anophthalmus tellkampfi* Erichson, 1844 by original designation. Etymology. From the Greek *neo* (new) and the generic name *Aphaenops* [masculine].

**Diversity.** One polymorphic cave-inhabiting species in the Appalachians.

**Identification.** Barr (1979a) revised the species and provided a key for the identification of its subspecies.

***Neaphaenops tellkampfi henroti* Jeannel, 1949**

*Neaphaenops tellkampfi henroti* Jeannel, 1949b: 90. Type locality: «Sig Shacklett's cave, à 5 miles S[outh]W[est] de Garrett, sur le territoire de Guston, Meade County, Kentucky» (original citation). Holotype in MHNP.

**Distribution.** This subspecies is known from several caves in Breckinridge, Hardin, Hart, and Meade Counties in northwest and central Kentucky (Barr 1979a: 8).

**Records. USA:** KY

***Neaphaenops tellkampfi meridionalis* Barr, 1959**

*Neaphaenops tellkampfi meridionalis* Barr, 1959: 23. Type locality: «Hoy Cave, 2 miles north of Franklin, Simpson Co[unty], Kentucky» (original citation). Holotype (♂) in AMNH.



**Distribution.** This subspecies has been found in several caves in Allen, Simpson, Warren, and Logan Counties in southern Kentucky (Barr 1979a: 9).

**Records. USA:** KY

***Neaphaenops tellkampfi tellkampfi* (Erichson, 1844)**

*Anopthalmus tellkampfi* Erichson [in Tellkampf], 1844: 384. Type locality: Mammoth Cave, Edmonson County, Kentucky (inferred from title of the paper). One syntype (with prothorax missing) in ZMHB (Bernd Jaeger pers. comm. 2007). Etymology. The specific name honors August Otto Theodor Tellkampf [1812–1883]. Born in German, Tellkampf immigrated to the United States at the age of 27 where he practiced medicine in Cleveland and New York. He was interested in speleology and visited Mammoth Cave in October 1842. He was a member of the Lyceum of Natural History of New York.

**Distribution.** This subspecies has been collected in several caves in Allen, Barren, Edmonson, Hart, and Warren Counties in central and southern Kentucky (Barr 1979a: 6).

**Records. USA:** KY

**Note.** Intergrades between this subspecies and the *meridionalis* form occur in a narrow zone in Warren and Allen Counties (Barr 1979a: 10) and between this subspecies and the *viator* form in eastern Hart County (Barr 1979a: 8).

***Neaphaenops tellkampfi viator* Barr, 1979**

*Neaphaenops tellkampfi viator* Barr, 1979a: 7. Type locality: «Brush Creek Cave, 0.8 mile east and slightly north of Lobb on the west side of Brush Creek, in western Green County, Kentucky» (original citation). Holotype (♂) in AMNH [# 1417].

**Distribution.** This subspecies is known from several caves in Green, Hart, and Metcalfe Counties in central and southern Kentucky (Barr 1979a: 8).

**Records. USA:** KY

**Genus *BLEMUS* Dejean, 1821**

*Blemus* Dejean, 1821: 16. Type species: *Carabus discus* Fabricius, 1792 designated by Westwood (1838: 5). Etymology. Uncertain, possibly from the Greek *blema* (a throw, cast; a shot, wound; a coverlet) [masculine]. The name was proposed by Franz Anton Ziegler and made available by Dejean.

*Lasiotrechus* Ganglbauer, 1891a: 187, 191. Type species: *Carabus discus* Fabricius, 1792 by monotypy. Etymology. From the Greek *lasios* (hairy) and the generic name *Trechus* [*q.v.*], alluding to the densely pubescent elytra (“*Nur die Flügeldecken pubescent*”) of the adult [masculine].

**Diversity.** Two Palaearctic species, one of them adventive in North America.

**Identification.** The species found in North America was covered in Lindroth’s (1961a: 194) monograph.

***Blemus discus discus* (Fabricius, 1792)**

*Carabus discus* Fabricius, 1792: 164. Type locality: «Germania» (original citation). Lectotype (♀), designated by Uéno (1974: 269), in ZMUC.

*Carabus unifasciatus* Panzer, 1796b: no 7. Type locality: Germany (inferred from title of the book). Syntype(s) location unknown (possibly in ZMHB). Synonymy established by Illiger (1798: 187).

**Distribution.** This Palearctic subspecies is adventive in North America where it is known from Nova Scotia (NSMC) to Wisconsin (Messer 2010: 35), south to southern Pennsylvania (Bradford and Allegheny Counties, CMNH). The first inventoried specimen collected on this continent was found in the Montreal area in 1933 (Brown 1940a: 69).

**Records.** CAN: NB, NS, ON, PE, QC USA: CT, MA, ME, MI, NH, NY, OH, PA, VT, WI – **Adventive**

**Note.** The subspecies *B. discus orientalis* Jeannel is known from Yunnan, China.

**Genus *XENOTRECHUS* Barr and Krekeler, 1967**

*Xenotrechus* Barr and Krekeler, 1967: 1322. Type species: *Xenotrechus denticollis* Barr and Krekeler, 1967 by original designation. Etymology. From the Greek *xenos* (stranger, guest) and the generic name *Trechus* [*q.v.*] [masculine].

**Diversity.** Two troglobitic species restricted to southeastern Missouri.

**Identification.** Barr and Krekeler (1967) provided a description of the external structures and male genitalia of both species.

***Xenotrechus condei* Barr and Krekeler, 1967**

*Xenotrechus condei* Barr and Krekeler, 1967: 1323. Type locality: «Friedman's Cave, 5 miles west-southwest of Imperial, Jefferson Co[unty], Missouri» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from two nearby caves, Friedman's and Pleasant Valley Caves, in eastern Missouri.

**Records.** USA: MO

***Xenotrechus denticollis* Barr and Krekeler, 1967**

*Xenotrechus denticollis* Barr and Krekeler, 1967: 1323. Type locality: «Kohm's Cave, 1.9 miles south-south-west of (the cathedral in) S[ain]te Genevieve, S[ain]te Genevieve Co[unty], Missouri» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from two nearby caves, Kohm's and Sims Caves, in eastern Missouri.

**Records.** USA: MO

### Genus *DARLINGTONEA* Valentine, 1952

*Darlingtonea* Valentine, 1952: 19. Type species: *Darlingtonea kentuckensis* Valentine, 1952 by monotypy. Etymology (original). From the surname of Philip J. Darlington, Jr. (see *Agonum darlingtoni* Lindroth). The name is feminine.

**Diversity.** One cave-inhabiting species in Kentucky.

**Identification.** Valentine (1952) lengthily described, neatly illustrated, and discussed the structural differences between members of *Darlingtonea* and those of the other troglobitic genera of the Appalachian region.

### *Darlingtonea kentuckensis* Valentine, 1952

*Darlingtonea kentuckensis* Valentine, 1952: 22. Type locality: «Richardson's Cave, 2.5 miles east of Somerset, Pulaski County, K[entuck]y» (original citation). Holotype (♂) probably in ALM.

*Darlingtonea kentuckensis lexingtoni* Valentine, 1952: 24. Type locality: «Big Saltpeter Cave, 8 miles north of Livingston, Rockcastle County, K[entuck]y» (original citation). Holotype (♂) probably in ALM. **New synonymy.** NOTE. This synonymy is based on the following unpublished comment (dated March 1969) by Thomas Barr: “specimens [of *D. kentuckensis*] from the southwestern part of the range are darker and more robust than those from the northeastern part of the range. The variation is probably clinal, however; there are no distinct separations that would warrant the naming of geographical races.”

**Distribution.** This species is known from several caves in Kentucky located as far north as Estill County and as far south as Fentress County [see Marsh 1969: Fig. 5].

**Records. USA:** KY

### Genus *AMERODUVALIUS* Valentine, 1952

*Ameroduvalius* Valentine, 1952: 24. Type species: *Ameroduvalius jeanneli* Valentine, 1952 by original designation. Etymology (original). From the English adjective American (of America) and the generic name *Duvalius*, alluding to the presence of members of the *Duvalius* line in the New World [masculine].

**Diversity.** One cave-inhabiting species in Kentucky.

**Identification.** Valentine (1952: 24–29) described, illustrated, and discussed the status of the species.

### *Ameroduvalius jeanneli jeanneli* Valentine, 1952

*Ameroduvalius jeanneli* Valentine, 1952: 27. Type locality: «Sloan's Valley (Cassidy) Cave, 6 miles southeast of Burnside, Pulaski County, K[entuck]y» (original citation). Holotype (♂) probably in ALM. Etymology. The specific name honors René Jeannel [1879–1965], a French biogeographer and taxonomist of worldwide

reputation. Jeannel, who held the entomology chair at the Muséum d'Histoire Naturelle in Paris from 1932 to 1950, published on many groups of insects but is better known for his work on cave beetles and Carabidae. Cambefort (2006: 198) qualified Jeannel of the most important French entomologist of the xx Century.

**Distribution.** This subspecies is known from several caves in the Somerset area, south-eastern Kentucky.

**Records. USA:** KY

### *Ameroduvalius jeanneli rockcastlei* Valentine, 1952

*Ameroduvalius jeanneli rockcastlei* Valentine, 1952: 29. Type locality: «Big Saltpeter Cave, Rockcastle County [Kentucky]» (original citation). Holotype (♂) probably in ALM.

**Distribution.** This subspecies is known only from the type-locality cave in southeastern Kentucky.

**Records. USA:** KY

### Genus *TRECHUS* Clairville, 1806

*Trechus* Clairville, 1806: 22. Type species: *Carabus rubens* Fabricius, 1801 designated by Blanchard [in Audouin et al. 1841: plate 25]. Etymology. From the Greek *trechis* (runner), probably alluding to the quickness of the adults in the field [masculine]. NOTE. As stated by Andrewes (1939: 157), the first valid type species designation for *Trechus* Clairville, 1806 is that of Latreille (1810: 426) who designated *Carabus meridianus* Linnaeus, 1760. This species is also the type species of *Acupalpus* Latreille, 1829. Acceptance of Latreille's designation would require nomenclatural changes for two extensive, well-known genera. A request should be addressed to the International Commission on Zoological Nomenclature to suppress Latreille's designation. A first request was postponed (ICZN 1950).

**Diversity.** About 870 species arrayed in eight subgenera: *Arabotrechus* Mateu (one Yemenite species), *Atlantotrechus* Lompe (one species in the Madeira Islands), *Elgonophyes* Jeannel (one Afrotropical species), *Elgonotrechus* Jeannel (14 Afrotropical species), *Meruitrechus* Jeannel (two Afrotropical species), *Microtrechus* (41 species), *Minitrechus* Vigna Taglianti and Magrini (one species in Ethiopia), and *Trechus s.str.* (about 775 species). More than 92% of the species are found in the Palaearctic Region.

### Subgenus *Trechus* Clairville, 1806

*Trechus* Clairville, 1806: 22. Type species: *Carabus rubens* Fabricius, 1801 designated by Blanchard [in Audouin et al. 1841: plate 25].

*Calotrechus* Wollaston, 1854: 64. Type species: *Trechus nigrocruciatus* Wollaston, 1854 designated by Jeannel (1927: 114). Synonymy established by Casale and Laneyrie

(1982: 124). Etymology. From the Greek *calos* (beautiful) and the generic name *Trechus* [*q.v.*] [masculine].

*Antoinella* Jeannel, 1937c: 83. Type species: *Duvalius groubei* Antoine, 1935 by original designation. Synonymy established by Casale (2011: 14). Etymology. This name was proposed in honor of Maurice Antoine (1886-1962). Born in Caen in Normandy, France, Antoine moved to Morocco in his 30s where he taught natural science at a secondary school in Casablanca from 1919 to 1948. He is well-known for his monographic treatment (1955-1962) of the carabid fauna of Morocco.

*Altaiotrechus* Iablokoff-Khnzorian, 1971: 155. Type species: *Altaiotrechus alticola* Iablokoff-Khnzorian, 1971 (= *Trechus kuraicus* Shilenkov, 1995) by monotypy. Synonymy established by Shilenkov (in Kryzhanovskij et al. 1995: 69). Etymology. From the geographical name *altai* (mountain system in Asia) and the generic name *Trechus* [*q.v.*] [masculine].

*Hydrotrechus* Carabajal, García and Rodríguez, 2000: 123. Type species: *Hydrotrechus cantabricus* Carabajal, García and Rodríguez, 2000 by original designation. Synonymy established by Ortuño and Jiménez-Valverde (2011: 28).

**Diversity.** About 775 species in North America (23 species, of which three are adventive), mountains in Mexico (about five species), Oriental (two species in the Philippines), Palaearctic (about 725 species), and Afrotropical (about 25 species on Mont Elgon, Mont Meru, and Ethiopia) Regions. More than 95% of the species inhabit the Northern Hemisphere.

**Identification.** There is no published key for the identification of the species of this subgenus.

### [**chalybeus group**]

#### ***Trechus apicalis* Motschulsky, 1845**

*Trechus apicalis* Motschulsky, 1845b: 347. Type locality: «Kamtschatka [Siberia, Russia]» (original citation). Six syntypes in ZMMU (Keleinikova 1976: 187).

*Trechus kamtschatkensis* Putzeys, 1847: 308. Type locality: «Kamtschatka [Siberia, Russia]» (original citation). Syntype(s) location unknown (possibly in IRSN). Synonymy established by Putzeys (1870: 166).

*Epaphius micans* LeConte, 1847: 414. Type locality: «Lapointe [Madeline Island, Wisconsin], Lacus Superioris» (original citation). Syntype(s) in MCZ [# 5596]. Synonymy established by Lindroth (1963b: 202).

*Epaphius fulvus* LeConte, 1847: 415 [secondary homonym of *Trechus fulvus* Dejean, 1831]. Type locality: «Lapointe [Madeline Island, Wisconsin], Lacus Superioris» (original citation). Syntype(s) in MCZ. Synonymy established, under the name *T. apicalis micans* (LeConte), by Jeannel (1927: 172), confirmed by Lindroth (1963b: 202).

*Trechus canadensis* Putzeys, 1870: 160. Type locality: «Terre neuve (S[ain]t Pierre [et] Miquelon); Toronto» (original citation). Syntype(s) [5 originally cited] in MHNP (collection Chaudoir). Synonymy established by Jeannel (1931: 428).



*Trechus borealis* Schaeffer, 1915a: 47. Type locality: «Battle Harbor, Labrador; Bay S[ain]t George, Newfoundland; New Jersey; Bellport, L[on]g Island [New York]» (original citation), restricted to «Battle Harbor, Labr[ador]» by Lindroth (1963b: 202). Syntype(s) in USNM (Lindroth 1963b: 202, though not listed by Erwin and House 1978). Synonymy established, under the name *T. apicalis micans* (LeConte), by Jeannel (1927: 172), confirmed by Lindroth (1963b: 202).

*Trechus pallescens* Casey, 1918: 407. Replacement name for *Trechus fulvus* (LeConte 1847).

*Trechus puritanus* Casey, 1918: 407. Type locality: «Fall River [Bristol County], Massachusetts» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46077]. Synonymy established, under the name *T. apicalis micans* (LeConte), by Jeannel (1927: 172), confirmed by Lindroth (1963b: 202).

*Trechus rhodensis* Casey, 1918: 408. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46078]. Synonymy established, under the name *T. apicalis micans* (LeConte), by Jeannel (1927: 172), confirmed by Lindroth (1963b: 202).

*Trechus brumalis* Casey, 1918: 408. Type locality: «W[est] S[ain]t Modest[e], Labrador» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46079]. Synonymy established, under the name *T. apicalis micans* (LeConte), by Jeannel (1927: 172), confirmed by Lindroth (1963b: 202).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 78-79, as *T. apicalis micans*) to Alaska, south to southeastern British Columbia (Lindroth 1963b: 202), southern Colorado (Elias 1987: 632; Mineral County, UASM) along the Rocky Mountains, and northeastern West Virginia (Tucker County, CMNH). Also found in the Far East and on Hokkaidō, Japan (Moravec et al. 2003: 326).

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, CO, CT, IN, MA, ME, MI, MN, MT, NH, NJ, NY, OH, PA, RI, VT, WI, WV – **Holarctic**

### *Trechus chalybeus* Dejean, 1831

*Trechus chalybeus* Dejean, 1831: 17. Type locality: «île d'Ounalaschka, l'une des îles Aleutiennes [Alaska]» (original citation). One syntype in MHNP (Lindroth 1955b: 14).

*Trechus californicus* Motschulsky, 1845b: 347. Type locality: «île Sitka [= Baranof Island, Alaska]» (original citation). Four syntypes in ZMMU (Keleinikova 1976: 190). Synonymy established by Horn (1875: 131).

*Trechus tahoensis* Casey, 1918: 407. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 114), in USNM [# 46076]. Synonymy established by Jeannel (1927: 169), confirmed by Lindroth (1961a: 197).

*Trechus chalybaeus brachyderus* Jeannel, 1931: 422. Type locality: «Bears Paw Mountains, Montana» (original citation). Holotype (♂) in USNM [# 43660]. Synonymy established by Lindroth (1961a: 197).

**Distribution.** This species ranges from the Aleutian Islands in Alaska (Lindroth 1961a: 198) south to the Sierra Nevada in eastern California (Inyo and Tulare Counties, CAS; Casey 1918: 407, as *T. tahoensis*; Dajoz 1990: 158) and to New Mexico along the Rocky Mountains (Snow 1885: 67; Fall and Cockerell 1907: 158).

**Records.** CAN: AB, BC (QCI, VCI) USA: AK, CA, CO, ID, MT, NM, NV, OR, WA, WY

### ***Trechus coloradensis* Schaeffer, 1915**

*Trechus chalybaeus* var. *coloradensis* Schaeffer, 1915a: 48. Type locality: «Colorado» (original citation). Syntype(s) in USNM [# 42515].

*Trechus chalybaeus* var. *utahensis* Schaeffer, 1915a: 48 [*nomen dubium*]. Type locality: «southwest Utah» (original citation). Lectotype (♂), designated by Lindroth (1963b: 201) and described as “severely mutilated,” in USNM [# 75690]. Synonymy established with doubt by Lindroth (1963b: 201).

*Trechus saxatilis* Casey, 1918: 408. Type locality: «Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 114), in USNM [# 46080]. Synonymy established with doubt by Jeannel (1927: 171), confirmed by Lindroth (1963b: 201).

*Trechus coloradensis arcticollis* Jeannel, 1931: 419. Type locality: « Moscow, Cedar mountains, Idaho [see page 430]» (original citation). Holotype (♂) in USNM [# 43662]. Synonymy established by Lindroth (1963b: 201). NOTE. The “Cedar Mountain” referred to is probably that in Latah County, which is also the type locality of *Scaphinotus merkelii*.

*Trechus coloradensis gravidulus* Jeannel, 1931: 419. Type locality: «New Mexico» (original citation). Holotype (♂) in USNM [# 43661]. Synonymy established by Lindroth (1963b: 201).

*Trechus pugetensis* Hatch, 1951: 113. Type locality: «Seattle [King County], Wash[ington]» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1963b: 201).

**Distribution.** This species ranges from northwestern Washington (Hatch 1951: 113, as *T. pugetensis*) and northern Idaho (Lindroth 1963b: 201) south to northern New Mexico (Dajoz 1990: 158; Santa Fe County, CMNH), northeastern Arizona (Donabauer 2010a: 41), and northwestern California (Humboldt County, James R. LaBonte pers. comm. 2008).

**Records.** USA: AZ, CA, CO, ID, NM, UT, WA

### ***Trechus crassiscapus* Lindroth, 1955**

*Trechus chalybaeus crassiscapus* Lindroth, 1955a: 80. Type locality: «Cow Head, N[ew] f[ound]l[an]d» (original citation). Holotype (♂) in CNC [# 6571].

**Distribution.** This species ranges from Newfoundland and the coast of Labrador to northeastern Minnesota (Gandhi et al. 2005: 924), south to mountains in northern

New York and New England [see Lindroth 1963a: Fig. 69]. The record from “Massachusetts” (Bousquet and Larochelle 1993: 120) is in error.

**Records.** CAN: LB, NB, NF, NS (CBI), ON, QC USA: ME, MN, NH, NY, VT, WI

***Trechus oregonensis* Hatch, 1951**

*Trechus oregonensis* Hatch, 1951: 114. Type locality: «Hood R[i]v[er] Rapids, Parkdale [Hood River County], Ore[gon]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species inhabits the North American Cordilleras ranging from British Columbia and southwestern Alberta (Lindroth 1963b: 201) south to western Montana (Russell 1968: 48) and the Sierra Nevada in California (Lindroth 1963b: 201). The record from “Colorado” (Bousquet and Larochelle 1993: 121) needs confirmation.

**Records.** CAN: AB, BC USA: CA, ID, MT, OR, WA [CO]

***Trechus tenuiscapus* Lindroth, 1961**

*Trechus tenuiscapus* Lindroth, 1961a: 198. Type locality: «Cameron L[ake], Waterton Park, Al[ber]ta» (original citation). Holotype (♂) in CNC [# 11722].

**Distribution.** This species ranges from southern Yukon Territory (Lindroth 1961a: 200) south to mountains in northwestern Montana (Edwards 1975: 51), west-central Idaho (Boise County, CMNH), and western Oregon (Lane County, Foster F. Purrington pers. comm. 2009). The record from “Northwestern Territories” (Bousquet and Larochelle 1993: 121) needs confirmation.

**Records.** CAN: AB, BC (VCI), YT USA: ID, MT, OR, WA [NT]

***Trechus yvesbousqueti* Donabauer, 2010**

*Trechus yvesbousqueti* Donabauer, 2010a: 41. Type locality: «Escudilla M[oun]t[ain] (2730 m), Apache N[ational] F[orest], 8 mi[les] N[orth]E[ast] Alpine [Apache County], Ariz[ona]» (original citation). Holotype (♂) in CNC [# 23928].

**Distribution.** This species is known only from Apache County (Donabauer 2010a: 41) in northeastern Arizona.

**Records.** USA: AZ

**[hydropicus group]**

***Trechus caliginis* Barr, 1985**

*Trechus caliginis* Barr, 1985b: 128. Type locality: «Camp Creek Bald, just below summit (about 1460 m), Greene Co[unty], Tennessee/Madison Co[unty], North Carolina» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type locality in the Bald Mountains between Greeneville, Tennessee and Asheville, North Carolina (Barr 1985b: 128).

**Records.** USA: TN/NC

***Trechus carolinae* Schaeffer, 1901**

*Trechus carolinae* Schaeffer, 1901: 212. Type locality: «M[oun]t Mitchell [Yancey County], North Carolina» (original citation). Holotype [by monotypy] in AMNH [# 404] (Grossbeck 1912: 361).

**Distribution.** This species is known only from the type locality, at the summit of Mount Mitchell where it is found in deep spruce and fir needle duff.

**Records. USA:** NC

***Trechus cumberlandus* Barr, 1962**

*Trechus cumberlandus* Barr, 1962a: 76. Type locality: «Elisha Steele Cave, 3 miles east of Monticello, Wayne Co[unty], Kentucky» (original citation). Holotype (♂) in USNM [# 65975].

**Distribution.** This species is found in caves in the Cumberland Plateau, from Rockcastle County in southeastern Kentucky southwest to Grundy County in southern Tennessee (Barr 1979b: 37).

**Records. USA:** KY, TN

***Trechus hydropicus avus* Barr, 1962**

*Trechus beutenmulleri avus* Barr, 1962a: 72. Type locality: «Grandfather Mountain, Avery Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65973].

**Distribution.** This subspecies is known from Grandfather Mountain in Avery County and Three Top Mountain in Ashe County in western North Carolina (Barr 1979b: 43).

**Records. USA:** NC

**Note.** This subspecies intergrades with the *beutenmuelleri* form on Beech Mountain, Avery County, North Carolina (Barr 1979b: 43).

***Trechus hydropicus beutenmuelleri* Jeannel, 1931**

*Trechus beutenmülleri* Jeannel, 1931: 436. Type locality: «mount Mitchell [Yancey County], North Carolina» (original citation). Holotype probably in MHNP. Etymology. The species was proposed for William Beutenmüller [1864–1934], curator of insects at the American Museum of Natural History. Beutenmüller collected extensively in the vicinity of New York and at Black Mountain in North Carolina and published mainly on Lepidoptera.

**Distribution.** This subspecies ranges southwestwards from the Roan Mountain in Tennessee to the Black and Great Craggy Mountains at the edge of the Blue Ridge in western North Carolina (Barr 1979b: 44).

**Records. USA:** NC, TN

***Trechus hydropicus canus* Barr, 1962**

*Trechus beutenmulleri canus* Barr, 1962a: 73. Type locality: «White Top Mountain, Grayson Co[unty], Virginia» (original citation). Holotype (♂) in USNM [# 65974].

**Distribution.** This subspecies is known from Grayson, Washington, and Lee Counties, southwestern Virginia, and Harlan and Letcher Counties, southeastern Kentucky (Barr 1979b: 36).

**Records. USA:** KY, VA

***Trechus hydropicus hydropicus* Horn, 1883**

*Trechus hydropicus* G.H. Horn, 1883b: 273. Type locality: «Virginia» (original citation), restricted to «Bald Knob, Mountain Lake, Giles County» by Barr (1979b: 42). Syntype(s) in MCZ [# 8231].

**Distribution.** This subspecies is known from western Maryland, Virginia, and eastern West Virginia (Barr 1979b: 36). The record from Sassafras Mountain in northwestern South Carolina (Ciegler 2000: 44) is apparently in error (see Ciegler 2003: [1]) as well as the state record of «South Carolina» by Bousquet and Larochelle (1993: 121).

**Records. USA:** MD, VA, WV

***Trechus mitchellensis* Barr, 1962**

*Trechus mitchellensis* Barr, 1962a: 75. Type locality: «Celo Mountain, Yancey Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65976].

**Distribution.** This species is found in the Black Mountains in Yancey, Buncombe, and McDowell Counties, North Carolina (Barr 1979b: 37).

**Records. USA:** NC

***Trechus roanicus* Barr, 1962**

*Trechus roanicus* Barr, 1962a: 73. Type locality: «Roan Mountain, Carter Co[unty], Tennessee» (original citation). Holotype (♂) in USNM [# 65977].

**Distribution.** This species is known from Carter County in northeastern Tennessee and from Mitchell County in western North Carolina (Barr 1979b: 37).

**Records. USA:** NC, TN

***Trechus schwarzi saludae* Barr, 1979**

*Trechus schwarzi saludae* Barr, 1979b: 46. Type locality: «one mile east of Melrose, on the south side of the gorge of the North Pacolet River (1300 feet), Polk County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1503].



**Distribution.** This subspecies is known from several specimens collected at the type locality in southwestern North Carolina.

**Records. USA:** NC

***Trechus schwarzi schwarzi* Jeannel, 1931**

*Trechus schwarzi* Jeannel, 1931: 437. Type locality: «Roan High Knob [Carter County], North Carolina» (original citation), which is probably incorrect (Barr 1962a: 75); «Retreat, Haywood Co[unty], N[orth] C[arolina]» selected by Barr (1962a: 74). Holotype (♀) in USNM [# 43663].

**Distribution.** This subspecies is restricted to the Pishah Ledge, which is the eastern arm of the Great Balsam Mountains, in western North Carolina (Barr 1979b: 45).

**Records. USA:** NC

***Trechus schwarzi scopulosus* Barr, 1979**

*Trechus schwarzi scopulosus* Barr, 1979b: 46. Type locality: «below summit of Craggy Dome (5600 feet), Buncombe County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1504].

**Distribution.** This subspecies is known from the Black and Great Craggy mountains and adjacent Blue Ridge, in Buncombe, McDowell, and Yancey Counties, western North Carolina (Barr 1979b: 46).

**Records. USA:** NC

**[ovipennis group]**

***Trechus alinae* Dajoz, 1990**

*Trechus alinae* Dajoz, 1990: 156. Type locality: «Mont San Jacinto State Park (2600 m), Riverside County, Californie» (original citation). Holotype (♂) in Dajoz's collection (Paris, France).

**Distribution.** This species is known only from the San Jacinto Mountains in southeastern California.

**Records. USA:** CA

***Trechus apache* Dajoz, 1990**

*Trechus apache* Dajoz, 1990: 153. Type locality: «Apache au lieu-dit Skeleton Canyon, Cochise County, Arizona» (original citation). Holotype (♂) in Dajoz's collection (Paris, France).

**Distribution.** This species is known only from the holotype.

**Records. USA:** AZ

***Trechus arizonae* Casey, 1918**

*Trechus arizonae* Casey, 1918: 409. Type locality: «Arizona» (original citation). One syntype in USNM [# 46081].

**Distribution.** This species is endemic to the Pinaleno Mountains in Graham County, southeastern Arizona (Donabauer 2010a: 39).

**Records. USA:** AZ

***Trechus conformis* Jeannel, 1927**

*Trechus conformis* Jeannel, 1927: 188. Type locality: «Lagunitas, sur la côte de Tomales bay, Marin County, Californie» (original citation). Holotype (♂) in MHNP.

**Distribution.** This species is known only from the holotype.

**Records. USA:** CA

***Trechus humboldti* Van Dyke, 1945**

*Trechus humboldti* Van Dyke, 1945b: 101. Type locality: «near Orick, Humboldt County, California» (original citation). Holotype (♂) in CAS [# 5434].

**Distribution.** This species is known from northwestern California (Van Dyke 1945b: 101) and southern Oregon (Lane County, CMNH).

**Records. USA:** CA, OR

***Trechus ovipennis* Motschulsky, 1845**

*Trechus ovipennis* Motschulsky, 1845b: 348. Type locality: «Californie» (original citation), which was regarded as incorrect by Jeannel (1931: 433); «Sithka [Baranof Island], Alaska» selected by Lindroth (1961a: 195). Syntype(s) in MCZ and probably also in ZMMU. NOTE. Keleinikova (1976: 210) reported the presence of two syntypes in ZMMU, one labeled “Am.b.occ. Sitka,” the second “California.”

**Distribution.** This species ranges along the Pacific Coast from southeastern Alaska (Lindroth 1961a: 196) to at least Marin County, central California (Kavanaugh and Erwin 1985: 177).

**Records. CAN:** BC (QCI, VCI) **USA:** AK, CA, OR, WA

***Trechus pomonae* Fall, 1901**

*Trechus pomonae* Fall, 1901a: 211. Type locality: «Pomona and Pasadena [California]» (original citation). Syntype(s) [3 originally cited] in MCZ [# 23872].

**Distribution.** This species is known only from southwestern California (Jeannel 1927: 189; Donabauer 2010a: 39).

**Records. USA:** CA

[**quadristriatus group**]***Trechus obtusus* Erichson, 1837**

*Trechus laevis* Stephens, 1835: 384 [potential *nomen oblitum*]. Type locality: «near London [United Kingdom]» (original citation). Syntype(s) location unknown (possibly in BMNH).

*Trechus obtusus* Erichson, 1837 [15 September]: 122 [potential *nomen protectum*]. Type locality: Mark Brandenburg [Prussia] (inferred from title of the book). Syntype(s) location unknown (possibly in ZMHB). Synonymy established by Waterhouse (1863: 148).

*Trechus castanopterus* Heer, 1837 [after 10 December]: 46 [second section]. Type locality: Matt; Andermatt [Switzerland] (Heer 1837: 73 [first section]). Syntype(s) location unknown (possibly in ETHZ). Synonymy established by Schaum (1860: 641).

**Distribution.** This European species is adventive in North America where it is known from the Queen Charlotte Islands (Kavanaugh 1992: 61) to north-central Idaho (LaBonte 1989: 17; Hatten et al. 2007: 359), south to northern Utah (Davis and Salt Lake Counties, CMNH) and west-central California [see Kavanaugh and Erwin 1985: Fig. 1]. The first inventoried specimen collected on this continent was found in North Creek, King County, Washington in 1925 (Kavanaugh and Erwin 1985: 171). The species is also adventive in Hawaii since 1998 (Liebherr and Takumi 2003).

**Records.** CAN: BC (QCI, VCI) USA: CA, ID, OR, UT, WA – **Adventive**

***Trechus quadristriatus* (Schrank, 1781)**

*Carabus quadristriatus* Schrank, 1781: 218. Type locality: Austria (inferred from title of the book). Syntype(s) probably lost.

*Carabus minutus* Fabricius, 1792: 167 [primary homonym of *Carabus minutus* Rossi, 1790]. Type locality: «Germania» (original citation). One syntype in ZMUC (Zimsen 1964: 60). Synonymy established by Dawson (1854: 169).

*Carabus tempestivus* Panzer, 1799: no 6. Type locality: «Dresdae [Germany]» (original citation). Syntype(s) location unknown (possibly in ZMHB). Synonymy established, under the name *T. minutus* (Fabricius), by Erichson (1837: 121).

**Distribution.** This European species is adventive in North America where it is known from Nova Scotia (Majka et al. 2006: 603) to northern Wisconsin (Iron County, CMNH; Messer 2010: 35), as far north as the Abitibi region in Quebec (Paquin and Dupérré 2002: 87), south to northeastern West Virginia (Hampshire County, CMNH) and eastern Maryland (Queen Annes County, Foster F. Purrington pers. comm. 2009). The first inventoried specimen collected on this continent was found at Port Credit, southern Ontario, in 1965 (Bousquet et al. 1984: 215).

**Records.** CAN: NS, ON, QC USA: MD, MI, NY, PA, WI, WV – **Adventive**

**[rubens group]*****Trechus rubens* (Fabricius, 1792)**

*Carabus rubens* Fabricius, 1792: 140. Type locality: «Kiliae [= Kiel, Germany]» (original citation). Syntype(s) location unknown.

*Bembidium paludosum* Gyllenhal, 1810: 34. Type locality: Sweden (inferred from title of the book). Syntype(s) location unknown (possibly in UZIU). Synonymy established by Schiødte (1841: 327).

*Carabus palpalis* Duftschmid, 1812: 183. Type locality: «um Linz [Austria]» (original citation). Holotype [by monotypy] probably lost. Synonymy established, under the name *T. paludosus* (Gyllenhal), by Redtenbacher (1856: 68).

**Distribution.** This European species is adventive in North America where it is known from Newfoundland (Lindroth 1955a: 82; Larson and Langor 1982: 593) to western Quebec (Laroche 1975: 112), and from the New England area (Bousquet and Laroche 1993: 121). The first inventoried specimen collected on this continent was found prior to 1863 (LeConte 1863b: 14) probably in Nova Scotia as recorded by Horn (1875: 131). The record from eastern Ontario (Hamilton 1889b: 94) is probably in error.

**Records.** FRA: PM CAN: NB, NF, NS (CBI), PE, QC USA: ME, NH, VT – **Adventive**

**Subgenus *Microtrechus* Jeannel, 1927**

*Microtrechus* Jeannel, 1927: 585. Type species: *Microtrechus vandykei* Jeannel, 1927 by original designation. Etymology. From the Greek *micros* (small, little) and the generic name *Trechus* [*q.v.*], alluding to the small size of adults of these *Trechus* species [masculine].

**Diversity.** Forty-one species (46 species-group taxa) restricted to the Appalachian Mountains in North Carolina, Tennessee, South Carolina, and Georgia and currently placed in three species groups.

**Identification.** Barr (1979b) revised and provided a key to the species of this subgenus (22 species, 29 species-group taxa). Subsequently, 15 new species and two subspecies have been described by Barr (1985b), Dajoz (2005), and Donabauer (2005a, b).

**[nebulosus group]*****Trechus balsamensis* Barr, 1962**

*Trechus balsamensis* Barr, 1962a: 87. Type locality: «Water Rock Knob, Haywood-Jackson Counties, North Carolina» (original citation). Holotype (♂) in USNM [# 65979].

**Distribution.** This species is known only from the Plott Balsam Mountains, western North Carolina.

**Records.** USA: NC

***Trechus cheoahensis* Donabauer, 2005**

*Trechus cheoahensis* Donabauer, 2005b: 90. Type locality: «Cheoah Bald, Graham/Swain Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality.

**Records. USA:** NC

***Trechus clingmanensis* Donabauer, 2005**

*Trechus clingmanensis* Donabauer, 2005b: 72. Type locality: «Clingmans Dome, G[reat] S[moky]M[ountains], Servier/Swain Co[unty], T[en]n[essee]/N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality.

**Records. USA:** NC/TN

***Trechus haoeleadensis* Donabauer, 2005**

*Trechus haoeleadensis* Donabauer, 2005b: 85. Type locality: «Haoe Lead, Unicoi M[ount] t[ai]ns, Graham/Monroe Co[unty], N[orth]C[arolina]/T[en]n[essee]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality.

**Records. USA:** NC/TN

***Trechus luculentus cheoahbaldensis* Donabauer, 2005**

*Trechus luculentus cheoahbaldensis* Donabauer, 2005b: 89. Type locality: «Cheoah Bald, Graham/Swain Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This subspecies is known only from the type locality.

**Records. USA:** NC

***Trechus luculentus joannabaldensis* Donabauer, 2005**

*Trechus luculentus joannabaldensis* Donabauer, 2005b: 89. Type locality: «Joanna Bald, Snowbird Mountains, Graham/Cherokee Co[unty], N[orth]C[arolina]/T[en]n[essee]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This subspecies is known only from the type locality.

**Records. USA:** NC/TN



***Trechus luculentus luculentus* Barr, 1962**

*Trechus luculentus* Barr, 1962a: 88. Type locality: «Clingmans Dome, Swain Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65981].

**Distribution.** This subspecies is known from the central Great Smoky Mountains in North Carolina and Tennessee (Barr 1979b: 40).

**Records. USA:** NC, TN

***Trechus luculentus wayahensis* Barr, 1979**

*Trechus luculentus wayahensis* Barr, 1979b: 70. Type locality: «head of Dirty John Creek, southwest slope of Winespring Bald (near Wayah Bald) (4900 feet), Macon County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1497].

**Distribution.** This subspecies is endemic to the Nantahala Mountains in southwestern North Carolina (Donabauer 2005b: 88).

**Records. USA:** NC

***Trechus nantahalae* Barr, 1979**

*Trechus nantahalae* Barr, 1979b: 72. Type locality: «0.4 mile northwest of Burningtown Gap on the southwest slope of Burningtown Bald, at a seep along the Appalachian Trail (4300 feet), Macon County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1498].

**Distribution.** This species is known only from the type locality in the northern Nantahala Mountains, southwestern North Carolina.

**Records. USA:** NC

***Trechus nebulosus* Barr, 1962**

*Trechus nebulosus* Barr, 1962a: 86. Type locality: «M[oun]t Kephart, Sevier Co[unty], Tennessee» (original citation). Holotype (♂) in USNM [# 65982].

**Distribution.** This species is found in central and eastern Great Smoky Mountains in North Carolina and Tennessee (Barr 1979b: 40).

**Records. USA:** NC, TN

***Trechus novaculosus* Barr, 1962**

*Trechus novaculosus* Barr, 1962a: 89. Type locality: «Clingmans Dome, Swain Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65983].

**Distribution.** This species is found in central Great Smoky Mountains in North Carolina and Tennessee (Barr 1979b: 40).

**Records. USA:** NC, TN

***Trechus pseudonovaculosus* Donabauer, 2005**

*Trechus pseudonovaculosus* Donabauer, 2005b: 80. Type locality: «Clingmans Dome, G[reat]S[moky]M[ountains], Servier [sic!]/Swain Co[unty], T[en]n[essee]/N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality.

**Records. USA:** NC/TN

***Trechus ramseyensis* Donabauer, 2005**

*Trechus ramseyensis* Donabauer, 2005b: 74. Type locality: «Ramsey Cascade, G[reat]S[moky]M[ountains], Servier [sic!] Co[unty], T[en]n[essee]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality.

**Records. USA:** TN

***Trechus rosenbergi* Barr, 1962**

*Trechus rosenbergi* Barr, 1962a: 89. Type locality: «Water Rock Knob, Haywood-Jackson Counties, North Carolina» (original citation). Holotype (♂) in USNM [#65984].

**Distribution.** This species is known from the Plott Balsam Mountains and Great Balsam Mountains in western North Carolina (Barr 1979b: 40).

**Records. USA:** NC

***Trechus snowbirdensis* Donabauer, 2005**

*Trechus snowbirdensis* Donabauer, 2005b: 78. Type locality: «Joanna Bald, Snowbird M[oun]t[ain]s, Graham Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality.

**Records. USA:** NC

***Trechus stefanschoedli* Donabauer, 2005**

*Trechus stefanschoedli* Donabauer, 2005b: 87. Type locality: «Thunderhead M[oun]t[ain], G[reat]S[moky]M[ountains], Blount/Swain Co[unty], T[en]n[essee]/N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality.

**Records. USA:** NC/TN

***Trechus stupkai* Barr, 1979**

*Trechus stupkai* Barr, 1979b: 65. Type locality: «edge of Ramsay Prong, about 150 yards above Ramsay Cascades (4600 feet), Great Smoky Mountains National Park, Sevier County, Tennessee» (original citation). Holotype (♂) in AMNH [# 1499]. Etymology. The specific name was proposed in honor of Arthur Stupka [1907-1999], head naturalist of the Great Smoky Mountains National Park for 30 years. He also worked before as naturalist and ranger in Yosemite and Acadia National Parks.

**Distribution.** This species is known only from the holotype collected in eastern Tennessee.

**Records. USA:** TN

***Trechus tennesseensis tauricus* Barr, 1962**

*Trechus tennesseensis tauricus* Barr, 1962a: 87. Type locality: «Bull Cave Sinkhole, Blount Co[unty], Tennessee» (original citation). Holotype (♂) in USNM [# 65988].

**Distribution.** This subspecies is known only from Bull Cave in the Cades Cove Mountains, Great Smoky Mountains, in eastern Tennessee (Barr 1979b: 40).

**Records. USA:** TN

***Trechus tennesseensis tennesseensis* Barr, 1962**

*Trechus tennesseensis tennesseensis* Barr, 1962a: 87. Type locality: «Berry Cave, Roane Co[unty], Tennessee» (original citation). Holotype (♂) in USNM [# 65989].

**Distribution.** This subspecies is known only from the original 28 specimens collected in a cave in the Appalachian Valley, 8 miles south of Kingston and ¼ mile west of the Tennessee River on the southeast side of a valley east of Huckleberry Ridge (Barr 1962a: 87).

**Records. USA:** TN

***Trechus thomasbarri* Donabauer, 2005**

*Trechus thomasbarri* Donabauer, 2005b: 75. Type locality: «Haoe Lead, Unicoi M[oun]t[ain]s, Graham/Monroe Co[unty], N[orth]C[arolina]/T[en]n[essee]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria). Etymology. This species was proposed for Thomas Calhoun Barr, Jr. [1931-2011], an expert on North American cave Carabidae. Barr taught at the Zoology Department, University of Kentucky, in Lexington.

**Distribution.** This species is known only from the holotype.

**Records. USA:** NC/TN

***Trechus tobiasi* Donabauer, 2005**

*Trechus tobiasi* Donabauer, 2005b: 84. Type locality: «Tusquitee Bald, Macon/Clay Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality in the Nantahala Mountains.

**Records. USA:** NC

***Trechus tuckaleechee* Barr, 1962**

*Trechus tuckaleechee* Barr, 1962a: 86. Type locality: «Tuckaleechee Caverns, Blount Co[unty], Tennessee» (original citation). Holotype (♂) in USNM [# 65991].

**Distribution.** This species is known only from the original specimens collected in a large stream cavern at the north side of the Great Smoky Mountains.

**Records. USA:** TN

***Trechus unicoi* Barr, 1979**

*Trechus luculentus unicoi* Barr, 1979b: 68. Type locality: «Stratton Meadows (4900 feet), Monroe County, Tennessee, and Graham County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1496].

**Distribution.** This species is endemic to the Unicoi Mountains in southeastern Tennessee and western North Carolina (Barr 1979b: 40).

**Records. USA:** NC, TN

**Note.** This taxon was first described as a subspecies but raised to species by Donabauer (2005b: 87).

***Trechus valentinei* Barr, 1979**

*Trechus valentinei* Barr, 1979b: 62. Type locality: «Appalachian Trail near summit of M[oun]t Kephart (approximately 6000 feet), Great Smoky Mountains National Park, Sevier County, Tennessee» (original citation). Holotype (♂) in AMNH [# 1501].

**Distribution.** This species is found in the central Great Smoky Mountains in Tennessee and North Carolina (Barr 1979b: 40).

**Records. USA:** NC, TN

***Trechus verus* Barr, 1962**

*Trechus verus* Barr, 1962a: 81. Type locality: «M[oun]t Sterling, Haywood Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65993].





**Figure 21.** *Trechus apicalis* Motschulsky. This trechine species is “wing dimorphic” with the vast majority of individuals being micropterous (with short wing vestiges) and a few macropterous (with long wings). Usually macropterous individuals of dimorphic species are able to fly but this is not always the case as flight muscles could be atrophied. Carl Lindroth argued that in stable periods, when the species’ habitat is not subject to drastic changes, the brachypterous form normally predominates but in unstable periods, the situation is reversed.



**Distribution.** This species is known only from the conifer forests in the eastern end of the Great Smoky Mountains in Haywood County, western North Carolina, and Cocke County, eastern Tennessee.

**Records. USA:** NC, TN

***Trechus wayahbaldensis* Donabauer, 2005**

*Trechus wayahbaldensis* Donabauer, 2005b: 69. Type locality: «Wayah Bald, Macon Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality.

**Records. USA:** NC

**[uncifer group]**

***Trechus aduncus* Barr, 1962**

*Trechus aduncus* Barr, 1962a: 82. Type locality: «M[oun]t Pisgah, Haywood Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65978].

**Distribution.** This species occurs in the Great Balsam Mountains in western North Carolina (Barr 1979b: 39).

**Records. USA:** NC

***Trechus coweensis* Barr, 1979**

*Trechus aduncus coweensis* Barr, 1979b: 59. Type locality: «summit of Yellow Mountain (5000 feet), 4 miles southwest of Glenville, Macon-Jackson Counties, North Carolina» (original citation). Holotype (♂) in AMNH [# 1492].

**Distribution.** This species is known only from the Cowee Mountains in southwestern North Carolina (Donabauer 2005a: 56).

**Records. USA:** NC

***Trechus howellae* Barr, 1979**

*Trechus aduncus howellae* Barr, 1979b: 60. Type locality: «east face of Big Butt (4800 feet), Coweeta Hydrologic Laboratory, Macon County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1493]. Etymology. The subspecific name was proposed for Thelma Howell [1901-1979], executive director of the Highlands Biological Station for more than 25 years. The Station established the *Thelma Howell Memorial Scholarship* for investigators.

**Distribution.** This species is known only from Big Butt in the Nantahala Mountains, southwestern North Carolina (Donabauer 2005a: 57).

**Records. USA:** NC

***Trechus inexpectatus* Barr, 1985**

*Trechus inexpectatus* Barr, 1985b: 129. Type locality. «Camp Creek Bald, just below summit (1460 m), Greene Co[unty], Tennessee/Madison Co[unty], North Carolina» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type locality.

**Records. USA:** TN/NC

***Trechus plottbalsamensis* Donabauer, 2005**

*Trechus plottbalsamensis* Donabauer, 2005a: 55. Type locality: «Waterrock Knob, Haywood/Jackson Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality in the Plott Balsam Mountains, southwestern North Carolina.

**Records. USA:** NC

***Trechus satanicus* Barr, 1962**

*Trechus satanicus* Barr, 1962a: 81. Type locality: «west end of Graveyard Fields near Devils Courthouse, Haywood Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65985].

**Distribution.** This species is endemic to the western Pisgah Ridge (Donabauer 2005a: 57) in the Great Balsam Mountains.

**Records. USA:** NC

***Trechus talequah* Barr, 1962**

*Trechus talequah* Barr, 1962a: 82. Type locality: «Haw Knob, Monroe Co[unty], Tennessee» (original citation). Holotype (♂) in USNM [# 65987].

**Distribution.** This species has been found yet only in the Unicoi Mountains, between 4800-5000 feet, in North Carolina and Tennessee (Barr 1979b: 40).

**Records. USA:** NC, TN

***Trechus thunderheadensis* Donabauer, 2005**

*Trechus thunderheadensis* Donabauer, 2005a: 54. Type locality: «Thunderhead Mountain, G[reat]S[moky]M[ountains], Blount/Swain Co[unty], N[orth]C[arolina]/T[en]n[essee]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from Thunderhead Mountain at the junction of Swain County in North Carolina and Blount County in Tennessee.

**Records. USA:** NC/TN

***Trechus toxawayi* Barr, 1979**

*Trechus aduncus toxawayi* Barr, 1979b: 59. Type locality: «0.25 mile west of the summit of Toxaway Mountain (4600 feet), Jackson County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1494].

**Distribution.** This species is known only from the Toxaway Mountain in southwestern North Carolina.

**Records. USA:** NC

***Trechus tusquitensis* Donabauer, 2005**

*Trechus tusquitensis* Donabauer, 2005a: 57. Type locality: «Tusquitee Bald, Macon/Clay Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Vienna, Austria).

**Distribution.** This species is known only from the type locality in southwestern North Carolina.

**Records. USA:** NC

***Trechus uncifer* Barr, 1962**

*Trechus uncifer* Barr, 1962a: 80. Type locality: «Clingmans Dome, Sevier Co[unty], Tennessee - Swain Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65992].

**Distribution.** This species is known from the central Great Smoky Mountains east to Plott Balsam Mountains in Sevier and Cocke Counties, eastern Tennessee, and in Haywood and Jackson Counties, western North Carolina (Barr 1979b: 38).

**Records. USA:** NC, TN

**[vandykei group]*****Trechus barberi* (Jeannel, 1931)**

*Microtrechus barberi* Jeannel, 1931: 444. Type locality: «Retreat [Haywood County], North Carolina» (original citation). Holotype (♂) in USNM [# 43664].

**Distribution.** The range of this common species extends from the vicinity of Asheville, western North Carolina, to the mountains of northeast Georgia (Barr 1979b: 38) and northwestern South Carolina (Ciegler 2000: 44).

**Records. USA:** GA, NC, SC, TN

***Trechus bowlingi* Barr, 1962**

*Trechus bowlingi* Barr, 1962a: 78. Type locality: «M[oun]t Kephart, Sevier Co[unty], Tennessee - Swain Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65980].

**Distribution.** This species is found in the spruce-fir forests, between 3000-6500 feet, in the Great Smoky Mountains of North Carolina and Tennessee (Barr 1979b: 38; Donabauer 2009: 137).

**Records. USA:** NC, TN

***Trechus haoe* Barr, 1979**

*Trechus haoe* Barr, 1979b: 51. Type locality: «Haoe Lead (4800 feet) above Joyce Kilmer Memorial Forest, Graham County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1495].

**Distribution.** This species is known only from the Unicoi Mountains, along the Tennessee-North Carolina border (Donabauer 2009: 138).

**Records. USA:** NC

***Trechus pseudobarberi* Donabauer, 2009**

*Trechus pseudobarberi* Donabauer, 2009: 136. Type locality: «Waterrock Knob, Haywood/Jackson Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Wien, Austria).

**Distribution.** This species is known only from two localities in western North Carolina (Donabauer 2009: 136).

**Records. USA:** NC

***Trechus pseudosubtilis* Donabauer, 2009**

*Trechus pseudosubtilis* Donabauer, 2009: 133. Type locality: «Cataloochee Balsam (summit), G[reat]S[moky]M[ountains], Swain/Haywood Co[unty], T[en]n[essee]/N[orth]C[arolina]» (original citation). Holotype (♂) in Donabauer's collection (Wien, Austria).

**Distribution.** This species is known only from the type locality.

**Records. USA:** NC/TN

***Trechus rivulis* Dajoz, 2005**

*Trechus rivulis* Dajoz, 2005: 208. Type locality: «Buck Creek [Nantahala Forest, Clay County, North Carolina]» (original citation). Holotype in Dajoz's collection (Paris, France).

**Distribution.** This species is known only from the type locality in southwestern North Carolina.

**Records. USA:** NC

***Trechus subtilis* Barr, 1962**

*Trechus subtilis* Barr, 1962a: 80. Type locality: «M[oun]t Sterling, Haywood Co[unty], North Carolina» (original citation). Holotype (♂) in USNM [# 65986].

**Distribution.** This species has been found at several locations in the Great Smoky Mountains and the Plott Balsams in western North Carolina (Barr 1979b: 38; Donabauer 2009: 131).

**Records. USA:** NC

***Trechus tonitru* Barr, 1962**

*Trechus tonitru* Barr, 1962a: 79. Type locality: «Thunderhead, Great Smoky Mountains National Park, Blount Co[unty], Tennessee» (original citation). Holotype (♂) in USNM [# 65990].

**Distribution.** This species is known only from the type locality in the western Great Smoky Mountains on the border between Blount County, Tennessee, and Swain County, North Carolina.

**Records. USA:** TN

***Trechus tusquitee* Barr, 1979**

*Trechus tusquitee* Barr, 1979b: 52. Type locality: «Tusquitee Bald, Clay-Macon Counties, North Carolina» (original citation). Holotype (♂) in AMNH [# 1500].

**Distribution.** This species is known at present from small mountain ranges in southwestern North Carolina (Barr 1979b: 37).

**Records. USA:** NC

***Trechus vandykei pisgahensis* Barr, 1979**

*Trechus vandykei pisgahensis* Barr, 1979b: 50. Type locality: «M[oun]t Pisgah (5000 feet), Haywood-Buncombe Counties, North Carolina» (original citation). Holotype (♂) in AMNH [# 1502].

**Distribution.** This subspecies is found in the Great Balsam and Cowee Mountains in western North Carolina (Barr 1979b: 37).

**Records. USA:** NC

***Trechus vandykei vandykei* (Jeannel, 1927)**

*Microtrechus vandykei* Jeannel, 1927: 587. Type locality: «Black Mountains, Monts Alleghany, Virginia» (original citation). Holotype in MHNP.

**Distribution.** This subspecies is found in the Bald and Unaka Mountains of Tennessee and in the Black and Great Craggy Mountains of North Carolina (Barr 1979b: 37; Donabauer 2009: 138). Populations very similar to those of *T. vandykei* have been reported by Donabauer (2009: 138) in the Great Smoky Mountains.

**Records. USA:** NC, TN



**Tribe BEMBIDIINI Stephens, 1827**

Bembidiidae Stephens, 1827: 5. Type genus: *Bembidium* Gyllenhal, 1810 (unjustified emendation of *Bembidion* Latreille, 1802, not in prevailing usage) (= *Bembidion* Latreille, 1802).

**Diversity.** Worldwide, with about 2,630 species arrayed in six subtribes: Anillina (about 375 species), Bembidiina (about 1,340 species), Horologionina (one species), Lovriciina (four species), Tachyina (about 790 species), and Xystosomina (about 125 species). The Northern Hemisphere contains roughly 55.5% of the world fauna and North America alone 14.8% (about 390 species).

**Subtribe BEMBIDIINA Stephens, 1827**

Bembidiidae Stephens, 1827: 5. Type genus: *Bembidium* Gyllenhal, 1810 (unjustified emendation of *Bembidion* Latreille, 1802) (= *Bembidion* Latreille, 1802).

Peryphidae Kirby, 1837: 52. Type genus: *Peryphus* Dejean, 1821.

**Diversity.** Worldwide, with about 1,350 species. The number of genera admitted varies greatly depending on the authors. In this work, the species are arrayed in nine genera following Maddison (2012: 570): *Amerizus* Chaudoir, *Asaphidion* des Gozis, *Bembidion* Latreille, *Caecidium* Uéno, *Lionepha* Casey, *Ocys* Gistel, *Orzolina* Machado, *Sakagutia* Uéno, and *Sinechostictus* Motschulsky (including *Pseudolimnaeum* Kraatz). The majority of the species are found in the Northern Hemisphere (roughly 75.5% of the world fauna).

**Genus AMERIZUS Chaudoir, 1868**

*Amerizus* Chaudoir, 1868b: 216. Type species: *Trechus spectabilis* Mannerheim, 1852 by monotypy. Etymology. From the Greek *a* (without) and *merizo* (to divide, split), probably alluding to the apparent undivided outer lobe of the maxilla (“*maxillae tenues, elongatae, mala externa ... haud biarticulata*”) of adults [masculine].

**Diversity.** About 50 species in North America (five species) and Asia (about 45 species) placed in two subgenera: *Tiruka* Andrewes for most Asian species and *Amerizus* for the Nearctic species and one Asian species.

**Taxonomic Note.** Toledano (2011) noted that *Amerizus* is closely related to the genus *Caecidium* Uéno (two species in Japan). Lindroth (1980: 203) pointed out that *Bembidion* (*Gnatholymnaeum*) *blackburni* (Sharp) from Hawaii is structurally similar to the species of this genus and indeed listed the species within the subgenus *Amerizus*. However, Liebherr (2008: 36) argued against such association. Both *Caecidium* and *Bembidion blackburni* were not sequenced by Maddison (2012).

**Subgenus Amerizus Chaudoir, 1868**

*Amerizus* Chaudoir, 1868b: 216. Type species: *Trechus spectabilis* Mannerheim, 1852 by monotypy.



**Figure 22.** *Asaphidion curtum curtum* (Heyden). This adventive bembidiine was reported in the North American literature under the name *A. flavipes* (Linnaeus) until a study of the male genitalia showed that the specimens were in fact conspecific with the morphologically similar *A. curtum*. *Asaphidion* species are odd-looking bembidiines and Linnaeus originally associated them with tiger beetles probably because of their large eyes and absence of elytral striae.

**Diversity.** Six species in North America (five species) and the Altai Mountains in Russia (*A. teles* Belousov and Dudko, 2010).

**Identification.** Lindroth (1963b: 403-406) treated four of the five North American species, leaving *A. utahensis*.

***Amerizus oblonguloides* (Lindroth, 1963)**

*Bembidion oblonguloides* Lindroth, 1963b: 404. Type locality: «Prince Rupert, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CNC [# 8383].

**Distribution.** This species is restricted to the Queen Charlotte Islands and adjacent mainland (Kavanaugh 1992: 69).

**Records.** CAN: BC (QCI)

***Amerizus oblongulus* (Mannerheim, 1852)**

*Trechus oblongulus* Mannerheim, 1852: 299. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1963b: 404), in MCZ [# 5560].

*Amerizus crassicornis* Casey, 1918: 165. Type locality: «Inverness [probably Inverness Passage], British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 46899]. Synonymy established by Lindroth (1963b: 404).

*Amerizus keeni* Casey, 1918: 166. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 46901]. Synonymy established by Lindroth (1963b: 404). Etymology. The specific name was proposed for the English clergyman John Henry Keen [1851 (or early 1852)-1950]. Keen was sent as missionary to the Haida Indian on the Queen Charlotte Islands for eight years (1890-1898) and a year later to Metlakatla, an Indian village a few miles northwest of Prince Rupert in British Columbia, for fourteen years. During those years, Keen collected extensively in the province and sent specimens to many museums and individuals, including Casey.

**Distribution.** This species ranges from the Kenai Peninsula in Alaska (Lindroth 1963b: 405) south to “California” (Hayward 1897: 131) and to the Sangre de Cristo Mountains in northeastern New Mexico (Ball 1966b: 30). The record from “Mexico” (Hayward 1897: 131) is probably in error.

**Records.** CAN: BC (QCI) USA: AK, CA, ID, NM, OR, WA

***Amerizus spectabilis* (Mannerheim, 1852)**

*Trechus spectabilis* Mannerheim, 1852: 298. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1963b: 403), in ZMH.

*Amerizus longicornis* Casey, 1918: 166. Type locality: «S[an]ta Cruz M[oun]t[ain]s [Santa Clara County], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 46900]. Synonymy established by Lindroth (1963b: 403).

**Distribution.** The range of this species extends from the Alexander Archipelago (Mannerheim 1852: 298; Lindroth 1963b: 404) south at least to the Santa Cruz Mountains of the Coast Ranges (Casey 1918: 166, as *A. longicornis*) and the Sierra Nevada in California (Kavanaugh 1992: 68).

**Records.** CAN: BC (QCI, VCI) USA: AK, CA, OR, WA

### *Amerizus utahensis* (Van Dyke, 1926)

*Bembidium utahensis* Van Dyke, 1926a: 66. Type locality: «near Salt Lake City [Salt Lake County], Utah» (original citation). Holotype (♂) in CAS [# 1819].

**Distribution.** This species is known only from Utah.

**Records.** USA: UT

**Note.** This species was originally placed in the subgenus *Lymneops* Casey but subsequently transferred to *Amerizus* Chaudoir by Van Dyke (1949b: 56).

### *Amerizus wingatei* (Bland, 1864)

*Bembidium wingatei* Bland, 1864: 319. Type locality: «near Bellefonte [Centre County], Pennsylvania» (original citation). One syntype in ANSP [# 1034]. Etymology. The specific name was proposed for John D. Wingate, a dentist in Bellefonte, Pennsylvania who had an interest in natural history. Wingate presented over 1,500 beetles to the Academy of Natural Sciences in Philadelphia in 1861.

**Distribution.** This eastern species occurs from Newfoundland (Lindroth 1955a: 78, as *B. oblongulum*) to northern Minnesota (Petrice et al. 2002: 9; Gandhi et al. 2005: 925), south to Tennessee (Carter County, CMNH) and North Carolina (Lindroth 1963b: 406; Mitchell and Yancey Counties, CMNH) along the Appalachian Mountains.

**Records.** FRA: PM CAN: LB, NB, NF, NS (CBI), ON, PE, QC USA: IL, IN, KY, MA, ME, MI, MN, NC, NH, NY, OH, PA, TN, VA, VT, WI, WV

**Note.** This species has long been confused with *A. oblongulus* Mannerheim, under that name, following Horn (1875: 131).

### Genus *LIONEPHA* Casey, 1918

*Lionepha* Casey, 1918: 18. Type species: *Bembidium erasum* LeConte, 1859 by original designation. Etymology. From Greek *leios* (smooth) and the generic name *Nepha*, probably alluding to the polish body (“body ... polished in great part”) of the adult [feminine].

**Diversity.** Nine species in western North America.



**Identification.** Erwin and Kavanaugh (1981) revised the species and provided a key for their identification.

[casta group]

***Lionepha casta* (Casey, 1918)**

*Bembidion castum* Casey, 1918: 20. Type locality: «S[an]ta Cruz M[oun]t[ain]s [Santa Clara County], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 116), in USNM [# 36818].

*Bembidion serenum* Casey, 1918: 21. Type locality: «Arcata, Humboldt Co[unty], California» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36819]. Synonymy established by Lindroth (1963b: 261), confirmed by Erwin and Kavanaugh (1981: 52).

*Bembidion brumale* Casey, 1918: 22. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36823]. Synonymy established by Erwin and Kavanaugh (1981: 52).

*Bembidion vacivum* Casey, 1918: 22. Type locality: «Skeena River at Terrace, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36822]. Synonymy established, under the name *B. brumale* Casey, by Lindroth (1963b: 262), confirmed by Erwin and Kavanaugh (1981: 52).

*Bembidion nescium* Casey, 1918: 30. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 116), in USNM [# 36845]. Synonymy established by Lindroth (1963b: 261), confirmed by Erwin and Kavanaugh (1981: 52).

**Distribution.** This species ranges from the southern part of the Alexander Archipelago, Alaska (Lindroth 1963b: 261) and west-central British Columbia south to central California along the coast mountain systems [see Erwin and Kavanaugh 1981: Fig. 23].

**Records.** CAN: BC (QCI, VCI) USA: AK, CA, OR, WA

[erasa group]

***Lionepha chintimini* (Erwin and Kavanaugh, 1981)**

*Bembidion chintimini* Erwin and Kavanaugh, 1981: 63. Type locality: «Mary's Peak, 8 miles W[est] of Philomath (1220 m), Benton County, Oregon» (original citation). Holotype (♀) in CNC [# 16452].

**Distribution.** This species is known from several mountains in the Coast Ranges of Oregon (David R. Maddison pers. comm. 2012).

**Records.** USA: OR

***Lionepha disjuncta* (Lindroth, 1963)**

*Bembidion disjunctum* Lindroth, 1963b: 264. «Sonora Pass [Tuolumne County], Sierra Nevada, Calif[ornia]» (original citation). Holotype (♂) in MCZ [# 32533].



**Distribution.** This species is known from four localities, the northernmost in southern British Columbia and the southernmost in the mid-Sierra Nevada [see Erwin and Kavanaugh 1981: Fig. 24].

**Records.** CAN: BC USA: CA, OR

***Lionepha erasa* (LeConte, 1859)**

*Bembidium erasum* LeConte, 1859a: 83. Type locality: «Oregon» (original citation), restricted to «Fort Klamath, Klamath Co[unty]» by Erwin and Kavanaugh (1981: 59). Lectotype (♀), designated by Erwin and Kavanaugh (1981: 59), in MCZ [# 5490].

*Bembidion lascivum* Casey, 1918: 21. Type locality: «Lake Tahoe [Placer County], California» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 116), in USNM [# 36821]. Synonymy established by Lindroth (1963b: 261).

*Bembidion lubricum* Casey, 1918: 21. Type locality: «Truckee [Nevada County], California» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 116), in USNM [# 36820]. Synonymy established by Lindroth (1963b: 261).

*Bembidion probatum* Casey, 1918: 22. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36817]. Synonymy established by Lindroth (1963b: 261).

**Distribution.** This species ranges from southwestern Alberta and southeastern British Columbia south to the San Jacinto Mountains in southern California, including the Sierra Nevada and Cascade Range, and northern Colorado along the Rocky Mountains [see Erwin and Kavanaugh 1981: Fig. 25].

**Records.** CAN: AB, BC USA: CA, CO, ID, MT, NV, OR, WA, WY

***Lionepha lindrothellus* (Erwin and Kavanaugh, 1981)**

*Bembidion lindrothellus* Erwin and Kavanaugh, 1981: 61. Type locality: «Haines Highway Mile 31.5, Little Boulder Creek, Alaska» (original citation). Holotype (♂) in MCZ [# 32549].

**Distribution.** This species is known from a few localities along the Pacific Coast from southern Alaska near the Yukon Territory border to northern Washington [see Erwin and Kavanaugh 1981: Fig. 26].

**Records.** CAN: BC (VCI) USA: AK, WA

**Note.** This species corresponds to *Bembidion brumale* Casey *sensu* Lindroth (1963b: 262).

***Lionepha lummi* (Erwin and Kavanaugh, 1981)**

*Bembidion lummi* Erwin and Kavanaugh, 1981: 62. Type locality: «Friday Harbour, San Juan Island, San Juan County, Washington» (original citation). Holotype (♀) in CAS [# 13652].

**Distribution.** This species is known from two localities, one on the eastern edge of the Central Plateau in eastern British Columbia, the other on an island on Puget Sound, Washington [see Erwin and Kavanaugh 1981: Fig. 27].

**Records.** CAN: BC USA: WA

[*osculans* group]

***Lionepha osculans* (Casey, 1918)**

*Bembidion osculans* Casey, 1918: 20. Type locality: «probably the coast regions south of San Francisco, California» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36816].

*Bembidion speculum* Casey, 1918: 20. Type locality: «Marin Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36815]. Synonymy established by Lindroth (1963b: 259).

**Distribution.** This species ranges from the lower Columbia River drainage in northwestern Idaho and southern Washington south to the Sierra Nevada and Coast Ranges in central California [see Erwin and Kavanaugh 1981: Fig. 20].

**Records.** USA: CA, ID, OR, WA

***Lionepha pseudoerasa* (Lindroth, 1963)**

*Bembidion pseudoerasum* Lindroth, 1963b: 260. Type locality: «Truckee [Nevada County], Calif[ornia]» (original citation). Holotype (♂) in USNM [# 76638].

**Distribution.** This species is endemic to the Sierra Nevada in California from Nevada County to Sequoia National Park [see Erwin and Kavanaugh 1981: Fig. 21].

**Records.** USA: CA

***Lionepha sequoiae* (Lindroth, 1963)**

*Bembidion sequoiae* Lindroth, 1963b: 260. Type locality: «Sequoia [National] Park, Calif[ornia]» (original citation). Holotype (♂) in MCZ [# 32532].

**Distribution.** This species ranges along the Cascade Range and Sierra Nevada from southern British Columbia to central California [see Erwin and Kavanaugh 1981: Fig. 22].

**Records.** CAN: BC USA: CA, OR, WA

**Genus *ASAPHIDION* des Gozis, 1886**

*Tachypus* Dejean, 1821: 18 [junior homonym of *Tachypus* Weber, 1801]. Type species: *Elaphrus picipes* Duftschmid, 1812 (= *Cicindela caraboides* Schrank, 1781) designated by Duponchel (1842: 542). Etymology. From the Greek *tachys* (swift, quick, fast) and *pous* (foot) [masculine].

*Asaphidion* des Gozis, 1886: 6. Replacement name for *Tachypus* Dejean, 1821. Etymology. From the Greek *asaphes* (indistinct, obscure) and the suffix *-idion* (small, little) [neuter].

*Pseudelaphrus* Acloque, 1896: 81. Type species: *Cicindela flavipes* Linnaeus, 1760 designated by Bousquet (2002b: 42). Synonymy established by Antoine (1955: 126). Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Elaphrus* [*q.v.*] [masculine].

*Asaphidium* Jacobson, 1906: 277. Unjustified emendation of *Asaphidion* des Gozis, 1886.

*Basaphidion* Netolitzky, 1935c: 168. Type species: *Cicindela caraboides* Schrank, 1781 by original designation.

**Diversity.** Northern Hemisphere, with 39 species in the arctic, subarctic, boreal, and temperate areas of the Nearctic (three species, one of them adventive) and Palaearctic (37 species) Regions.

**Identification.** Lindroth (1963b: 203-206) covered all three species found in North America, the adventive *A. curtum* under the name *A. flavipes* (Linnaeus).

### *Asaphidion alaskanum* Wickham, 1919

*Asaphidion alaskanum* Wickham, 1919b: 178. Type locality: «15 miles below New Rampart House, on the Porcupine River, Alaska» (original citation). Holotype (♀) in USNM [# 22562].

**Distribution.** This species is found from Alaska to northwestern Northwest Territories (Lindroth 1963b: 204). Fossil remnants of this species, believed to be 2.0-2.5 million years old, have been found in Greenland and Meighen Island (Bennike and Böcher 1990: 336; Böcher 1995: 23).

**Records.** CAN: NT, YT USA: AK

### *Asaphidion curtum curtum* (Heyden, 1870)

*Tachypus curtus* Heyden, 1870: 65. Type locality: «Valenzia, Albufera [Spain]» (original citation). Syntype(s) [2 originally cited] location unknown (possibly in DEI).

**Distribution.** This European and North African subspecies is adventive in North America where it is known from Maine (Larochelle and Larivière 1990a: 28, 33, as *A. flavipes*) and southeastern New Hampshire (Bell 1989b: 204, as *A. flavipes*) to Long Island, New York (Davidson and Langworthy 1981: 280, as *A. flavipes*). The first inventoried specimens collected on this continent were found in the late 1920s in Long Island (Cooper 1930: 21, as *A. flavipes*), the next ones were found in 1976 also on Long Island (Davidson and Langworthy 1981: 280).

**Records.** USA: CT, MA, ME, NH, NY, RI – **Adventive**

**Note.** Two other subspecies, one from Morocco (*A. curtum moroccanum* Antoine) and the other from the Canary Islands (*A. curtum delatorrei* Uyttenboogaart), are recognized.

***Asaphidion yukonense* Wickham, 1919**

*Asaphidion yukonense* Wickham, 1919b: 180. Type locality: «Yukon Crossing, Yukon Territory» (original citation). Holotype (♀) in USNM [# 22563].

**Distribution.** This species is known from Alaska, Yukon Territory, northeastern British Columbia, and west-central Alberta [see Morgan and Morgan 1979: Fig. 4; Morgan and Morgan 1981: map 4]. Fossil remnants of this species from the Pleistocene and early Holocene have been found in west-central Illinois, northeastern Wisconsin, Vermont, southern Ontario, and northwestern Ontario (see Ashworth and Schwert 1991: 512; Bajc et al. 1997: 691).

**Records.** CAN: AB, BC, YT USA: AK

**Genus *BEMBIDION* LATREILLE, 1802**

*Bembidion* Latreille, 1802: 82. Type species: *Carabus quadriguttatus* Fabricius, 1775 (= *Cicindela quadrimaculata* Linnaeus, 1760) designated by Andrewes (1935: 17). Etymology. From the Greek *bembix* (whirl, top) and the suffix *-idion* (little), probably alluding to the erratic movements of adults of these small species in the field [neuter]. NOTE. Notwithstanding Maddison's (1993: 151) remarks and Toledano's (1999: 197-199) lengthy discussion, the first valid type species designation for *Bembidion* Latreille, 1802 is that of Andrewes (1935: 17) who designated *Cicindela quadrimaculata* Linnaeus, 1760. Even if this species was not an originally included species, the fact that Andrewes (1935: 17) listed it in synonymy with *Carabus quadriguttatus* Fabricius, 1775, a species originally included, he is deemed to have designated the latter species as type species (ICZN 1999: Article 69.2.2).

*Bembidium* Gyllenhal, 1810: 12. Unjustified emendation of *Bembidion* Latreille, 1802. *Bembecidium* Agassiz, 1846: 45. Unjustified emendation of *Bembidium* Gyllenhal, 1810.

*Bembicidium* Gemminger and Harold, 1868a: 405. Unjustified emendation of *Bembidion* Latreille, 1802.

**Diversity.** Worldwide, with about 1,250 species (Lorenz 2005: 215-236, as *Bembidiina* excluding *Phrypeus*, *Amerizus*, *Lionepha*, and *Asaphidion*) arrayed in about 105 subgenera. The Northern Hemisphere includes roughly 75% of the species and the Western Hemisphere approximately 30% of the species. The North American fauna alone is represented by 253 species (about 20% of the world fauna) placed in 37 subgenera. Eight of the North American species are adventive and 20 species are Holarctic.

**Identification.** Hayward (1897) reviewed the North American species but his work is now outdated. Lindroth (1963b) covered 191 (six of them in the key alone) of the 253 species found in North America (about 75% of the fauna).

**Taxonomic Note.** Maddison (2012: 570) presented an entirely new classification of this genus based on molecular data analyses. He found support for monophyly of *Bembidion* exclusive of the subgenus *Phyla*; however, he retained the taxon in the genus pending further study. He recognized three series, the *Odontium*, *Ocydromus*, and *Bembidion* Series



with the following subgenera represented in North America left unplaced: *Blepharoplatus*, *Plataphus* (including *Plataphodes*), *Hydrium* (including *Eurytrachelus*), *Metallina*, *Lindrochthus*, *Eupetedromus*, *Trechonepha*, *Liocosmius*, *Melomalus*, *Trichoplataphus*, *Phyla*, and *Lymnaeum*. The North American taxa in the *Odontium* Series were placed in two complexes, the *Hydriomicrus* (*Hirmoplataphus* and *Hydriomicrus*) and *Odontium* (*Odontium*, *Bracteon*, *Ochthedromus*, and *Pseudoperyphus*) Complexes. The North American taxa in the *Ocydromus* Series were placed in two complexes, the *Princidium* (*Cillenus* and *Actedium*) and *Ocydromus* (*Ocydromus*, *Peryphus*, *Terminophanes*, *Asioperyphus*, *Peryphanes*, *Testediolum*, and *Leuchydrium*) Complexes. The North American taxa in the *Bembidion* Series were placed in three complexes, the *Bembidion* (*Bembidion s.str.* and *Cyclolopha*), *Furcacampa* (*Furcacampa* and *Neobembidion*) and *Diplocampa* (*Diplocampa* and *Semicampa*) Complexes with *Notaphus*, *Trepanedoris*, *Peryphodes*, and *Emphanes* left unplaced.

**Faunistic Note.** Edwards (1975: 53) recorded a “*Bembidion nigricornis* Hayward” from Glacier National Park in Montana. I was unable to find any *Bembidion* of that name or with a similar name described by Hayward or any other North American authors.

### Subgenus *Hirmoplataphus* Lindroth, 1963

*Hirmoplataphus* Lindroth, 1963b: 300. Type species: *Bembidium hirmocaelum* Chaudoir, 1850 by original designation. Etymology. From the Greek *eirmos* (series, string) or the first two syllables of one of the included species, *B. hirmocaelum*, and the generic name *Plataphus* [*q.v.*] [masculine]. NOTE. The name *Hirmoplataphus* was first proposed by Netolitzky (1942: 46). However, because he failed to designate a type species, the name cannot be attributed from this publication (ICZN 1999: Article 13.3).

**Diversity.** Northern Hemisphere, with 11 species in the Nearctic (nine species) and Palaearctic (two species: *B. friebi* Netolitzky and *B. hirmocaelum* Chaudoir) Regions.

**Identification.** There is no taxonomic revision of the North American species and such study is needed. Lindroth (1963b: 301–305) covered all but three (*B. alpineanum*, *B. avidum*, and *B. subaerarium*) species described by Casey.

### *Bembidion alpineanum* Casey, 1924

*Bembidion alpineanum* Casey, 1924: 30. Type locality: «Nevada Co[unty], California» (original citation). Holotype [by monotypy] (♀) location unknown (missing in USNM as of September 2006).

**Distribution.** This species is known only from the holotype collected in eastern California.

**Records. USA:** CA

### *Bembidion avidum* Casey, 1918

*Bembidion avidum* Casey, 1918: 53. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Erwin (1984a: 167), in USNM [# 36886].



**Distribution.** According to Erwin (1984a: 167), this species “is found in the Basin and Range Province of the western United States.”

**Records. USA:** NV

***Bembidion concolor* (Kirby, 1837)**

*Peryphus concolor* Kirby, 1837: 54. Type locality: northern parts of British America (inferred from title of the book), restricted to «Edmonton, Al[ber]ta» by Lindroth (1963b: 304). One syntype in BMNH (Lindroth 1953b: 176).

*Ochthedromus longulus* LeConte, 1847: 456. Type locality: «Aquilae Portum [= Eagle Harbor, Keweenaw County, Michigan] Lacus Superioris» (original citation). Syntype(s) in MCZ [# 5496]. Synonymy established by Lindroth (1953b: 176).

*Ochthedromus subaeneus* LeConte, 1847: 457. Type locality: «Lacum Superiorem» (original citation). Syntype(s) in MCZ [# 5507]. Synonymy established, under the name *B. longulum* (LeConte), by Hayward (1897: 133), confirmed by Lindroth (1963b: 304).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 56, as *B. longulum*) to eastern Alaska (Lindroth 1963b: 304), south to northern Oregon (Gilliam and Morrow Counties, CMNH), central Nevada (Eureka County, Ken Karns pers. comm. 2009), northern Arizona (Coconino County, Ken Karns pers. comm. 2009), central New Mexico (Fall and Cockerell 1907: 157; Casey 1918: 54, as *B. longulum*), eastern South Dakota (Kirk and Balsbaugh 1975: 17), the upper peninsula of Michigan (LeConte 1847: 456, as *B. longulum*), and northeastern New York (Casey 1918: 51). The record from “California” (Lindroth 1955a: 56) needs confirmation (see Lindroth 1963b: 304); those from “New Hampshire” and “Maine” (Bousquet and Laroche 1993: 133) are probably in error (Ross T. Bell pers. comm. 2008).

**Records. CAN:** AB, BC (VCI), MB, NB, NF, NS, NT, ON, QC, SK, YT **USA:** AK, AZ, CO, ID, MI, MT, ND, NM, NV, NY, OR, SD, UT, WA, WI, WY [CA]

***Bembidion humboldtense* Blaisdell, 1902**

*Bembidium humboldtensis* Blaisdell, 1902: 74. Type locality: «Humboldt County, Cal[ifornia]» (original citation). Syntype(s) [12 originally cited] in CAS [# 2658 and 2659] and MCZ [# 2010].

*Bembidion chetcoens* Hatch, 1953: 88. Type locality: «Myrtle Grove, Chetco R[iver] [Coos County], Ore[gon]» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1963b: 305).

**Distribution.** As far as known, this species is confined to the west coast of southern Oregon (Hatch 1953: 88, as *B. chetcoens*) and northern California (Blaisdell 1902: 74; Casey 1918: 55). The record from the central Sierra Nevada (Papp 1978: 164) needs confirmation.

**Records. USA:** CA, OR

***Bembidion nigrum* Say, 1823**

*Bembidium niger* Say, 1823a: 85. Type locality: «Rumney [Grafton County], N[ew] H[ampshire]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 336), in MCZ [# 33070].

*Bembidion nigrum facile* Casey, 1918: 48. Type locality: «Illinois» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36875]. Synonymy established by Lindroth (1963b: 301).

*Bembidion morosum* Casey, 1918: 49. Type locality: «Virginia» (original citation). Lectotype (♂), designated by Lindroth (1975: 118), in USNM [# 36876]. Synonymy established by Lindroth (1963b: 301).

**Distribution.** The range of this eastern species extends from Cape Breton Island (Lindroth 1954c: 302) to eastern South Dakota (Kirk and Balsbaugh 1975: 17), south to east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009), southwestern Mississippi (Drew A. Hildebrandt pers. comm. 2007), and northern Georgia (Fattig 1949: 17). The record from “Kansas” (Bousquet and Laroche 1993: 134) needs confirmation.

**Records.** CAN: NB, NS (CBI), ON, PE, QC USA: AL, AR, CT, DC, DE, GA, IA, IL, IN, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, PA, SD, TN, VA, VT, WI, WV [KS]

***Bembidion quadrulum* LeConte, 1861**

*Bembidium quadrulum* LeConte, 1861b: 340. Type locality: «east of Fort Colville [Washington]» (original citation). Lectotype (♂), designated by Erwin (1984a: 180), in MCZ [# 5498].

*Bembidion tartareum* Casey, 1918: 49. Type locality: «Coeur d’Alene [Kootenai County], Idaho» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36877]. Synonymy established by Hatch (1953: 87), confirmed by Lindroth (1963b: 303).

*Bembidion callidum* Casey, 1918: 50. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 180), in USNM [# 36878]. Synonymy established by Erwin (1984a: 180).

*Bembidion tritum* Casey, 1918: 50. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Erwin (1984a: 180), in USNM [# 36879]. Synonymy established by Erwin (1984a: 180).

*Bembidion aegrotum* Casey, 1918: 51. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Erwin (1984a: 180), in USNM [# 36880]. Synonymy established by Erwin (1984a: 180).

*Bembidion porrectum* Casey, 1918: 55. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36891]. Synonymy established by Lindroth (1963b: 303).

*Bembidion viridinigrum* Casey, 1924: 31. Type locality: «Govan [Lincoln County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 118), in USNM [# 36881]. Synonymy established by Hatch (1953: 87), confirmed by Lindroth (1963b: 303).

**Distribution.** The range of this western species extends from southern Yukon Territory (Lindroth 1963b: 304) south to the Sierra Nevada in California (Casey 1918: 50, as *B. callidum*), northern Arizona (Navajo County, CNC), and northern New Mexico (Casey 1918: 55, as *B. porrectum*) along the Rocky Mountains.

**Records.** CAN: AB, BC (VCI), YT USA: AZ, CA, CO, ID, MT, NM, OR, UT, WA, WY

### *Bembidion recticolle* LeConte, 1863

*Bembidium recticolle* LeConte, 1863c: 19. Type locality: «New Mexico» (original citation). One possible syntype in CMNH (collection Ulke). NOTE. The specimen of *B. recticolle* in MCZ, labeled “6-7,000 ft. Green River City Wyo. July 20-27, 1877” and “type 5499,” is not a syntype.

*Bembidium tetragonoderum* Chaudoir, 1868b: 240. Type locality: «Californie» (original citation). Lectotype (♀), designated by Lindroth (1963b: 304), in MHNP. Synonymy established by Hayward (1897: 61), confirmed by Lindroth (1963b: 304).

*Bembidion oblatum* Casey, 1918: 52. Type locality: «Nevada» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36888]. Synonymy established by Lindroth (1963b: 304).

*Bembidion pertinax* Casey, 1918: 53. Type locality: «Nevada» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36887]. Synonymy established by Lindroth (1963b: 304).

*Bembidion umbraticola* Casey, 1918: 54. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36889]. Synonymy established by Lindroth (1963b: 305).

**Distribution.** This western species is found from south-central Alberta to Vancouver Island, north to the Skeena River drainage in central British Columbia (Lindroth 1963b: 305), south at least to central California in the Coast Ranges (Casey 1918: 53, as *B. tetragonoderum*) and “New Mexico” (Hayward 1897: 61). The record from southeastern Wisconsin (Messer 2010: 36) needs confirmation since the specimen could be mislabeled.

**Records.** CAN: AB, BC (VCI) USA: AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY [WI]

### *Bembidion salebratum* (LeConte, 1847)

*Ochthedromus salebratus* LeConte, 1847: 453. Type locality: «LaPointe [Ashland County, Wisconsin], Lacus Superioris» (original citation). Six syntypes in MCZ [# 5495].

*Ochthedromus purpurascens* LeConte, 1847: 454. Type locality: «Lacum Sabulosam [= probably Sandy Lake, northern Minnesota] prope Mississippi scaturigines» (original citation). One syntype in MCZ [# 5497]. Synonymy established by Lindroth (1963b: 302).

*Bembidion inopinum* Casey, 1918: 51. Type locality: «Maine» (original citation). Lectotype (♂), designated by Lindroth (1975: 118), in USNM [# 36890]. Synonymy established by Lindroth (1963b: 302).

*Bembidion consessor* Casey, 1918: 52. Type locality: «Bluff Point, Lake Champlain, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36885]. Synonymy established by Lindroth (1963b: 302).

*Bembidion mackinacensis* Hatch, 1929: 135. Type locality: «Douglas Lake, Mich[igan]» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1963b: 302).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 56) to the foothills of the Rockies in Alberta and northeastern British Columbia (Lindroth 1963b: 302), south to southeastern Wyoming (Hayward 1897: 60, as *B. concolor*), central Minnesota (Crow Wing and Sherburne Counties, CNC), Vermont (Addison County, CNC), and Maine (Aroostook County, CNC). The record from southern South Dakota (Kirk and Balsbaugh 1975: 17) needs confirmation; those from “Idaho,” “Iowa,” and “Pennsylvania” (Bousquet and Laroche 1993: 134) are probably in error. Fossil remnants from a Plio-Pleistocene sequence have been unearthed in northwestern Greenland (Böcher 1995: 25).

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), NT, ON, QC, SK USA: ME, MI, MN, MT, ND, NH, NY, VT, WI, WY [SD]

**Note.** This species has passed under the name *B. concolor* (Kirby, 1837) until Lindroth (1963b).

### ***Bembidion subaerarium* Casey, 1924**

*Bembidion subaerarium* Casey, 1924: 31. Type locality: «Blue Lakes, Alpine Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 183), in USNM [# 36896].

**Distribution.** This species is known only from the type locality in the Sierra Nevada in California.

**Records.** USA: CA

### **Subgenus *Hydriomicrus* Casey, 1918**

*Hydriomicrus* Casey, 1918: 87. Type species: *Leja semistriata* Haldeman, 1843 designated by Lindroth (1963b: 305). Etymology. From the Greek *hydrias* (from water) and *micros* (small, little), possibly alluding to the small size of the adult and the habitat requirement of the species [masculine].

**Diversity.** Five North American species, two in the east and three in the west.

**Identification.** Lindroth's (1963b: 212-229) key to *Bembidion* included all but one species (*B. innocuum*); the two species found in Canada were treated in detail (Lindroth 1963b: 306).

**Taxonomic Note.** Based on molecular data analyses, Maddison (2012: 568) concluded that this subgenus is closely related to *Hirmoplataphus*.

***Bembidion brevistriatum* Hayward, 1897**

*Bembidium brevistriatum* Hayward, 1897: 58. Type locality: «Dunsmuir, Pomona Mountains, Santa Rosa [in] California» (original citation). Three syntypes in MCZ [# 2009].

**Distribution.** This species is known from southwestern Oregon (Hatch 1953: 88) to southern California “in the higher mountain cañons or valleys between the ranges” (Fall 1901a: 42).

**Records. USA:** CA, OR

***Bembidion californicum* Hayward, 1897**

*Bembidium californicum* Hayward, 1897: 84. Type locality: «Pom[ona] [Los Angeles County], Cal[ifornia]» (lectotype label). Lectotype (♀), designated by Erwin (1984a: 168), in MCZ [# 16290].

**Distribution.** This species is known from southwestern Oregon (Josephine County, James R. LaBonte pers. comm. 1992) to the southern part of California where it is “widely distributed” (Fall 1901a: 42). The record from northwestern Montana (Edwards 1975: 51) needs confirmation.

**Records. USA:** CA, OR [MT]

***Bembidion innocuum* Casey, 1918**

*Bembidium innocuum* Casey, 1918: 63. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 168), in USNM [# 36894]. NOTE. This name has been listed in synonymy with *B. californicum* Hayward by Erwin (1984a: 168) but according to Maddison (2012: 535) it is a senior synonym of *B. marinianum* Casey.

*Bembidium marinianum* Casey, 1924: 29. Type locality: «Marin Co[unty], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 176), in USNM [# 36893]. Synonymy established by Maddison (2012: 535).

**Distribution.** This species is known only from Del Norte (Maddison 2012: Supplementary content Table S1), Marin (Casey 1924: 29, as *B. marinianum*) and Humboldt (Casey 1918: 63) Counties in coastal California.

**Records. USA:** CA



***Bembidion quadratulum* Notman, 1920**

*Bembidium quadratulum* Notman, 1920a: 296. Type locality: «Moss Pond, M[ount] Redfield, Essex Co[unty], N[ew] Y[ork]» (original citation). Holotype [by monotypy] (♀) in SIM (Hennessey 1990: 466).

*Bembidium proximum* Notman, 1920a: 297. Type locality: «Moss Pond, M[ount] Redfield, Essex Co[unty], N[ew] Y[ork]» (original citation). Holotype [by monotypy] (♂) in SIM (Hennessey 1990: 466). Synonymy established by Lindroth (1963b: 306).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 50) to the Laurentides region in Quebec (Larochelle 1975: 60), south to southwestern (Hardin County, CMNH) and eastern Tennessee (Johnson, Morgan, Roane, and Union Counties, CMNH).

**Records.** CAN: NB, NF, NS (CBI), QC USA: CT, ME, NH, NY, TN, VT

***Bembidion semistriatum* (Haldeman, 1843)**

*Leja semistriata* Haldeman, 1843b: 303. Type locality: southeastern Pennsylvania (Haldeman 1843a: 298). Syntype(s) presumably lost.

**Distribution.** The range of this eastern species extends from Nova Scotia (Lindroth 1954c: 302) to west-central Indiana (Blatchley 1910: 79), including southeastern Michigan (Wayne County, CMNH), south to northwestern Arkansas (Newton County, CNC, UASM), northeastern Mississippi (Tishomingo County, Drew A. Hildebrandt pers. comm. 2010), and southern Georgia (Torres and Ruberson 2006: 31).

**Records.** CAN: NB, NS, ON, QC USA: AR, CT, DC, GA, IN, KY, MA, MD, ME, MI, MS, NC, NH, NJ, NY, OH, PA, RI, TN, VA, VT, WV

**Subgenus *Odontium* LeConte, 1847**

*Odontium* LeConte, 1847: 452. Type species: *Bembidium coxendix* Say, 1823 designated by Jeannel (1941b: 542). Etymology. From the Greek *odontos* (tooth), alluding to the mentum tooth (“*mentum dente longissimo, convexo, subobtusum*”) of the adult [neuter].

*Ocys* Gistel, 1848a: xi [junior homonym of *Ocys* Stephens, 1828]. Type species: *Elaphrus striatus* Fabricius, 1792 by monotypy. Synonymy established by Bousquet (2002b: 35). Etymology. From the Greek *ocys* (swift, quick) [masculine].

*Cylindrobracteon* Netolitzky, 1939: 7, 16. Type species: *Bembidion fusiforme* Netolitzky, 1914 by original designation. Synonymy established by Maddison (1993: 160). Etymology. From the Greek *cylindros* (roller, cylinder) and the generic name *Bracteon* [*q.v.*] [neuter].

**Diversity.** Twenty-three species in the Nearctic (ten species), Neotropical (one species also present in southern Arizona), Palaearctic (12 species), and Oriental (one species, *B. subfusum* Darlington, in the Philippines) Regions.

**Identification.** Lindroth (1963b: 241-246, as *bowditchi* and *coxendix* groups) treated all the species found in North America, *B. durangoense* under the name *B. arizonae*. One species, *B. paraenulum*, was subsequently described.

***Bembidion aenulum* Hayward, 1901**

*Bembidium aenulum* Hayward, 1901: 156. Type locality: «Cedar Co[unty], Iowa» (original citation). Holotype [by monotypy] (♀) in MCZ [# 2006].

**Distribution.** This species is known from eastern South Dakota to southwestern Nebraska, east to eastern Iowa [see Maddison and Arnold 2009: Fig. 9]. Two specimens simply labeled “Missouri” and “Wisconsin” (Maddison and Arnold 2009: 60) are known.

**Records. USA:** IA, NE, SD [MO, WI]

***Bembidion bowditchii* LeConte, 1878**

*Bembidium bowditchii* LeConte, 1878a: 451. Type locality: «Green River City (6,000 to 7,000 feet) [Sweetwater County], Wyoming» (original citation). Three syntypes in MCZ [# 5492].

**Distribution.** This species is known from a few localities in southern British Columbia (Lindroth 1963b: 242), northwestern Washington (Maddison 2012: Supplementary content Table S1), “Idaho” (Maddison 1993: 161), western Montana (Russell 1968: 49), and southwestern Wyoming (Hayward 1897: 51).

**Records. CAN:** BC **USA:** ID, MT, WA, WY

***Bembidion carinatum* (LeConte, 1852)**

*Odontium carinatum* LeConte, 1852a: 186. Type locality: «ad flumen Colorado» (original citation). Two syntypes in MCZ [# 97].

**Distribution.** This species is known from a few localities in southeastern California and southern Arizona (Lindroth 1963b: 245; Dajoz 2007: 19).

**Records. USA:** AZ, CA

***Bembidion confusum* Hayward, 1897**

*Bembidium nitidulum* Dejean, 1831: 84 [secondary homonym of *Bembidion nitidulum* (Marshall, 1802)]. Type locality: «Amérique septentrionale» (original citation), restricted to «Grand Bend, Ont[ario]» by Lindroth (1963b: 245). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 13).

*Bembidium confusum* Hayward, 1897: 52. Replacement name for *Bembidium nitidulum* Dejean, 1831.

*Bembidion confusum aeneorubrum* Casey, 1918: 11. Type locality: «Ohio» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 36804]. Synonymy established (as aberration) by Csiki (1928: 38), confirmed by Lindroth (1963b: 245).

*Bembidion confusum marquettense* Casey, 1918: 11. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 36805]. Synonymy established (as aberration) by Csiki (1928: 38), confirmed by Lindroth (1963b: 245).

**Distribution.** This species is found east of the Rocky Mountains from New Brunswick (Queens County, Reginald P. Webster pers. comm. 2008) to southeastern Alberta (Lindroth 1963b: 245), south to southeastern Colorado (Maddison 1985: 111), northwestern (Jones County, CNC) and east-central (Riley 2011) Texas, and central Florida (Peck and Thomas 1998: 18).

**Records.** **CAN:** AB, MB, NB, ON, QC, SK **USA:** AL, AR, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI

### *Bembidion coxendix* Say, 1823

*Bembidium coxendix* Say, 1823b: 151. Type locality: «F[or]t Pierre [Stanley County], [South] Dakota» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 335), in MCZ [# 33071].

*Bembidion snowi* Casey, 1918: 12. Type locality: «Kansas» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36803]. Synonymy established by Lindroth (1963b: 243).

*Bembidion unicum* Casey, 1918: 12. Type locality: «Laredo [Webb County], Texas» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 36798]. Synonymy established by Lindroth (1963b: 243).

*Bembidion venator* Casey, 1918: 12. Type locality: «El Paso [El Paso County], Texas» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 36801]. Synonymy established by Lindroth (1963b: 243).

*Bembidion vigilans* Casey, 1918: 13. Type locality: «probably Indiana» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36802]. Synonymy established by Lindroth (1963b: 243).

*Bembidion weesi* Hatch and Ortenburger, 1930: 11. Type locality: «Little River, Cleveland Co[unty], Okla[homa]» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1963b: 243). Etymology. The specific name was proposed for Asa Orrin Weese [1885-1955], professor of zoology at the University of Oklahoma. Weese was mainly interested in community ecology and succession.



**Distribution.** The range of this species extends from southwestern and north-central Pennsylvania (Westmoreland and Lycoming Counties, Robert L. Davidson pers. comm. 2008) to Alberta (Lindroth 1963b: 244), south to central New Mexico (Fall and Cockerell 1907: 157; Socorro County, UASM), southern Texas (Snow 1906a: 141; Casey 1918: 12, as *B. unicum*; Cameron and Victoria Counties, MCZ, UASM), northeastern Louisiana (Franklin Parish, Igor M. Sokolov pers. comm. 2009), northwestern Mississippi (Bolivar County, Foster F. Purrington pers. comm. 2012), and southwestern Georgia (Fattig 1949: 16). The records from “New Hampshire,” “Vermont,” “Idaho,” and “Northwest Territories” (Bousquet and Larochelle 1993: 126) are in error; that from Connecticut (Krinsky and Oliver 2001: 70) was based on misidentified specimens of *Bembidion confusum* (William L. Krinsky pers. comm. 2009).

**Records.** CAN: AB, MB, SK USA: AR, CO, DC, GA, IA, IL, IN, KS, LA, MI, MN, MO, MS, MT, NC, ND, NE, NM, OH, OK, PA, SC, SD, TN, TX, WI, WY

### *Bembidion durangoense* Bates, 1891

*Bembidium durangoense* Bates, 1891a: 263. Type locality: «Villa Lerdo in Durango» (original citation). Lectotype (♀), designated by Erwin (1984a: 171), in BMNH. *Bembidion arizonae* Lindroth, 1963b: 246. Type locality: «San Carlos, Gila R[iver] Valley, Ariz[ona]» (original citation). Holotype (♂) in MCZ [# 34747]. **New synonymy** (David R. Maddison pers. comm. 2007).

**Distribution.** This species is known from southern Arizona (Lindroth 1963b: 246; Dajoz 2007: 21) and northern Mexico (Bates 1891a: 263).

**Records.** USA: AZ – Mexico

### *Bembidion gilae* Lindroth, 1963

*Bembidion gilae* Lindroth, 1963b: 246. Type locality: «San Carlos, Gila R[iver] Valley, Ariz[ona]» (original citation). Holotype (♂) in MCZ [# 32536].

**Distribution.** This species is known from the Gila River drainage in southern Arizona.

**Records.** USA: AZ

**Note.** This taxon has been listed in synonymy with *B. durangoense* Bates by Erwin (1984a: 171) but according to David R. Maddison (pers. comm. 2007) it represents a distinct species.

### *Bembidion paraenulum* Maddison, 2009

*Bembidion paraenulum* Maddison [in Maddison and Arnold], 2009: 56. Type locality: «Big Otter River at route 24, Bedford Co[unty], Virginia» (original citation). Holotype (♂) in USNM.

**Distribution.** This species ranges from southern New Hampshire south to northern Florida [see Maddison and Arnold 2009: Fig. 9], west to eastern Texas (Hardin Coun-

ty, Robert L. Davidson pers. comm. 2012), including eastern Louisiana (East Feliciana Parish, Igor M. Sokolov pers. comm. 2009).

**Records. USA:** AL, FL, GA, LA, MS, NC, NH, TX, VA

### ***Bembidion robusticolle* Hayward, 1897**

*Bembidium robusticolle* Hayward, 1897: 50. Type locality: «Iowa; Michigan; Kansas» (original citation). Two syntypes in MCZ [# 2007].

**Distribution.** This species is known from a few scattered localities from Connecticut (Lindroth 1963b: 243; Krinsky and Oliver 2001: 82) and northern Vermont (Lamoille County, Ross T. Bell pers. comm. 2008) to western North Dakota (McKenzie County, Donald P. Schwert pers. comm. 1989), south at least to “Kansas” (Hayward 1897: 50) and “Kentucky” (Lindroth 1963b: 243).

**Records. USA:** CT, IA, IL, KS, KY, MI, MO, ND, VT, WI

### ***Bembidion sculpturatum* (Motschulsky, 1859)**

*Odontium sculpturatum* Motschulsky, 1859a: 132. Type locality: «Col[onie] Ross [farming community about 75 miles north of San Francisco along the coast, California]» (original citation). One syntype in MCZ (Lindroth 1963b: 245).

**Distribution.** This species is known from eastern Washington (Hatch 1953: 80) to central California (Lindroth 1963b: 245).

**Records. USA:** CA, OR, WA

### **Subgenus *Bracteon* Bedel, 1879**

*Bracteon* Bedel, 1879: 27. Type species: *Elaphrus litoralis* Olivier, 1790 designated by Bedel (1881: xxiii). Etymology. From the Latin *bractea* (bract, i.e., a specialized leaf very different from the other ones), possibly alluding to the distinctness of adults of this taxon compared to other members of the genus *Bembidion* [neuter].

*Chrysobracteon* Netolitzky, 1914: 166. Type species: *Carabus velox* Linnaeus, 1760 designated by Netolitzky (1939: 7). Synonymy established by Maddison (1993: 161). Etymology. From the Greek *chrysos* (gold) and the generic name *Bracteon* [q.v.] [neuter].

*Parabracteon* Notman, 1929a: 157. Type species: *Bembidion tuberculatum* Notman, 1929 (= *Bembidium carinula* Chaudoir, 1868) by monotypy. Synonymy established with the name *Chrysobracteon* Netolitzky by Lindroth (1963b: 230). Etymology. From the Greek *para* (near, next to) and the generic name *Bracteon* [q.v.] [neuter].

*Litoreobracteon* Netolitzky, 1939: 7, 17. Type species: *Elaphrus litoralis* Olivier, 1790 by original designation. Synonymy established with the name *Chrysobracteon* Netolitzky by Lindroth (1962: 1). Etymology. From the Latin *litoreus* (of the sea-shore, littoral) and the generic name *Bracteon* [q.v.] [neuter].



*Argyrobracteon* Netolitzky, 1939: 7, 19. Type species: *Bembidion argenteolum* Ahrens, 1812 by original designation. Synonymy established with the name *Chrysobracteon* Netolitzky by Lindroth (1962: 1). Etymology. From the Greek *argyros* (silver) and the generic name *Bracteon* [*q.v.*] [neuter].

*Conicibracteon* Netolitzky, 1939: 7, 19. Type species: *Bembidium stenoderum* Bates, 1873 by original designation. Synonymy established with the name *Chrysobracteon* Netolitzky by Lindroth (1962: 1). Etymology. From the Greek *conicos* (conelike) and the generic name *Bracteon* [*q.v.*] [neuter].

*Stylobracteon* Netolitzky, 1939: 8, 20. Type species: *Bembidion baikaloussuricum* Netolitzky, 1939 (= *Bembidium conicolle* Motschulsky, 1845) by original designation. Synonymy established with the name *Chrysobracteon* Netolitzky by Lindroth (1962: 1). Etymology. From the Greek *stylos* (pillar, column) and the generic name *Bracteon* [*q.v.*] [neuter].

*Foveobracteon* Netolitzky, 1939: 21. Type species: *Bembidium foveum* Motschulsky, 1844 by original designation. Synonymy established with the name *Chrysobracteon* Netolitzky by Lindroth (1962: 1). Etymology. From the Latin *fovea* (pit, foveole) and the generic name *Bracteon* [*q.v.*] [neuter].

**Diversity.** Northern Hemisphere, with 17 species in the Nearctic (11 species) and Palearctic (nine species) Regions. Three species are Holarctic.

**Identification.** Maddison (1993) revised the species of this subgenus and provided a key for their identification.

### ***Bembidion alaskense* Lindroth, 1962**

*Bembidion alaskense* Lindroth, 1962: 9. Type locality: «Grants Cabin, Toms L[ake] [= Lake Brooks], Alaska» (original citation). Holotype (♂) in CAS [# 9307].

*Bembidion colvillense* Lindroth, 1965: 126. Type locality: «Umiat, Alaska» (original citation). Holotype (♂) in MCZ [# 32753]. Synonymy established by Maddison (1993: 177).

**Distribution.** This Holarctic species is known from the region of Lake Baikal in Siberia and Alaska, from the Brooks Range south to the Alaska Peninsula [see Maddison 1993: Fig. 264]. Fossil remnants from a Plio-Pleistocene sequence have been found in northwestern Greenland (Böcher 1995: 24).

**Records. USA:** AK – Holarctic

### ***Bembidion balli* Lindroth, 1962**

*Bembidion balli* Lindroth, 1962: 15. Type locality: «[Fort] McMurray, Alberta» (original citation). Holotype (♂) in CNC [# 8375].

**Distribution.** This species is known only from west-central Saskatchewan and eastern Alberta [see Maddison 1993: Fig. 261]. The record from Churchill, Manitoba (Elias 1984: 142) is based on misidentified *B. carinula* (Maddison 1993: 174). Fossil rem-

nants, dated about 13,200 years B.P., have been unearthed in southern Ontario (Karrow et al. 2007: 290).

**Records.** CAN: AB, SK

### ***Bembidion carinula* Chaudoir, 1868**

*Bembidium carinula* Chaudoir, 1868b: 239. Type locality: «Terre de Rupert [former name for the entire drainage basin of Hudson's Bay, thus including most of northern Quebec, Ontario, Manitoba, etc. (Lamb 1971)]»; herein restricted to Fort Rupert (formerly Rupert House), Quebec (CNC). Lectotype (♂), designated by Lindroth (1963b: 237), in MHNP.

*Bembidion tuberculatum* Notman, 1929a: 157. Type locality: «Marquette [Marquette County], Mich[igan]» (original citation). Holotype (♀) in SIM (Hennessey 1990: 466). Synonymy established by Lindroth (1962: 12).

**Distribution.** A common species ranging from Newfoundland to southwestern British Columbia, north to central Yukon Territory and the Ungava Bay in Quebec, south to northern Iowa and southwestern Pennsylvania [see Maddison 1993: Fig. 265]. The records from “Georgia,” “Arkansas,” “Oregon” and Vancouver Island (Hayward 1897: 46) are probably in error; that from “Kentucky” (Maddison 1993: Fig. 265) needs confirmation. Lindroth's (1963b: 237) record from Washington is based on a misidentified *B. lapponicum* (Maddison 1993: 182). Three specimens labeled “Or.,” “Tex.,” and from Pena Blanca in Arizona seen by Maddison (1993: 182) are probably mislabeled.

**Records.** CAN: AB, BC, LB, MB, NB, NF, NT, NU, ON, QC, SK, YT USA: CT, IA, IL, IN, MA, ME, MI, MN, NH, NJ, NY, OH, PA, VT, WI [KY]

### ***Bembidion foveum* Motschulsky, 1844**

*Bembidium foveum* Motschulsky, 1844: 271. Type locality: «bords du Lac Baïcal [Irkutsk Oblast, Russia]» (original citation). Lectotype (♂), designated by Lafer (1975: 59), in ZMMU.

*Bembidion bryanti* Carr, 1932: 191 [primary homonym of *Bembidion bryanti* Andrewes, 1921]. Type locality: «above Sans Sault rapids, 70 miles below Fort Norman [Northwest Territories]» (original citation). Holotype (♂) in CNC [# 3435]. Synonymy established by Lindroth (1962: 16).

*Bembidion beringi* Netolitzky, 1939: 21. Type locality: «Petropawlowsk, Kamtschatka [Russia]» (original citation). Holotype (♂) in NRSS. Synonymy established by Lindroth (1962: 16).

*Bembidion grahami* Hatch, 1951: 114. Type locality: «Finlay Forks, B[ritish] C[olumbia]» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1962: 16). Etymology. The specific name was proposed in honor of Roy Graham [1908-1939], paleobotanist and assistant geologist in British Columbia.

**Distribution.** This Holarctic species ranges in the Palaearctic Region from northeastern Europe to Kamchatka, and in the Nearctic Region, from Alaska east to Churchill, Manitoba, and south to central Saskatchewan [see Maddison 1993: Fig. 262a].

**Records.** CAN: BC, MB, NT, SK, YT USA: AK – **Holarctic**

**Note.** *Bembidion glabriusculum* Motschulsky, 1844, listed as a questionable synonym of this species by Lindroth (1962: 16), is a junior synonym of *B. argenteolum* Ahrens (Maddison 1993: 176).

### ***Bembidion hesperium* Fall, 1910**

*Bembidium hesperium* Fall, 1910: 95 (as *hesperum*). Type locality: «Vancouver Island [British Columbia]» (original citation), herein restricted to Duncan (CNC). Holotype (♂) in MCZ [# 23862]. NOTE. The name *Bembidion hesperium* has been credited to Casey (1918: 9) by some authors on the basis that Casey proposed a replacement name for *Bembidium hesperum* Fall, 1910, supposedly a junior primary homonym of *Bembidion hesperus* Crotch, 1867. In fact, Casey (1918) emended Fall's name to *B. hesperium* since the name *B. hesperum* is an incorrect latinization for *B. hesperium* (adjective) or *B. hesperus* (noun in apposition). Casey's emendation is currently in prevailing usage and so deemed to be a justified emendation (ICZN 1999: Article 33.2.3.1).

*Bembidium binarium* Casey, 1918: 9. Type locality: «California» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36796]. Synonymy established by Lindroth (1962: 8).

**Distribution.** This western species ranges from southeastern British Columbia to Vancouver Island, south to east-central California [see Maddison 1993: Fig. 269].

**Records.** CAN: BC (VCI) USA: CA, OR, WA

### ***Bembidion inaequale* Say, 1823**

*Bembidium inaequalis* Say, 1823b: 151. Type locality: «M[oun]t Pleasant [Henry County], I[ow]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 335), in MCZ [# 33073]. NOTE. «near Engineer Cantonment [winter quarter along the west bank of the Missouri River north of modern Omaha, Nebraska]» was the area originally cited by Say (1823b: 152).

*Bembidium arenarium* Dejean, 1831: 80. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 13). Synonymy established by LeConte (1847: 452), confirmed by Lindroth (1955b: 13).

*Bembidium lacustre* LeConte, 1847: 451. Type locality: «Lacum Superiorem» (original citation). Lectotype [as holotype] (♀), designated by Maddison (1993: 191), in MCZ [# 5491]. Synonymy established by Hatch (1953: 81), confirmed by Lindroth (1954b: 124).

*Bembidion opaciceps* Casey, 1918: 8. Type locality: «California» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 36794]. Synonymy established by Lindroth (1962: 7).

**Distribution.** This species ranges from Cape Breton Island to western Alaska, south to northwestern California, south-central Colorado, northern Kansas, southeastern Louisiana (East Baton Rouge Parish, Igor M. Sokolov pers. comm. 2009), northern Alabama, and northern Georgia [see Maddison 1993: Fig. 273]. The records from “Florida,” “Arkansas,” and “Texas” (Hayward 1897: 44) are probably in error.

**Records.** CAN: AB, BC (QCI, VCI), MB, NB, NS (CBI), ON, PE, QC, SK, YT  
USA: AK, AL, CA, CO, CT, DC, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NV, NY, OH, OR, PA, SD, TN, UT, VA, VT, WA, WI, WV, WY

### *Bembidion lapponicum* Zetterstedt, 1828

*Bembidium impressum* var. *lapponicum* Zetterstedt, 1828: 6. Type locality: «flumen Tornense [= Torne-älve] prope Wittangi [Sweden]» (original citation). Lectotype (♂), designated by Lindroth (1963b: 239), in ZMLS.

*Bembidium latiusculum* Motschulsky, 1844: 272. Type locality: «Daurie et Kamtchatka» (original citation), restricted to «Dauria [= Transbaikalia, Siberia, Russia]» by Lindroth (1962: 13). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976). Synonymy established by Lindroth (1962: 13).

*Bembidium lapponicum* C.G. Thomson, 1857: 18 [primary homonym of *Bembidium impressum* var. *lapponicum* Zetterstedt, 1828]. Type locality: «Torneå-elf nära Vittangi [Sweden]» (original citation). Syntype(s) in ZMLS (Charpentier 1972: 290).

**New synonymy.** NOTE. Thomson (1857: 18) proposed this name for a new species referring to var.b of *Bembidium impressum* cited by Zetterstedt (1837: 23), a transcription of Zetterstedt (1828: 6). Apparently he did not consider the italicized word “*lapponicum*” that followed “Var. b.” as a scientific name for the variety.

*Bembidium jenisseense* J.R. Sahlberg, 1880: 14. Type locality: «[Verkhne-]Imbatsk [Lower Yenisei, Russia]» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1962: 13), in ZMUT. Synonymy established by Lindroth (1939b: 71).

*Bembidium pugetanum* Fall, 1916: 13. Type locality: «Seattle [King County], Washington» (original citation). Holotype (♂) in MCZ [# 23865]. Synonymy established by Lindroth (1962: 13).

**Distribution.** This Holarctic species ranges in the Palaearctic Region from northernmost Scandinavia to Kamchatka, south to Mongolian Peoples’ Republic. In North America, it occurs commonly in the northwest from Alaska to the Anderson River; it is also found at scattered localities in Washington, northern Oregon, Idaho, and Wyoming, and in western Canada east to central Saskatchewan [see Maddison 1993: Fig. 267a].

**Records.** CAN: AB, BC, NT, SK, YT USA: AK, ID, OR, WA, WY – **Holarctic**

***Bembidion levettei carrianum* Casey, 1924**

*Bembidion carrianum* Casey, 1924: 23. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 36800].

**Distribution.** This transamerican subspecies ranges from western Newfoundland (Lindroth 1955a: 47) and Labrador to western Alaska, south to west-central British Columbia, southeastern New Mexico, southern Wisconsin, southwestern Michigan, central New York, and southeastern New Brunswick [see Maddison 1993: Fig. 272].

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, NU, ON, QC, SK, YT  
USA: AK, CO, ME, MI, MN, ND, NH, NM, NY, VT, WI

***Bembidion levettei levettei* Casey, 1918**

*Bembidion levettei* Casey, 1918: 9. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 36793]. Etymology. The specific name was proposed for Dr. Gilbert M. Levette who worked as assistant for the Indiana Geological Survey in Indianapolis. Levette collected natural history specimens, particularly shells, beetles, reptiles and amphibians. His collection of Coleoptera was purchased by Thomas Casey in 1890.

**Distribution.** The range of this subspecies extends from central Washington to southwestern Alberta, south to northern New Mexico [see Maddison 1993: Fig. 272]. One specimen labeled «Cal.» is known (Maddison 1993: 191). Fossil remnants from a Plio-Pleistocene sequence have been unearthed in northwestern Greenland and Banks Island (Böcher 1995: 23).

**Records.** CAN: AB, BC USA: CO, ID, MT, NM, WA, WY

**Note.** This species has long been known in the North American literature under the name *B. lit[t]orale* (Olivier).

***Bembidion lorquinii* Chaudoir, 1868**

*Bembidium lorquinii* Chaudoir, 1868b: 239. Type locality: «Californie» (original citation), herein restricted to Klamath River at Orleans, Humboldt County (CNC). Lectotype (♂), designated by Lindroth (1963b: 235), in MHNP. Etymology. This name was proposed for Pierre Lorquin [1797-1873], a French naturalist traveller who visited several places in the world to collect insects. He was one of the earliest to collect intensively in California where he arrived during the gold excitement in 1850. He stayed in the state until 1859 when he left for China.

*Bembidion tacomae* Casey, 1924: 22. Type locality: «Wawawai [Whitman County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36797]. Synonymy established by Lindroth (1962: 9).

**Distribution.** This western species is found from southwestern British Columbia, including Vancouver Island, to western Idaho, south to southwestern California [see Maddison 1993: Fig. 270]. The records from Wyoming (LeConte 1878a: 465), Colo-



rado (Wickham 1902: 232; Lindroth 1963b: 236), and “Montana” (Hayward 1897: 46) are probably in error.

**Records.** CAN: BC (VCI) USA: CA, ID, NV, OR, WA

### ***Bembidion punctatostriatum* Say, 1823**

*Bembidium punctato-striatum* Say, 1823a: 83. Type locality: «Rumney [Grafton County], N[ew] H[ampshire]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 335), in MCZ [# 33072].

*Bembidium sigillare* Say, 1830c: 24 [*nomen dubium*]. Type locality: «Missouri [Territory]» (original citation). Syntype(s) lost. Synonymy established with doubt by LeConte (1857a: 4).

*Bembidium stigmaticum* Dejean, 1831: 83. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] in MHNP (Lindroth 1955b: 13). Synonymy established, under the name *B. sigillare* Say, by LeConte (1847: 451), confirmed by Lindroth (1955b: 13).

**Distribution.** This species shows a disjunct distribution. In the east, it ranges from Nova Scotia (Majka et al. 2007: 8), Maine, and southern Quebec south to the District of Columbia and Kentucky; in the west it occurs from western North Dakota and Saskatchewan to southwestern British Columbia, north to northern Northwest Territories and southwestern Alaska (Elias 1988: 41) [see Maddison 1993: Fig. 268]. I have also seen one specimen from northwestern Colorado (Eagle County, CMNH). The records from “Missouri,” “Arkansas” (Hayward 1897: 47), southwestern Iowa (Wickham 1911b: 6), “Washington” and “Oregon” (Hatch 1953: 81) need confirmation; that from “California” (Hayward 1897: 47) is probably in error.

**Records.** CAN: AB, BC, NB, NS, NT, ON, QC, SK, YT USA: AK, CO, CT, DC, IN, KY, MA, ME, MI, MT, ND, NH, NJ, NY, OH, PA, VT, WV [AR, IA, MO, OR, WA]

### ***Bembidion zephyrum* Fall, 1910**

*Bembidium zephyrum* Fall, 1910: 96. Type locality: «Humboldt County, California» (original citation). Holotype (♂) in MCZ [# 23870].

*Bembidium zephyrum tristiculum* Casey, 1924: 22. Type locality: «southern Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36795]. Synonymy established by Hatch (1953: 81), confirmed by Lindroth (1962: 6).

*Bembidium marginosum* Casey, 1924: 23. Type locality: «Del Norte Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36799]. Synonymy established by Lindroth (1962: 6).

*Bembidium zephyrium* Bousquet and Laroche, 1993: 125. Unjustified emendation of *Bembidium zephyrum* Fall, 1910.

**Distribution.** This species ranges from the Queen Charlotte Islands (Kavanaugh 1992: 62) south to San Francisco, California; it is mainly found on the Pacific Coast though a few inland localities are also known [see Maddison 1993: Fig. 271]. The record from Mono County in eastern California (Dajoz 2007: 17) needs confirmation.

**Records.** CAN: BC (QCI, VCI) USA: CA, OR, WA

### Subgenus *Ochthedromus* LeConte, 1847

*Ochthedromus* LeConte, 1847: 453. Type species: *Bembidium americanum* Dejean, 1831 designated by Lindroth (1963b: 249). Etymology. From the Greek *ochthos* (bank) and *dromos* (running), alluding to the habitat where the species of this taxon are found [masculine].

**Diversity.** Three North American species.

**Identification.** Lindroth (1963b: 249-250) recognized two species, *B. americanum* and *B. bifossulatum*, in this subgenus and treated both in his monograph. Maddison (1993: 160) showed that one of the species, *B. bifossulatum*, consisted of two distinct forms which he treated as subspecies. Subsequently (Maddison 2012: 541) he listed them as distinct species.

### *Bembidion americanum* Dejean, 1831

*Bembidium americanum* Dejean, 1831: 87. Type locality: «Amérique septentrionale» (original citation), restricted to «W[est] Roxbury [Suffolk County], Mass[achusetts]» by Lindroth (1963b: 249). One syntype in MHNP (Lindroth 1955b: 13).

*Bembidion illini* Casey, 1918: 15. Type locality: «Keokuk [Lee County], Iowa» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 36811]. Synonymy established by Lindroth (1963b: 249).

**Distribution.** This species ranges from southern New Brunswick (Webster and Bousquet 2008: 16) to southwestern Wisconsin (Richland County, Peter W. Messer pers. comm. 2008), south to eastern Texas (Sabine County, Brian Raber pers. comm. 2010; Riley 2011) and central Florida (Peck and Thomas 1998: 18). The record from “Minnesota” (Bousquet and Laroche 1993: 126) needs confirmation.

**Records.** CAN: NB, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WI, WV [MN]

### *Bembidion bifossulatum* (LeConte, 1852)

*Ochthedromus bifossulatus* LeConte, 1852a: 186. Type locality: «San Diego [San Diego County, California]» (original citation). Two syntypes in MCZ [# 98].

*Bembidion regestum* Casey, 1918: 16. Type locality: «probably Kansas» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36809].

Synonymy established by Lindroth (1963b: 250), confirmed by Maddison (1993: 160).

*Bembidion ferreum* Casey, 1924: 24. Type locality: «Iron Co[unty], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 36806]. Synonymy established by Lindroth (1963b: 250), confirmed by Maddison (1993: 160).

**Distribution.** This species ranges from southern British Columbia, including Vancouver Island (Lindroth 1963b: 250), south to southern California (LeConte 1852a: 186) and southwestern Utah (Casey 1918: 14, as *B. ferreum*). The previous records from other states and provinces refer to *B. cheyennense*.

**Records.** CAN: BC (VCI) USA: CA, ID, NV, OR, UT, WA

**Note.** If the lectotypes currently associated with the labels for *Bembidion regestum* and *B. sufflatum* are the original ones, then both type localities are in error. However, both lectotypes have been dissected and remounted in the last decade and possibly the specimens were not properly reassociated with the labels.

### *Bembidion cheyennense* Casey, 1918

*Bembidion cheyennense* Casey, 1918: 15. Type locality: «Cheyenne [Laramie County], Wyoming» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36808].

*Bembidion sufflatum* Casey, 1918: 15. Type locality: «California» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36807]. Synonymy established by Maddison (1993: 160). NOTE. See “Note” section under the previous species.

*Bembidion nuperum* Casey, 1918: 16. Type locality: «undoubtedly Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 36810]. Synonymy established by Maddison (1993: 160).

**Distribution.** The range of this species extends from Nova Scotia (Majka et al. 2007: 7) to the Rocky Mountains in Alberta (Lindroth 1963b: 250, as *B. bifossulatum*), south to southern Arizona (Pima and Graham Counties, CMNH), Durango in Mexico (CNC), southeastern Missouri (Wayne County, CNC), northern Ohio (Lee 1994: 58, as *B. bifossulatum*), and northwestern Pennsylvania (Erie County, CMNH). The record from “Arkansas” (Bousquet and Larochelle 1993: 127, as *B. bifossulatum*) needs confirmation.

**Records.** CAN: AB, MB, NS, ON, QC, SK USA: AZ, CO, IA, KS, MI, MN, MO, MT, ND, NE, NH, NM, OH, OK, PA, SD, TX, VT, WI, WY [AR] – Mexico

### Subgenus *Pseudoperyphus* Hatch, 1950

*Pseudoperyphus* Hatch, 1950: 100. Type species: *Bembidium chalceum* Dejean, 1831 by original designation. Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Peryphus* [*q.v.*] [masculine].

*Bracteomimus* Lindroth, 1955a: 49. Type species: *Bembidium chalceum* Dejean, 1831 by original designation. Etymology. From the generic name *Bracteon* [*q.v.*] and the Latin *mimus* or the Greek *mimos* (actor) [masculine].

**Diversity.** Nine North American species, one of them extending into northern Mexico.

**Identification.** Maddison (2008) revised the species and provided a key for their identification. Some of the species are very difficult to recognize on external characters and the male genitalia must be examined.

[**chalceum group**]

***Bembidion antiquum* Dejean, 1831**

*Bembidium antiquum* Dejean, 1831: 88. Type locality: «Amérique septentrionale» (original citation), herein restricted to McCance, Westmoreland County, Pennsylvania (see Maddison 2008: 188). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 13).

*Ochthedromus dilatatus* LeConte, 1847: 455. Type locality: «Columbiam [= Columbia, Lancaster County], P[ennsylvani]a» (original citation). One syntype in MCZ [#5493]. Synonymy established by Maddison (2008: 175).

**Distribution.** This species ranges from Nova Scotia to northwestern Wisconsin, south to northern Arkansas, central Mississippi (Madison County, Drew A. Hildebrandt pers. comm. 2008), northern Alabama, and central North Carolina [see Maddison 2008: Fig. 21].

**Records.** CAN: NB, NS, ON, QC USA: AL, AR, DC, IA, IL, IN, KY, MA, MD, ME, MO, MS, NC, NH, NJ, NY, OH, PA, TN, VA, VT, WI, WV

***Bembidion bellorum* Maddison, 2008**

*Bembidion bellorum* Maddison, 2008: 170. Type locality: «Tygart Valley River near Valley Head (690 m), Randolph Co[unty], W[est]V[irginia]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species ranges from New England and northeastern New York south to northeastern Kentucky [see Maddison 2008: Fig. 20A].

**Records.** USA: KY, ME, NH, NY, OH, PA, VT, WV

***Bembidion chalceum* Dejean, 1831**

*Bembidium chalceum* Dejean, 1831: 89. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1963b: 247). Lectotype (♂), designated by Maddison (2008: 166), in MHNP.

**Distribution.** The range of this species extends from Newfoundland to southwestern Northwest Territories, south to northeastern California, northern Colorado, north-

central Arkansas, and South Carolina [see Maddison 2008: Fig. 18]. The record from “Mississippi” (Bousquet and Larochelle 1993: 126) probably refers to another species of the subgenus.

**Records.** **CAN:** AB, BC, MB, NB, NF, NS (CBI), NT, ON, QC, SK **USA:** AR, CA, CO, CT, DC, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, NC, NE, NH, NJ, NY, OH, OK, OR, PA, RI, SC, SD, VA, VT, WA, WI, WV, WY

### ***Bembidion lousella* Maddison, 2008**

*Bembidion lousella* Maddison, 2008: 177. Type locality: «North Aspy River near the town of Cape North, Cape Breton Island, Nova Scotia» (original citation). Holotype (♂) in CNC [# 23575].

**Distribution.** This species ranges from Newfoundland to southeastern Quebec, south to central New Hampshire [see Maddison 2008: Fig. 22]

**Records.** **CAN:** NB, NF, NS (CBI), QC **USA:** ME, NH, VT

### ***Bembidion rothfelsi* Maddison, 2008**

*Bembidion rothfelsi* Maddison, 2008: 167. Type locality: «Ottawquechee River, Bridgewater (250 m), Windsor Co[unty], Vermont» (original citation). Holotype (♂) in USNM. Etymology. The specific name was proposed in honor of Klaus Rothfels [1919-1987], one of Canada’s outstanding cytogeneticists. Working at the University of Toronto, Rothfels specialized on the evolutionary analysis of speciation in black flies.

**Distribution.** This species ranges from Cape Breton Island to east-central Missouri, south to southwestern Mississippi and southern North Carolina along the Appalachian Mountains [see Maddison 2008: Fig. 19].

**Records.** **CAN:** NB, NS (CBI), ON, QC **USA:** CT, DE, IL, MD, ME, MO, MS, NC, NH, NY, OH, PA, TN, VA, VT, WV

### **[honestum group]**

### ***Bembidion arenobile* Maddison, 2008**

*Bembidion arenobilis* Maddison, 2008: 181. Type locality: «Dan River in Danville, at Robertson Bridge, Virginia» (original citation). Holotype (♂) in USNM.

**Distribution.** This species ranges from the Roanoke River drainage in Virginia south to southeastern Mississippi in the Piedmont, east to eastern North Carolina [see Maddison 2008: Fig. 23]

**Records.** **USA:** AL, MS, NC, SC, VA

### ***Bembidion honestum* Say, 1823**

*Bembidium honestum* Say, 1823a: 82. Type locality: «Water Gap, N[ew] J[ersey]-P[ennsylvania] [possibly Delaware Water Gap in Monroe County, New Jersey]»



(neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 336), in MCZ [# 33067].

*Ochthedromus basalis* LeConte, 1847: 454. Type locality: «provinciis mediis» (original citation). Four syntypes in MCZ [# 5494]. Synonymy established by Melsheimer (1853: 26), confirmed by Maddison (2008: 179).

*Bembidium platyderum* Chaudoir, 1868b: 242. Type locality: «New-York» (original citation). Lectotype (♀), designated by Lindroth (1963b: 248), in MHNP. Synonymy established by Lindroth (1963b: 248), confirmed by Maddison (2008: 179).

**Distribution.** This species ranges from Cape Breton Island to eastern Illinois, south to North Carolina along the Appalachian Mountains [see Maddison 2008: Fig. 23]. One old specimen simply labeled from Wisconsin is known (Messer 2010: 35). The records from “Iowa,” “Kansas” (Hayward 1897: 56), and “Michigan” (Bousquet and Larochelle 1993: 126) need confirmation; that from Churchill in northern Manitoba (Elias 1984: 142) is in error (Maddison 2008: 181); those from “Wyoming,” “Texas” (Hayward 1897: 56), “Arkansas,” and “Mississippi” (Bousquet and Larochelle 1993: 126) are probably in error.  
**Records.** CAN: NB (CBI), NS, ON, QC USA: CT, DC, DE, IL, IN, KY, MA, MD, ME, NC, NH, NJ, NY, OH, PA, VA, VT, WV [IA, KS, MI, WI]

### *Bembidion integrum* Casey, 1918

*Bembidion integrum* Casey, 1918: 79. Type locality: «Texas» (original citation), restricted to «Colorado River near Utey, Bastrop County» by Maddison (2008: 182). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36904].

**Distribution.** This species ranges from west-central Wisconsin to south-central Montana, south to north-central New Mexico, southern Texas, northwestern Tamaulipas in Mexico, eastern Louisiana (East Feliciana Parish, Igor M. Sokolov pers. comm. 2009), and southern Mississippi, east to west-central Indiana [see Maddison 2008: Fig. 24].  
**Records.** USA: AR, CO, IA, IL, IN, KS, LA, MN, MO, MS, MT, NE, NM, OK, SD, TX, WI – Mexico

### *Bembidion rufotinctum* Chaudoir, 1868

*Bembidium rufotinctum* Chaudoir, 1868b: 241. Type locality: Amérique septentrionale (inferred from title of the paper), restricted to «Lowell [Middlesex County], Mass[achusetts]» by Lindroth (1963b: 249). Lectotype (♀), designated by Lindroth (1963b: 249), in MHNP.

*Bembidium blanchardi* Hayward, 1897: 56. Type locality: «Lowell [Middlesex County], Mass[achusetts]» (original citation). Two syntypes in MCZ [# 2008]. Synonymy established by Hayward (1901: 157), confirmed by Maddison (2008: 179).

**Distribution.** This species ranges from New Brunswick (Webster and DeMerchant 2012: 5) and southern Quebec (André Larochelle and Reginald P. Webster pers. comm. 1997, 2009) south to northern Georgia (Choate and Choate 1995: 371) and



**Figure 23.** *Phrypeus rickseckeri* (Hayward). Thomas Casey is well known to North American coleopterists for the numerous species he proposed that are considered invalid today. His extremely rigid species concept allowed almost no morphological variation. He was, however, more successful at the generic level and many of his taxa are still recognized as valid today. One of these is *Phrypeus* which he proposed for a small, peculiar bembidiine species living along river banks in the coastal region of western North America. Associated with the subtribe Bembidiina for a long time, recent molecular analyses have revealed that the species is not closely related to that group.

northwestern South Carolina (Ciegler 2003: [1]) along the Appalachian Mountains, east to northeastern Massachusetts [see Maddison 2008: Fig. 20B).

**Records.** CAN: NB, QC USA: GA, KY, MA, NC, NH, NY, PA, SC, TN, VA, VT

### **Subgenus *Cillenus* Samouelle, 1819**

*Cillenus* Samouelle, 1819: 148. Type species: *Cillenus lateralis* Samouelle, 1819 by monotypy. Etymology. Unknown [masculine].

*Cillenum* Curtis, 1828: plate 200. Unjustified emendation of *Cillenus* Samouelle, 1819.

**Diversity.** Two species, one along the Pacific Coast of North America, the other (*B. laterale* Samouelle) along the coasts of Europe and northern Africa. The three other species listed in this subgenus by Lorenz (2005: 216) belong to the subgenus *Desarmatocillenus* Netolitzky (see Lindroth 1980).

**Identification.** Kavanaugh and Erwin (1992: 317) emended Lindroth's (1963b) key to *Bembidion* to accommodate the new species.

**Taxonomic Note.** This taxon is ranked as a distinct genus by many authors, with *Armatocillenus* Dupuis (three species in Taiwan and New Guinea), *Desarmatocillenus* Netolitzky (14 species in southeastern Asia and the Australian Region), *Chinocillenus* Netolitzky (one Chinese species), *Corallicillenus* Uéno (two Japanese species), and *Novicillenus* Uéno and Habu (two Japanese species) listed as subgenera (see Lorenz 2005: 216). Recently Sasakawa (2007) synonymized *Novicillenus* and *Corallicillenus* with *Desarmatocillenus*. Recent molecular data analyses conducted by Maddison and Ober (2011: 251) and Maddison (2012: 568) strongly support *Cillenus* as a member of *Bembidion*.

### ***Bembidion palosverdes* Kavanaugh and Erwin, 1992**

*Bembidion palosverdes* Kavanaugh and Erwin, 1992: 312. Type locality: «Point Vicente, Los Angeles County, California» (original citation). Holotype (♂) in CAS [# 16806].

**Distribution.** This species is known only from two localities on the Palos Verdes Peninsula along the coast of southern California (Kavanaugh and Erwin 1992: 315).

**Records.** USA: CA

### **Subgenus *Actedium* Motschulsky, 1864**

*Actedium* Motschulsky, 1864: 182. Type species: *Bembidium kuesteri* Schaum, 1845 designated by Dallas (1866: 426). Etymology. From the Greek *acte* (seashore, coastal) and the suffix *-idion* (little), alluding to the habitat where the two small carabid species in the hands of Motschulsky were found (“*les espèces vivent sur le bord de la mer*”) [neuter].

**Diversity.** Northern Hemisphere, with five species in the Nearctic (one species) and Palaearctic (four European and northern African species, one of them endemic to the Canary Islands) Regions.

**Identification.** Lindroth (1963b: 265) treated the North American species.

### ***Bembidion lachnophoroides* Darlington, 1926**

*Bembidion lachnophoroides* Darlington, 1926: 34. Type locality: «Medicine Hat, Alberta» (original citation). Holotype (♂) in CNC [# 2300].

**Distribution.** This species is known from the Whitefox River drainage in east-central Saskatchewan and several localities in Alberta, as far north as the Fort Vermilion area (Bousquet 1987a: 120; CNC).

**Records.** CAN: AB, SK

### **Subgenus *Ocydromus* Clairville, 1806**

*Ocydromus* Clairville, 1806: 20. Type species: *Carabus modestus* Fabricius, 1801 designated by Jeannel (1941b: 481). Etymology. From the Greek *ocys* (swift, quick) and *dromos* (running), probably alluding to the fast movement of the adults in the field [masculine].

*Protoperyphus* Alluaud, 1926: 11, 12. Type species: *Bembidion derelictum* Alluaud, 1926 by monotypy. Etymology. From the Greek *protos* (first) and the generic name *Peryphus* [*q.v.*] [masculine].

*Synechoperyphus* Netolitzky, 1942: 48. Type species: *Bembidium transsylvanicum* Bielz, 1852 by original designation. Synonymy established by Schuler (1962: 2), confirmed by Belousov (in Kryzhanovskij et al. 1995: 87). Etymology. From the Greek *synechos* (continuous) and the generic name *Peryphus* [*q.v.*] [masculine].

**Diversity.** About 40 species in the Nearctic (one Holarctic species), Palaearctic (about 30 species), and Afrotropical (nine species) Regions.

**Identification.** Lindroth (1963b: 342–343) covered the species found in North America.

### ***Bembidion scopulinum* (Kirby, 1837)**

*Peryphus scopulinus* Kirby, 1837: 53. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1963b: 342). Two syntypes [2 originally cited] in BMNH (Lindroth 1953b: 176).

*Peryphus oblique-lunatus* Motschulsky, 1844: 244. Type locality: «environs de Kiakhta [northern Mongolia]» (original citation). One syntype in ZMMU (Keleinikova 1976: 208). Synonymy established, under the name *B. thermarum* (Motschulsky), by Netolitzky (1935a: 35).

*Omala thermarum* Motschulsky, 1844: 255. Type locality: «Alpes du Hamar-Daban [Irkutsk Oblast], Sibérie orientale [Russia]» (original citation). Four syntypes in ZMMU (Keleinikova 1976: 224). Synonymy established by Lindroth (1963b: 342).

*Ochthedromus gelidus* LeConte, 1847: 464. Type locality: «Lacum Superiorem» (original citation). Four syntypes in MCZ [# 5517]. Synonymy established by LeConte (1873b: 325), confirmed by Lindroth (1963b: 342).



*Bembidion scopulinum bellulum* Casey, 1918: 71. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). Holotype [by monotypy] (♀) in USNM [# 36902]. Synonymy established (as aberration) by Csiki (1928: 111), confirmed by Erwin (1984a: 181).

**Distribution.** This Holarctic species is found in Kazakhstan, Siberia, Mongolia, Liaoning in China, the Korean Peninsula, and Japan (Marggi et al. 2003: 255), and from mainland Alaska (Lindroth 1963b: 343) to Newfoundland (Lindroth 1955a: 58-59), south to Connecticut (Litchfield County, William L. Krinsky pers. comm. 2008; Lindroth 1963b: 343), north-central Ohio (Lee 1994: 59), southeastern South Dakota (Kirk and Balsbaugh 1975: 18), and northern New Mexico (Casey 1918: 71, as *B. scopulinum bellulum*; Taos County, UASM) along the Rocky Mountains. The record from northeastern Georgia (Fattig 1949: 17) is probably in error; that from “Pennsylvania” (Bousquet and Laroche 1993: 138) needs confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, CO, CT, IL, IN, MA, ME, MI, MN, MT, ND, NH, NM, NY, OH, RI, SD, VT, WI, WY – **Holarctic**

### Subgenus *Peryphus* Dejean, 1821

*Peryphus* Dejean, 1821: 17. Type species: *Carabus littoralis* Olivier, 1795 (= *Bembidium tetracolum* Say, 1823) designated by Westwood (1838: 7). Etymology. Possibly from the Greek *peri* (very) and *phos* (light, by extension bright, clear) [masculine]. The name was proposed by Johann Karl Megerle von Mühlfeld and made available by Dejean.

**Diversity.** About 65 species in the Nearctic (21 species, three of them adventive), Neotropical (four species in Middle America shared with North America), Palaearctic (about 50 species), and Afrotropical (one species in Ethiopia, *B. scottustulatum* Netolitzky) Regions. Three species (*B. dauricum*, *B. obscurellum* and *B. petrosum*) are Holarctic.

**Identification.** Lindroth (1963b: 330-342, as *tetracolum*, *transversale*, *striola*, and in part *grapei* groups) covered all but six (*B. lugubre*, *B. pernotum*, *B. mexicanum*, *B. perspicuum*, *B. sarpedon*, and *B. femoratum*) of the species found in North America. Maddison and Swanson (2010: 26-29) briefly discussed the status of each species of the *transversale* group but did not include a key to separate all species.

#### [*dauricum* group]

##### *Bembidion dauricum* (Motschulsky, 1844)

*Leja daurica* Motschulsky, 1844: 256. Type locality: «au-delà du [Lac] Baïcal [Siberia, Russia]» (original citation). Ten syntypes in ZMMU (Keleinikova 1976: 194) and one in ZILR (Netolitzky 1935a: 29).

*Bembidion armeniacum pseudoproperans* Netolitzky, 1920a: 69. Type locality: «Tunkun-Sajan im Baikargebiet [Siberia, Russia]» (original citation). Syntypes in NHMW (Lindroth 1963b: 323). Synonymy established by Netolitzky (1935a: 29).



*Bembidion lysholmi* Munster, 1930: 353. Type locality: «ad Melbo [Lofoten] Norvegiae septentrionalis» (original citation). Holotype (♀) in ZMUO (Lindroth 1963b: 323). Synonymy established by Lindroth (1939b: 80). Etymology. The specific name was proposed for Bjarne Lysholm [1861-1939], a Norwegian physician who turned company manager. Lysholm devoted the last 25 years of his life to natural history and particularly to beetles. He was a founding member of the Norwegian Entomological Society in 1904, served as president of The Royal Norwegian Society of Sciences, and was awarded the Knight's Cross of the Order of St. Olav for scientific accomplishments.

**Distribution.** This Holarctic species ranges from Scandinavia to eastern Siberia and Mongolia (Marggi et al. 2003: 261) in the Palearctic Region and from the Chukchi coast in Alaska to the Hudson Bay coast in northern Manitoba (Lindroth 1963b: 325); it also occurs quite isolated in the southern parts of the Rocky Mountains in Colorado and New Mexico (Lindroth 1969a: 1114). Fossil remnants of this species, dated between about 16,700 and 18,100 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96); others, older than 33,000 years B.P., in southwestern Ontario (Warner et al. 1988: 35).

**Records.** CAN: MB, NT, YT USA: AK, CO, NM – **Holarctic**

#### [striola group]

##### *Bembidion actuosum* Casey, 1918

*Bembidion actuosum* Casey, 1918: 65. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Erwin (1984a: 166), in USNM [# 36899].

*Bembidion debilicolle* Casey, 1924: 34. Type locality: «Lake Co[unty], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 166), in USNM [# 36935]. Synonymy established by Erwin (1984a: 166).

*Bembidion urgens* Casey, 1924: 35. Type locality: «Modoc Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36939]. Synonymy established, under the name *B. debilicolle* Casey, by Lindroth (1963b: 318).

**Distribution.** This species inhabits the North American Cordilleras from southwestern Alberta and southern British Columbia (Lindroth 1963b: 318, as *B. debilicolle*) south at least to Lake County in the Coast Ranges of California (Casey 1924: 34, as *B. debilicolle*), northern Utah (Salt Lake and Utah Counties, CMNH), and north-central Colorado (Casey 1918: 65; Armin 1963: 169, as *B. debilicolle*) along the Rocky Mountains.

**Records.** CAN: AB, BC USA: CA, CO, ID, MT, NV, OR, UT, WY

##### *Bembidion consanguineum* Hayward, 1897

*Bembidium consanguineum* Hayward, 1897: 76. Type locality: «California, Arizona, Utah, Colorado and Guadalupe Island» (original citation), restricted to «Ariz[ona]» by Lindroth (1963b: 316). Four syntypes in MCZ [# 16285].

**Distribution.** This species is known from southeastern Wyoming (Lavigne 1977: 44), south-central Colorado (Wickham 1902: 233; Lindroth 1963b: 316), and “New Mexico” (Casey 1918: 74) west to Guadalupe Island off the Pacific Coast of Baja California (Hayward 1897: 76). The record from “Montana” (Bousquet and Laroche 1993: 135) needs confirmation; that from “Oregon” (Notman 1919b: 227) is in error according to Lindroth (1963b: 316).

**Records. USA:** AZ, CA, CO, NM, NV, UT, WY [MT] – Mexico

***Bembidion nevadense* Ulke, 1875**

*Bembidium nevadense* Ulke, 1875: 811. Type locality: «Nevada» (original citation). Lectotype (♀), designated by Lindroth (1963b: 316), in CMNH.

*Bembidion viaticum* Casey, 1918: 65. Type locality: «New Mexico» (original citation). Lectotype (♀), designated by Erwin (1984a: 177), in USNM [# 36884]. Synonymy established by Erwin (1984a: 177).

**Distribution.** This species is widely distributed in the North American Cordilleras from southern British Columbia south to central California along the Sierra Nevada (Lindroth 1963b: 317), southeastern Arizona (Cochise County, UASM, Ken Karns pers. comm. 2009), and “New Mexico” (Casey 1918: 65, as *B. viaticum*) along the Rocky Mountains.

**Records. CAN:** BC **USA:** AZ, CA, ID, MT, NM, NV, OR, UT, WA, WY

***Bembidion plagiatum* (Zimmermann, 1869)**

*Ochthedromus plagiatus* Zimmermann [in LeConte], 1869b: 247. Type locality: «Maryland» (original citation). Lectotype (♂), designated by Lindroth (1963b: 319), in MCZ [# 32620].

**Distribution.** This species, the only one of the group occurring in eastern North America, is known from southernmost Ontario (Lindroth 1963b: 319) to “New Jersey,” south to south-central North Carolina (Hoffman 1982: 146), northeastern Georgia (Horn and Ulyshen 2009: 121), eastern Alabama (Tallapoosa County, UASM, Drew A. Hildebrandt pers. comm. 2009), and east-central Mississippi (Lowndes County, Drew A. Hildebrandt pers. comm. 2008).

**Records. CAN:** ON **USA:** AL, GA, KY, MD, MS, NC, NJ, OH, PA, TN, VA, WV

***Bembidion satelles* Casey, 1918**

*Bembidion satelles* Casey, 1918: 71. Type locality: «Truckee [Nevada County], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 36903].

**Distribution.** This species is known from a few localities in the Sierra Nevada north of Yosemite National Park (Lindroth 1963b: 318; Maddison 1985: 113).

**Records. USA:** CA

***Bembidion striola* (LeConte, 1852)**

*Ochthedromus striola* LeConte, 1852a: 190. Type locality: «San Diego [San Diego County, California]» (original citation). Three syntypes in MCZ [# 5513].

*Bembidion vancouveri* Casey, 1918: 73. Type locality: «Victoria, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36933]. Synonymy established by Hatch (1953: 90), confirmed by Lindroth (1963b: 315).

*Bembidion shastanicum* Casey, 1918: 74. Type locality: «Dunsmuir, Siskiyou Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36936]. Synonymy established by Lindroth (1963b: 315).

*Bembidion angustior* Casey, 1924: 33. Type locality: «Del Norte Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 118), in USNM [# 36934]. Synonymy established by Lindroth (1963b: 315).

*Bembidion modulatum* Casey, 1924: 34. Type locality: «Josephine Co[unty], Oregon» (original citation). Holotype [by monotypy] (♂) in USNM [# 36938]. Synonymy established by Hatch (1953: 90), confirmed by Lindroth (1963b: 315).

**Distribution.** This species ranges from Vancouver Island (Lindroth 1963b: 315) south to southern California (LeConte 1852a: 190) where it is “widely distributed” (Fall 1901a: 42). The records from Colorado (Wickham 1902: 233), New Mexico (Fall and Cockerell 1907: 157), central Arizona (Griffith 1900: 565), Utah (Knowlton 1939: 2), northern Idaho (Hatch 1953: 90), and northeastern Kansas (Popenoe 1878: 79) are probably in error.

**Records.** CAN: BC (VCI) USA: CA (CHI), OR, WA

**[tetracolum group]*****Bembidion bruxellense* Wesmael, 1835**

*Bembidium femoratum* Gyllenhal, 1827: 406 [primary homonym of *Bembidium femoratum* Sturm, 1825]. Type locality: Sweden (inferred from title of the book). Syntype(s) location unknown (possibly in UZIU).

*Peryphus elegans* Stephens, 1835 [31 March]: 386 [secondary homonym of *Bembidion elegans* Germar, 1824]. Type locality: «near London [United Kingdom]» (original citation). One syntype in BMNH (Netolitzky 1935: 133). Synonymy established by Netolitzky (1935: 133).

*Bembidion bruxellense* Wesmael, 1835 [“31 December”]: 47. Type locality: «environs de Bruxelles [Belgium]» (original citation). Syntype(s) location unknown (possibly in IRSN). Synonymy established by Putzeys (1845b: 140).

**Distribution.** This European species is adventive in North America where it is known from Newfoundland (Lindroth 1955a: 61, as *B. rupestre*) to western Quebec (Larochelle 1975: 53), and from Maine (Larochelle and Larivière 1990a: 28). The record from “New Hampshire” (Bousquet and Larochelle 1993: 137) needs confirmation.

The first inventoried specimen collected on this continent was found in Newfoundland in 1907 (Lindroth 1957c: 151).

**Records.** FRA: PM CAN: NB, NF, NS (CBI), PE, QC USA: ME [NH] – **Adventive**

***Bembidion femoratum femoratum* Sturm, 1825**

*Bembidium femoratum* Sturm, 1825: 117. Type locality: «Würzburg, Preußen [Germany]» (original citation). Syntype(s) location unknown.

**Distribution.** This European subspecies is adventive in North America where it is known from New Brunswick and Nova Scotia (Bousquet 1992a: 504; Majka 2005: 536) and from one specimen discovered in 2003 in Grant County, Washington (Robert L. Davidson pers. comm. 2008). The first inventoried specimen collected on this continent was found near Halifax, Nova Scotia in 1967 (Bousquet 1992a: 504).

**Records.** CAN: NB, NS (CBI) USA: WA – **Adventive**

***Bembidion obscurellum obscurellum* (Motschulsky, 1845)**

*Peryphus obscurellus* Motschulsky, 1845a: 27. Type locality: «Kamtschatka [Russia]» (original citation). One syntype in ZMMU (Keleinikova 1976: 208).

*Peryphus maritimus* Motschulsky, 1850a: 11 [primary homonym of *Peryphus maritimus* Stephens, 1839]. Type locality: «Kamtschatka [Russia]» (original citation). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976). Synonymy established by Netolitzky (1935a: 32).

*Peryphus fuscicrus* Motschulsky, 1855b: 79. Type locality: «ad castellum Nicolajevsk peninsulae Kenai [Alaska]» (original citation for *P. lucidus* (LeConte) *sensu* Mannerheim, 1853). Syntype(s) in ZMMU (Lindroth 1963b: 338). Synonymy established by Netolitzky (1918: 25). NOTE. This taxon was described by indication for *B. lucidum* (LeConte, 1847) *sensu* Mannerheim (1853: 150).

*Bembidium mixtum* LeConte, 1863b: 14. Type locality: «castellum Nicolajevsk peninsulae Kenai [Alaska]» (original citation for *B. lucidus* (LeConte) var. *b* of Mannerheim, 1853). Two possible syntypes in MCZ [# 5516]. Synonymy established by Hayward (1897: 134). NOTE. This taxon was described by indication for *B. lucidum* (LeConte, 1847) var. *b* of Mannerheim (1853: 114) and therefore the type series consists of the specimen(s) denoted by the reference (ICZN 1999: Article 72.4.4). The two specimens labeled “R[ussian] A[merica]” in MCZ are possibly syntypes received by LeConte from Mannerheim.

*Bembidium repandum* J.R. Sahlberg, 1875: 78. Type locality: «af floden Varsuga invid hafstranden i ryska Lappmarken (66°20') [= Varsuga River in Kola Peninsula, Russia]» (original citation). Two syntypes [8 originally cited] in ZMH (Silfverberg 1987: 23). Synonymy established by Lindroth (1963b: 338).

*Bembidion cribrulum* Netolitzky, 1910: 217. Replacement name for *Bembidion maritimum* (Motschulsky, 1850).

*Bembidion caducum* Casey, 1918: 80. Type locality: «Cheyenne [Laramie County], Wyoming» (original citation). Lectotype (♂), designated by Lindroth (1975: 119), in USNM [# 36906]. Synonymy established, under the name *B. fuscicrus* (Motschulsky), by Fall (1922c: 172), confirmed by Lindroth (1963b: 338).

*Bembidion albidipenne* Casey, 1918: 80. Type locality: «Montrose (6000 ft.) [Montrose County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36907]. Synonymy established, under the name *B. fuscicrus* (Motschulsky), by Fall (1922c: 172), confirmed by Lindroth (1963b: 338).

*Bembidion parowanum* Casey, 1918: 80. Type locality: «Little Salt Lake, Parowan [Iron County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 119), in USNM [# 36909]. Synonymy established by Lindroth (1963b: 338).

*Bembidion petulans* Casey, 1918: 81. Type locality: «apparently Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [36908]. Synonymy established, under the name *B. caducum* Casey, by Nicolay and Weiss (1934: 197), confirmed by Lindroth (1963b: 338).

**Distribution.** This Holarctic subspecies ranges from Scandinavia to northeastern Siberia (Motschulsky 1845a: 27) and Mongolia (Marggi et al. 2003: 262) and in North America from Alaska (Lindroth 1963b: 339) to Newfoundland (Bousquet 1987a: 120), south to Virginia (Hoffman et al. 2006: 20), east-central Iowa (Iowa County, MCZ), southern New Mexico (Fall and Cockerell 1907: 157), southwestern Nevada (Esmeralda County, CMNH), and “California” (Cooper 1976: 163).

**Records.** CAN: AB, BC, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT USA: AK, CA, CO, IA, ID, IL, IN, ME, MI, MN, MT, ND, NH, NM, NV, NY, OH, OR, PA, RI, SD, UT, VA, VT, WA, WI, WY – **Holarctic**

**Note.** Five more subspecies are recognized within the Palearctic fauna.

### *Bembidion petrosum attuense* Lindroth, 1963

*Bembidion petrosum attuense* Lindroth, 1963b: 334. Type locality: «Peaceful R[iver], Attu, Aleutian Islands, Alaska» (original citation). Holotype (♂) in MCZ [# 35407].

**Distribution.** This subspecies is known only from numerous specimens collected at the type locality.

**Records.** USA: AK

### *Bembidion petrosum petrosum* Gebler, 1833

*Bembidium petrosum* Gebler, 1833: 275. Type locality: western Siberia (inferred from title of the paper); «Smjeinogorsk, S[outh of] Barnaul, Ob R[iver], Siberia, Russia» selected by Lindroth (1963b: 332). Lectotype (♂), designated by Lindroth (1963b: 332), in ZMH.

*Ochthedromus substrictus* LeConte, 1848: 465. Type locality: «Lacum Superiorem» (original citation). Syntype(s) in MCZ [# 5515]. Synonymy established, under



the name *B. lucidum* (LeConte), by LeConte (1863b: 14), confirmed by Lindroth (1954b: 126).

*Ochthedromus lucidus* LeConte, 1848: 466 [secondary homonym of *Bembidion lucidum* (Faldermann, 1835)]. Type locality: «Lacum Superiorem» (original citation). Syntype(s) in MCZ [# 5514]. Synonymy established by Lindroth (1953b: 176).

*Peryphus subinflatus* Motschulsky, 1859a: 126. Type locality: «colonie Ross [farming community about 75 miles north of San Francisco along the coast, California]» (original citation). Lectotype, designated by Bousquet and Laroche (1993: 16), in ZMMU. Synonymy established by Bousquet and Laroche (1993: 16).

*Bembidium wagneri* Tschitscherine, 1893: 377. Type locality: «Krasnojarsk [Siberia, Russia]» (original citation). Syntype(s) [3 originally cited] in ZILR. Synonymy established by Netolitzky (1934: 73).

*Bembidion distinguendum siebkei* J. Müller, 1918: 94. Type locality: «Scandinavi-en» (original citation), restricted to «Mo[e]n [Troms County], R[iver] Målselv, N[orthern] Norway» by Lindroth (1963b: 333). Syntype(s) in ZMUT (Lindroth 1963b: 333). Synonymy established by Munster (1921: 60), confirmed by Lindroth (1963b: 333). NOTE. This name is credited to Sparre Schneider (1910: 72) by several authors (e.g., Lorenz 2005: 232; Marggi et al. 2003: 262; Kryzhanovskij et al. 1995: 86). The species' name is included and discussed by Sparre Schneider (1910: 72) but no character states are mentioned that would make the name available (see also Netolitzky 1934: 73).

*Bembidion lepusculus* Casey, 1918: 75. Type locality: «Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 36937]. Synonymy established by Lindroth (1954b: 125).

*Bembidion castalium* Casey, 1918: 75. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36940]. Synonymy established by Lindroth (1954b: 126).

*Bembidion exiguiiceps* Casey, 1924: 34. Type locality: «Terrace, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36942]. Synonymy established by Lindroth (1954b: 128).

*Bembidion wenatchee* Hatch, 1950: 101. Type locality: «Wenatchee [Chelan County], Washington» (original citation). Holotype (♀) in USNM. Synonymy established by Hatch (1953: 90), confirmed by Lindroth (1954b: 130).

*Bembidion petrosum carlhindrothi* Kangas, 1980: 364. Type locality: «Osnatsennaja, am Jenissej, Sibirien» (original citation). Holotype (♂) in ZMH. Synonymy established by Lindroth (1985: 195).

**Distribution.** This Holarctic subspecies is known from Scandinavia to eastern Siberia (Marggi et al. 2003: 262) and from Alaska (Lindroth 1963b: 334) to Newfoundland (Lindroth 1955a: 60-61), south to “Rhode Island” (Sikes 2003: 7), southwestern Pennsylvania (Allegheny County, CMNH), “Nebraska” (Hayward 1897: 81, as *B. lucidum*), northeastern New Mexico (Casey, 1918: 75, as *B. castalium*), southern Arizona (Wickham 1898: 300, as *B. lucidum*), and southeastern California (San Bernardino County, MCZ).

**Records. FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, AZ, CA, CO, ID, IL, MA, ME, MI, MN, MT, ND, NE, NH, NM, NV, NY, OH, OR, PA, RI, UT, VT, WA, WI, WY – **Holarctic**

***Bembidion poppii schalleri* Lindroth, 1963**

*Bembidion poppii schalleri* Lindroth, 1963b: 335. Type locality: «Colville R[iver], Umiat, Alaska» (original citation). Holotype (♂) in MCZ [# 34571].

**Distribution.** This subspecies is known only from a few localities on mainland Alaska.

**Records. USA:** AK

**Note.** Besides the nominotypical subspecies found in eastern Siberia, two more subspecies have been described from Japan and Szechwan, China.

***Bembidion rupicola* (Kirby, 1837)**

*Peryphus rupicola* Kirby, 1837: 53. Type locality: «Lat. 54° [= along North Saskatchewan River] and 65° [= apparently region of Great Bear Lake, Northwest Territories]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1963b: 336). Two syntypes in BMNH (Lindroth 1953b: 176).

*Bembidion aversans* Casey, 1924: 35. Type locality: «Mexico» (original citation). Lectotype (♀), designated by Erwin (1984a: 181), in USNM [# 36941]. Synonymy established by Erwin (1984a: 181).

**Distribution.** The range of this species extends from the Ontario Peninsula (Bousquet 1987a: 120) to southern British Columbia, north to western Alaska (Lindroth 1963b: 337–338), south to northern Oregon (Gilliam and Morrow Counties, CMNH; Hatch 1953: 90; Lindroth 1963b: 337), southern Arizona (Dajoz 2007: 21), western Texas (Jeff Davis County, MCZ), and northwestern Pennsylvania (Warren and Forest Counties, CMNH). The species has been reported also from “Mexico” (Casey 1924: 35, as *B. aversans*). The record from “California” (Bousquet and Larochelle 1993: 138) was based on a misidentified specimen of *B. petrosum* in MCZ.

**Records. CAN:** AB, BC, MB, NT, ON, SK **USA:** AK, AZ, CO, IA, ID, MI, MN, MT, ND, NE, NM, NV, OH, OR, PA, SD, TX, UT, WA, WI, WY – Mexico

***Bembidion sejunctum sejunctum* Casey, 1918**

*Bembidion sejunctum* Casey, 1918: 79. Type locality: «somewhere between Fort Wingate and Jemez Springs, New Mexico» (original citation). Lectotype (♂), designated by Lindroth (1975: 119), in USNM [# 36905].

**Distribution.** The range of this subspecies is disjunct. It occurs in the east along the coast of Newfoundland, Saint Pierre and Miquelon (Lindroth 1955a: 63), the Maritimes, Magdalen Islands (Lindroth 1963b: 340), and the Saint Lawrence Estuary (Larochelle 1975: Fig. 169) and in the west from the Mackenzie River in central Northwest Territories south to northern New Mexico (Taos County, UASM),

including southwestern North Dakota (Tinerella 2003: 635) [see Lindroth 1963a: Fig. 66].

**Records.** **FRA:** PM **CAN:** AB, LB, NB, NF, NS (CBI), NT, PE, QC, SK **USA:** CO, ND, NM, UT, WY

***Bembidion sejunctum semiaureum* Fall, 1922**

*Bembidion semiaureum* Fall, 1922c: 171. Type locality: «Humboldt Co[unty], California» (original citation). Holotype in MCZ [# 23867].

*Bembidion fenderi* Hatch, 1950: 102. Type locality: «Seaview [Pacific County], Washington» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1954b: 130).

**Distribution.** This subspecies is confined to the west coast ranging from the Queen Charlotte Islands (Kavanaugh 1992: 66) south at least to northern California (Fall 1922c: 171; Hatch 1953: 91) [see Lindroth 1963a: Fig. 66].

**Records.** **CAN:** BC (QCI, VCI) **USA:** CA, OR, WA

***Bembidion tetracolum tetracolum* Say, 1823**

*Carabus littoralis* Olivier, 1795: [35] 110 [secondary homonym of *Bembidion littoralis* (Olivier, 1790)]. Type locality: «environs de Paris, sur les bords de la Seine [France]» (original citation). Syntype(s) location unknown (possibly in MHNP). NOTE. The use of a single or double consonant in the spellings of species-group names is deemed to be identical (ICZN 1999: Article 58.7); therefore the two Olivier's names are homonyms.

*Bembidium tetracolum* Say, 1823a: 89. Type locality: «Arlington [Middlesex County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 336), in MCZ [# 33068]. Synonymy established, under the name *B. ustulatum* (Linnaeus) *sensu auctorum* (= *B. tetracolum* Say), by Fassati (1950: 42).

*Bembidion rupicola nactum* Casey, 1918: 77. Type locality: «lower Hudson Valley, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36943]. Synonymy established by Lindroth (1954b: 126).

**Distribution.** This Palearctic subspecies is adventive in North America where it is known from Newfoundland (Lindroth 1955a: 62, as *B. ustulatum*) to western Montana (Russell 1968: 54), including southern Quebec and the Ontario Peninsula (Lindroth 1963b: 332), south to northern Utah (Salt Lake County, CMNH), west-central Nebraska (Keith County, Foster F. Purrington pers. comm. 2010), and central Virginia (Davidson 1995: 16); also in the Pacific Northwest from southwestern British Columbia (Lindroth 1963b: 332) to northern California (Notman 1929b: 222; Tehama County, Foster F. Purrington pers. comm. 2010). The records from Colorado (Wickham 1902: 233, as *B. ustulatum*), “Tennessee,” and “North Carolina” (Bousquet and Laroche 1993: 138) need confirmation; that from “Texas” (Lindroth 1955a: 62) could be based on a mislabeled specimen. The first inventoried specimen collected on

this continent was found prior to 1823, likely along the east coast. The species has been unearthed from a xvii Century colonial site in Boston, Massachusetts (Bain 1998: 39), suggesting that the species was established on this continent long before Thomas Say collected his specimens. The species is also adventive in southeastern Australia (Moore et al. 1987: 136).

**Records.** **FRA:** PM **CAN:** BC, NB, NF, NS, ON, PE, QC **USA:** CA, CT, DC, IA, IL, IN, MA, ME, MI, MN, MT, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SD, UT, VA, VT, WA, WI [CO, NC, TN, TX] – **Adventive**

**Note.** This species has been known for a long time under the name *Bembidion ustulatum* (Linnaeus, 1758). Lindroth (1957b: 334–335) suggested to drop the name to promote stability. Four other subspecies of *B. tetracolum* are found in the Palearctic Region.

#### [transversale group]

#### *Bembidion lugubre* LeConte, 1857

*Bembidium lugubre* LeConte, 1857a: 6. Type locality: «valley of the Rio Grande» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5511].

*Bembidium mexicanum* var. *sallaei* Bates, 1882a: 148. Type locality: «Puebla, Toluca, Etla, Guanajuato, near the capital, Oaxaca [in] Mexico; river Sarstoon, British Honduras; near the city, Totonicapam, Panajachel [in] Guatemala» (original citation). Lectotype (♂) from «Mexico», designated by Erwin (1982b: 469), in MHNP (collection Chaudoir). Synonymy established by Maddison and Swanson (2010: 28).

*Bembidium canonicum* Casey, 1918: 61. Type locality: «Arizona» (original citation). Holotype [by monotypy] (♂) in USNM [# 36920]. Synonymy established by Maddison and Swanson (2010: 28).

*Bembidium retectum* Casey, 1918: 61. Type locality: «S[ain]t George [Washington County], Utah» (original citation). Lectotype (♂), designated by Erwin (1984a: 177), in USNM [# 36923]. Synonymy established by Maddison and Swanson (2010: 28).

*Bembidium mexicanum* var. *sallei* Csiki, 1928: 102. Unjustified emendation of *Bembidium mexicanum* var. *sallaei* Bates, 1882.

**Distribution.** This species ranges from “California” to “Texas,” south at least to Oaxaca, Mexico (Maddison and Swanson 2010: 29).

**Records.** **USA:** AZ, CA, NM, TX, UT – Mexico

#### *Bembidion mexicanum* Dejean, 1831

*Bembidium mexicanum* Dejean, 1831: 126. Type locality: «Mexique» (original citation). Lectotype (♂), designated by Erwin (1982b: 469), in MHNP.

*Bembidium stabile* LeConte, 1879d: 508. Type locality: «La Veta [Huerfano County], Colo[rado]» (original citation for the lectotype). Lectotype (♀), designated by Er-

win (1984a: 176), in MCZ [# 5512]. Synonymy established by Erwin (1984a: 176), confirmed by Maddison and Swanson (2010: 28).

*Bembidion badiipenne* Casey, 1918: 60. Type locality: «somewhere on the road between F[or]t Wingate and Jemez Springs, New Mexico» (original citation). Lectotype (♀), designated by Erwin (1984a: 176), in USNM [# 36913]. Synonymy established by Erwin (1984a: 176), confirmed by Maddison and Swanson (2010: 28).

*Bembidion lugubre vafrum* Casey, 1918: 60. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Erwin (1984a: 176), in USNM [# 36921]. Synonymy established by Erwin (1984a: 176), confirmed by Maddison and Swanson (2010: 28).

**Distribution.** This species ranges from South Dakota (Maddison and Swanson 2010: 28) and eastern Wyoming (Lavigne 1977: 44, as *B. lugubre*) south to Costa Rica (Erwin 1982b: 469, Fig. 65).

**Records. USA:** AZ, CO, NE, NM, SD, WY – Belize, Costa Rica, Guatemala, Mexico

### ***Bembidion pernotum* Casey, 1918**

*Bembidion pernotum* Casey, 1918: 62. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1984a: 178), in USNM [# 36922].

**Distribution.** This species is known from southern Colorado and northern New Mexico (Maddison and Swanson 2010: 29).

**Records. USA:** CO, NM

### ***Bembidion perspicuum* (LeConte, 1848)**

*Ochthedromus perspicuus* LeConte, 1848: 466. Type locality: «ad Rocky Mountains» (original citation). One syntype in MCZ [# 5510].

*Bembidion acomanum* Casey, 1918: 59. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36916]. Synonymy established by Maddison and Swanson (2010: 27).

*Bembidion excursum* Casey, 1918: 59. Type locality: «Tucson [Pima County], Arizona» (original citation). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36915]. Synonymy established by Maddison and Swanson (2010: 27).

**Distribution.** This species ranges from “Oregon” (Maddison and Swanson 2010: 27) to western Nebraska (Keith County, Robert L. Davidson pers. comm. 2012), south to western Texas (Jeff Davis and Presidio Counties, CNC) and southern California (Maddison and Swanson 2010: 27).

**Records. USA:** AZ, CA, CO, KS, NE, NM, NV, OK, TX, UT



***Bembidion sarpedon* Casey, 1918**

*Bembidion sarpedon* Casey, 1918: 58. Type locality: «Cañon City [Fremont County], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 119), in USNM [# 36914].

*Bembidion animatum* Casey, 1918: 62. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36918]. Synonymy established by Maddison and Swanson (2010: 27).

**Distribution.** This species ranges from “Wyoming” south to northern New Mexico and northeastern Arizona (Maddison and Swanson 2010: 28).

**Records. USA:** AZ, CO, NM, UT, WY

***Bembidion transversale* Dejean, 1831**

*Bembidium transversale* Dejean, 1831: 110. Type locality: «territoire du nord-ouest, Amérique septentrionale» (original citation), restricted to «Nipigon, Ont[ario]» by Lindroth (1963b: 341). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 13).

*Peryphus erosus* Motschulsky, 1850a: 10. Type locality: «California» (original citation), listed from «St. Francisco [San Francisco County]» by Motschulsky (1859a: 128). Lectotype, designated by Bousquet and Laroche (1993: 16), in ZMMU. Synonymy established by Hayward (1897: 134).

*Ochthedromus mannerheimii* LeConte, 1852a: 190 [secondary homonym of *Bembidium mannerheimii* Sahlberg, 1827]. Type locality: «San Diego [San Diego County, California]» (original citation). Lectotype (♀), designated by Maddison and Swanson (2010: 26), in MCZ [# 35571]. Synonymy established with the name *P. erosus* Motschulsky by LeConte (1863b: 14), confirmed by Maddison and Swanson (2010: 26).

*Bembidium haplogonum* Chaudoir, 1868b: 241. Type locality: «Californie» (original citation). Syntype(s) location unknown (not in MHNP according to Lindroth 1963b: 341). Synonymy established by Hayward (1897: 134).

*Bembidion marinicum* Casey, 1918: 57. Type locality: «Marin Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 36919]. Synonymy established by Lindroth (1963b: 341).

*Bembidion tuolumne* Casey, 1924: 30. Type locality: «Tuolumne Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 119), in USNM [# 36917]. Synonymy established by Lindroth (1963b: 341).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 59) to Alaska (Maddison and Swanson 2010: 27), south to southern California (LeConte 1852a: 190; Maddison 1985: 114), “Utah,” “Colorado” (Maddison and Swanson 2010: 27), northern Michigan (Hubbard and Schwarz 1878: 629; Dunn 1985a: 10; CNC), and central New York (Notman 1928: 215). The record from South Dakota (Kirk and

Balsbaugh 1975: 17) refers to *B. mexicanum* (USNM); that from “Illinois” (Bousquet and Larochelle 1993: 138) needs confirmation.

**Records.** CAN: AB, BC (QCI, VCI), LB, MB, NB, NF, NS (CBI), NT, ON, QC, SK, YT USA: AK, CA, CO, ID, MI, MN, MT, ND, NV, NY, OR, UT, WA, WI, WY [IL]

**Note.** Maddison and Swanson (2010: 27) stated that specimens of this species from western British Columbia, western Oregon, and California represent another form, with no consistent differences in COI or 28S from the typical form but with clearly different mentum shape. They added that *B. transversale* as currently understood could be a complex of multiple species.

### Subgenus *Terminophanes* Müller-Motzfeld, 1998

*Terminophanes* Müller-Motzfeld, 1998: 73. Type species: *Bembidium terminale* Heer, 1841 by original designation. Etymology. Probably from the specific name of the type species and the last two syllables of the generic name *Peryphanes* [feminine].

**Diversity.** About 15 species in the Nearctic (one northwestern species), Oriental (one species, *B. vitalisi* Andrewes from Laos), and Palaearctic (14 species) Regions. Some of the species included by Lorenz (2005: 229) in the subgenus *Ocydromus* belong to this subgenus according to Toledano (2000: 66).

**Identification.** Lindroth (1963b: 307-310) covered the species found in North America.

### *Bembidion mckinleyi carneum* Lindroth, 1963

*Bembidion mckinleyi carneum* Lindroth, 1963b: 309. Type locality: «Racing R[iver], Brit[ish] Col[umbia]» (original citation). Holotype (♂) in CNC [# 8391].

**Distribution.** This subspecies is known only from the Rocky Mountains and foothills in British Columbia and Alberta, as far north as northern British Columbia near the Yukon Territory border (Lindroth 1963b: 309). The record from southwestern Alaska (Elias 1988: 41) possibly refers to the nominotypical subspecies and needs confirmation.

**Records.** CAN: AB, BC [AK]

### *Bembidion mckinleyi mckinleyi* Fall, 1926

*Bembidion mckinleyi* Fall, 1926a: 132. Type locality: «McKinley Park, Alaska» (original citation). Holotype in MCZ [# 23863].

**Distribution.** This subspecies is known only from southwestern Yukon Territory and Alaska from the Gulf Coast to beyond the arctic circle (Lindroth 1963b: 308). Fossil remnants of this species, dated between about 10,000 and 11,000 years old, have been found in southern Quebec (Mott et al. 1981: 146) and southern Ontario (Pilny et al. 1987: 620).

**Records.** CAN: YT USA: AK

**Note.** Another subspecies, *B. mckinleyi scandicum* Lindroth, is found along the northern parts of the Palaearctic Region from Sweden to the Far East and Mongolia (Marggi et al. 2003: 268).

### Subgenus *Asioperyphus* Vysoký, 1986

*Asioperyphus* Vysoký, 1986: 94. Type species: *Bembidium infuscatum* Dejean, 1831 by original designation. Etymology. From the Latin *Asia* (Asia) and the generic name *Peryphus* [*q.v.*], alluding to the region where the species known to Vysoký lived [masculine].

*Chinoperyphus* Vysoký, 1986: 96. Type species: *Bembidion obenbergeri* Lutshnik, 1928 by original designation. Synonymy established by Müller-Motzfeld (1998: 73). Etymology. From the Latin *China* (China) and the generic name *Peryphus* [*q.v.*], alluding to the country where the type species occurs [masculine].

**Diversity.** Northern Hemisphere, with about 30 species in the Nearctic (six species) and Palaearctic (27 species) Regions. Two species (*B. umiatense* and *B. lenae*) are Holarctic.

**Identification.** Lindroth (1963b: 326–330, as *bimaculatum* and *lenae* groups) covered all but one (*B. renoanum*) of the species found in North America.

### *Bembidion bimaculatum* (Kirby, 1837)

*Peryphus bimaculatus* Kirby, 1837: 52. Type locality: «Lat. 65° [= apparently region of Great Bear Lake, Northwest Territories]» (original citation). Two syntypes in BMNH (Lindroth 1953b: 175).

**Distribution.** This species ranges from north-central Ontario (CNC) to the Arctic Plains of Alaska (Lindroth 1963b: 326), south to San Bernardino County in southeastern California (Dajoz 2007: 20), northeastern Arizona (Apache County, UASM; Wickham 1896a: 157), and southern New Mexico (Fall and Cockerell 1907: 157). The record from “Kansas” (Hamilton 1894a: 7) is probably in error.

**Records.** CAN: AB, BC (VCI), MB, NT, ON, SK, YT USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY

### *Bembidion lenae* Csiki, 1928

*Bembidium intermedium* Poppius, 1906a: 32 [secondary homonym of *Bembidion intermedium* (Kirby, 1837)]. Type locality: «Ytyk-haja, Lena [River, Russia]» (lectotype label). Lectotype (♂), designated by Fassati (1952: 32), in ZMH.

*Bembidion poppii* var. *lenae* Csiki, 1928: 108. Replacement name for *Bembidion poppii* var. *intermedium* Poppius, 1906.

**Distribution.** This Holarctic species is found from eastern Siberia (Marggi et al. 2003: 243) to the Anderson River delta in northern Northwest Territories (Lindroth 1963b: 311).

**Records.** CAN: NT, YT USA: AK – Holarctic

***Bembidion postremum* Say, 1830**

*Bembidium postremum* Say, 1830c: 23. Type locality: «Allegheny [Allegheny County], P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 336), in MCZ [# 33069]. NOTE. «Pennsylvania» was the area originally cited by Say (1830c: 23).

**Distribution.** This eastern species is found from “New Brunswick” (Larochelle and Larivière 1990a: 28) to northern Minnesota (Gandhi et al. 2005: 925), south to northeastern Iowa (Purrington and Larsen 1997: 50), southwestern Ohio (Dury 1910: 66), and southwestern Pennsylvania (Hayward 1897: 80; Lindroth and Freitag 1969: 336). The record from northeastern Georgia (Fattig 1949: 17) is probably in error.

**Records.** CAN: NB, QC USA: IA, IL, IN, MA, ME, MN, NH, NY, OH, PA, VT, WI

***Bembidion renoanum* Casey, 1918**

*Bembidium renoanum* Casey, 1918: 72. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Erwin (1984a: 181), in USNM [# 36932].

**Distribution.** This species is known only from the type locality in western Nevada.

**Records.** USA: NV

***Bembidion sordidum* (Kirby, 1837)**

*Peryphus sordidus* Kirby, 1837: 52. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1963b: 328). Holotype [by monotypy] in BMNH (Lindroth 1953b: 176).

**Distribution.** The range of this species extends from the Ungava Bay area (Larochelle 1975: Fig. 173) in northern Quebec to the Arctic Plains of Alaska (Lindroth 1963b: 329), south to east-central Utah (Grand County, UASM), southwestern Colorado (Elias 1987: 632), southern South Dakota (Kirk and Balsbaugh 1975: 18), and the Saint Lawrence River drainage in southern Quebec (Larochelle 1975: Fig. 173). The record from “Michigan” (Bousquet and Larochelle 1993: 137) needs confirmation. Fossil remnants, dated from about 10,400 and 21,500 years B.P., have been unearthed in eastern Minnesota, northeastern Wisconsin, Iowa, northern Illinois (Schwert 1992: 77), northeastern Pennsylvania (Barnosky et al. 1988: 178), and Cape Breton Island in Nova Scotia (Miller 1997: 250).

**Records.** CAN: AB, BC, MB, NT, ON, QC, SK, YT USA: AK, CO, MT, ND, SD, UT, WY [MI]

***Bembidion umiatense* Lindroth, 1963**

*Bembidium umiatense* Lindroth, 1963b: 329. Type locality: «Umiat, Alaska» (original citation). Holotype (♂) in CNC [# 8380].

**Distribution.** This Holarctic species is found from the northern regions of European Russia to eastern Siberia (Marggi et al. 2003: 244) and in North America from the Arctic Plains in Alaska (Lindroth 1963b: 330) to Contwoyto Lake in western Nunavut (Shpeley and Pilny 1995: 233).

**Records.** CAN: NU, YT USA: AK – **Holarctic**

### **Subgenus *Peryphanes* Jeannel, 1941**

*Peryphanes* Jeannel, 1941b: 484. Type species: *Peryphus dalmatinus* Dejean, 1831 by original designation. Etymology. Uncertain, possibly from the generic name *Peryphus* [*q.v.*] contracted and the Greek *phanos* (light, bright) [feminine].

**Diversity.** Northern Hemisphere, with about 35 species in the Nearctic (seven species, one of them adventive) and Palaearctic (about 30 species) Regions. Two species (*B. grapii* and *B. yukonum*), placed in this subgenus for convenience, are Holarctic.

**Identification.** Lindroth (1963b) covered all but one (*B. subangustatum*) of the species found in North America.

### ***Bembidion grapii* Gyllenhal, 1827**

*Bembidium brunnipes* C.R. Sahlberg, 1827a [19 May]: 191 [primary homonym of *Bembidium brunnipes* Sturm, 1825]. Type locality: «Fennia Australi» (original citation). Syntype(s) location unknown (possibly in ZMH).

*Bembidium grapii* Gyllenhal, 1827 [July-October]: 403. Type locality: «Lapponia boreali» (original citation), restricted to «Abisko, Sweden» by Lindroth (1963b: 319). Syntype(s) location unknown (possibly in UZIU). Synonymy established with the name *B. sahlbergii* Dejean by Schaum (1861: 407). NOTE. The spelling *grapei* is an incorrect subsequent spelling, first introduced by Zetterstedt (1837: 25), not currently in prevailing usage.

*Bembidium sahlbergii* Dejean, 1831: 144. Type locality: «Finlande» (original citation). Syntype(s) probably in MHNP. Synonymy established with the name *B. brunnipes* Sahlberg by Dejean (1831: 144).

*Peryphus picipes* Kirby, 1837: 54. Type locality: «Lat. 65° [= apparently region of Great Bear Lake, Northwest Territories]» (original citation). Two syntypes [2 originally cited] in BMNH (Lindroth 1953b: 176). Synonymy established by Fall (1926a: 133), confirmed by Lindroth (1953b: 176).

*Bembidium aereum* Jacquelin du Val, 1851: 508. Type locality: «Laponie méridionale» (original citation). Holotype [by monotypy] probably in MHNP. Synonymy established by Piochard de La Brûlerie (1876: 447).

*Ochthedromus nitens* LeConte, 1857c: 10. Type locality: «ora orientali insulae Kadjak» (original citation for *O. picipes* (Kirby) *sensu* Mannerheim, 1853). Syntype(s) location unknown (possibly in ZMH). Synonymy established by Henshaw (1885: 6). NOTE. This name was proposed for *Peryphus picipes* Kirby, 1837 *sensu* Mannerheim (1853: 151). Therefore the type series consists of the specimen(s) which had been



misidentified (ICZN 1999: Article 72.4.2). The specimen labeled “Type 5519” in MCZ is not a syntype since it bears also a pale blue disc (= north shore of Lake Superior).

*Metallina planicollis* Motschulsky, 1860: 91. Type locality: «Kamtschatka [Russia]» (original citation). Three syntypes in ZMMU (Keleinikova 1976: 211). Synonymy established, under the name *B. picipes* (Kirby), by Netolitzky (1935a: 29).

*Bembidium islandicum* Sharp, 1900: 254. Type locality: «Reykjavik [Iceland]» (original citation). Syntypes location unknown. Synonymy established by Lindroth (1931: 169).

*Bembidion scrutatum* Casey, 1918: 64. Type locality: «Eldora [Boulder County], Colorado» (original citation). Lectotype (♂), designated by Erwin (1984a: 173), in USNM [# 36987]. Synonymy established by Erwin (1984a: 173).

*Bembidion nitens seductum* Casey, 1918: 66. Type locality: «Eldora [Boulder County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36900]. Synonymy established by Lindroth (1963b: 319).

*Bembidion grapei* v. *nitiduloides* Munster, 1930: 354. Type locality: «Kaafjord i Alten og desuten ved Jennestad [Norway]» (original citation). Holotype location unknown (possibly in ZMUO). Synonymy established by Munster (1932: 82).

**Distribution.** This Holarctic species ranges in North America from the Seward Peninsula in Alaska (Lindroth 1963b: 320) to Newfoundland (Lindroth 1955a: 57) and Greenland (Böcher 1988: 12), including the Aleutian and Kodiak Islands, south to mountains in New England (Lindroth 1963b: 320), southeastern upper peninsula of Michigan (Mackinac County, UMAA), northern Wisconsin (Bayfield County, MCZ), northeastern Minnesota (Kamal J.K. Gandhi pers. comm. 2008), southern New Mexico (Fall and Cockerell 1907: 157), and southeastern Arizona (Dajoz 2007: 21; Lindroth 1969a: 1114). The records from “Massachusetts” and “Pennsylvania” (Bousquet and Laroche 1993: 136) are in error.

**Records.** DEN: GL FRA: PM CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, QC, SK, YT USA: AK, AZ, CO, ME, MI, MN, MT, NH, NM, NV, NY, UT, VT, WI, WY – **Holarctic**

**Note.** This species is listed as *incertae sedis* by Marggi et al. (2003: 271) and Maddison (2012: 542). It belongs to the *Ocydromus* Complex. For convenience, the species is listed in the subgenus *Peryphanes* where Lindroth (1963b: 319, as *grapei* group) placed it.

### ***Bembidion lacunarium* (Zimmermann, 1869)**

*Ochthedromus lacunarius* Zimmermann [in LeConte], 1869b: 248. Type locality: «middle states» (original citation), restricted to «White Sulphur Springs [Greenbrier County], W[est] V[irginia]» by Lindroth (1963b: 325). Syntype(s) probably lost.

*Bembidion militare* Casey, 1884c: 65. Type locality: «Willets Point [Queens County], Long Island [New York]» (original citation). Holotype [by monotypy] in MCZ [# 5518]. Synonymy established, under the name *B. picipes* (Kirby) *sensu* Hayward (= *B. lacunarium* Zimmermann), by Hayward (1897: 83), confirmed by Lindroth (1954b: 125).

*Bembidion histricum* Casey, 1918: 68. Type locality: «probably Indiana» (original citation). Holotype [by monotypy] (♂) in USNM [# 36927]. Synonymy established by Lindroth (1963b: 325).

**Distribution.** This eastern species is found from New Brunswick (Webster and Bousquet 2008: 17) to “North Dakota” (Donald P. Schwert pers. comm. 1989), south to Big Bend National Park in western Texas (Dajoz 2007: 23) and Tennessee (Canon, Clay, Fayette, Macon, Madison, Overton, Smith, Wayne, and Wilson Counties, CMNH), including northeastern New Mexico (Fall and Cockerell 1907: 157, as *B. picipes*). The record from British Columbia (Jarrett and Scudder 2001: 381) was based on misidentified specimens of *B. platynoides* Hayward (UBC).

**Records.** CAN: NB, ON, QC USA: CT, IA, IN, KS, KY, MA, MD, ME, MI, MN, MO, ND, NH, NJ, NM, NY, OH, PA, SD, TN, TX, VA, VT, WI, WV

**Note.** This species has been known for a long time under the name *B. picipes* (Kirby). Lindroth (1953b: 176) showed that Kirby’s syntypes of *B. picipes* were conspecific with those of *B. grapii* Gyllenhal.

### *Bembidion platynoides* Hayward, 1897

*Peryphus concolor* Motschulsky, 1850a: 9 [primary homonym of *Peryphus concolor* Kirby, 1837]. Type locality: «California» (original citation), cited from «St. Francisco» by Motschulsky (1859a: 129). Lectotype, designated by Bousquet and Laroche (1993: 16), in ZMMU.

*Bembidium platynoides* Hayward, 1897: 78. Type locality: «Pomona [Los Angeles County], California» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1984a: 179), in MCZ [# 16287]. Synonymy established by Bousquet and Laroche (1993: 16).

*Bembidion insopitans* Casey, 1918: 68. Type locality: «Victoria, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36926]. Synonymy established by Lindroth (1963b: 322).

*Bembidion optatum* Casey, 1918: 69. Type locality: «Redwood Creek, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36929]. Synonymy established by Lindroth (1963b: 322).

*Bembidion merens* Casey, 1918: 70. Type locality: Gualala, Mendocino County, California (lectotype label according to Lindroth 1975: 119). Lectotype (♂), designated by Lindroth (1975: 119), in USNM [# 36930]. Synonymy established by Lindroth (1963b: 322).

*Bembidion sedulum* Casey, 1918: 70. Type locality: «southern California» (original citation). Lectotype (♂), designated by Erwin (1984a: 179), in USNM [# 36931]. Synonymy established by Erwin (1984a: 179).

**Distribution.** The range of this western species extends from Vancouver Island (Lindroth 1963b: 323) to western Montana (Russell 1968: 53; Edwards 1975: 53), north

to central British Columbia (Lindroth 1963b: 323), south to southern California (Hayward 1897: 79; Fall 1901a: 42; Moore 1937: 6). The record from “New Mexico” (Bousquet and Larochelle 1993: 136) is probably in error.

**Records.** CAN: BC (VCI) USA: AZ, CA (CHI), ID, MT, OR, WA

### ***Bembidion stephensii* Crotch, 1866**

*Peryphus affinis* Stephens, 1835: 386 [secondary homonym of *Bembidion affine* (Say, 1823)]. Type locality: «near Marton, Yorkshire [United Kingdom]» (original citation). Syntype(s) location unknown.

*Bembidium stephensii* Crotch, 1866: 110. Replacement name for *Bembidium affine* (Stephens, 1835). Etymology. The specific name honors the British entomologist James Francis Stephens [1792-1852] who worked as a clerk in the admiralty at Somerset House in London and later at the British Museum. Stephens devoted a large part of his life to study British insects. His collection was purchased by the British Museum and his fine library was acquired by Henry Tibbats Stainton who continued Stephens’ practice of allowing fellow entomologists to use his library on Wednesday evenings. Stainton produced a catalogue of Stephens’ books in 1853, under the title *Bibliotheca Stephensiana*.

*Bembidium canadense* Hayward, 1897: 77. Type locality: «near Ottawa [Ontario], Canada» (original citation). One syntype [2 originally cited] in MCZ [# 16286]. Synonymy established by Lindroth (1954b: 125).

**Distribution.** This Palearctic species is adventive in North America where it is known from Newfoundland (Lindroth 1955a: 58) to northeastern Wisconsin (Forest County, CMNH; Messer 2010: 36), south to northern Ohio (Lee 1994: 58) and Massachusetts (Lindroth 1955a: 58). The records from “Rhode Island” and “Virginia” (Bousquet and Larochelle 1993: 136) need confirmation. The first inventoried specimen collected on this continent was found in Ottawa, Ontario in 1891 (Lindroth 1963b: 323).

**Records.** FRA: PM CAN: NB, NF, NS (CBI), ON, PE, QC USA: MA, ME, NH, NY, OH, VT, WI [RI, VA] – **Adventive**

### ***Bembidion subangustatum* Hayward, 1897**

*Bembidium subangustatum* Hayward, 1897: 83. Type locality: «New Mexico and Arizona» (original citation). Two syntypes [“about a dozen” originally cited] in MCZ [# 16289].

**Distribution.** This species is known from western Texas (Jeff Davis County, Ken Karns pers. comm. 2009), southern New Mexico (Fall and Cockerell 1907: 157), southern Arizona (Casey 1918: 67), southeastern California (Dajoz 2007: 20), and “Mexico” (Casey 1918: 67).

**Records.** USA: AZ, CA, NM, TX – Mexico

***Bembidion texanum* Chaudoir, 1868**

*Bembidium texanum* Chaudoir, 1868b: 240. Type locality: «Texas» (original citation), herein restricted to Kerrville, Kerr County (CNC). Lectotype (♂), designated by Lindroth (1963b: 325), in MHNP.

*Bembidion inquietum* Casey, 1918: 67. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype (♀), designated by Erwin (1984a: 184), in USNM [# 36924]. Synonymy established by Erwin (1984a: 184).

*Bembidion cogitans* Casey, 1918: 69. Type locality: «probably Indiana» (original citation). Lectotype (♂), designated by Erwin (1984a: 184), in USNM [# 36928]. Synonymy established by Erwin (1984a: 184).

**Distribution.** This species ranges from northwestern Ohio (Holeski and Graves 1982: 216) to southern Manitoba (Lindroth 1963b: 326), south to southeastern Arizona (Maddison 1985: 114; Dajoz 2007: 21), northwestern New Mexico (Casey 1918: 67 as *B. inquietum*), west-central and central Texas (Blanco, Crockett, Edwards, Travis, and Williamson Counties, CMNH), southeastern Louisiana (Summers 1874a: 81), and northern Mississippi (Grenada and Pontotoc Counties, Drew A. Hildebrandt pers. comm. 2010).

**Records.** CAN: MB USA: AR, AZ, CO, IA, IL, IN, KS, KY, LA, MN, MO, MS, NE, NM, OH, OK, SD, TN, TX, WI

***Bembidion yukonum* Fall, 1926**

*Bembidion yukonum* Fall, 1926a: 131. Type locality: «Dawson, Yukon Territory» (original citation). Holotype (♂) in MCZ [# 23869].

*Bembidion nitidulum* var. *grapeioides* Munster, 1930: 354. Type locality: «Neiden i Syd-Varanger [Norway]» (original citation). Holotype location unknown (possibly in ZMUO). Synonymy established by Lindroth (1954b: 129).

*Bembidion nitidulum* var. *sahlbergioides* Munster, 1932: 80. Unnecessary replacement name for *B. nitidulum* var. *grapeioides* Munster, 1930.

**Distribution.** This Holarctic species is found from Scandinavia to eastern Siberia (Maggi et al. 2003: 272) and in North America from the Arctic Plains in northern Alaska (Lindroth 1963b: 321) to the north shore of the Saint Lawrence Estuary (Laroche 1975: Fig. 183), south to east-central British Columbia (Lindroth 1963b: 321).

**Records.** CAN: BC, MB, NT, QC, YT USA: AK – **Holarctic**

**Note.** This species is listed as *incertae sedis* by Maggi et al. (2003: 272). It was not sequenced by Maddison (2012). For convenience, the species is listed in the subgenus *Peryphanes* where Lindroth (1963b: 321, as *grapei* group) placed it.

**Subgenus *Testediolum* Ganglbauer, 1891**

*Testediolum* Ganglbauer, 1891a: 153. Type species: *Bembidium glaciale* Heer, 1837 designated by Jeannel (1941a: 97). Etymology. From the generic name *Testedium* and the Latin suffix *-olum* (small, little) [neuter].

*Peryphidium* Tschitschérine, 1895: 233. Type species: *Bembidium tjanschanicum* Tschitschérine, 1895 (= *Bembidion kokandicum* Solsky, 1874) by monotypy. Synonymy established by Netolitzky (1921: 210). Etymology. From the generic name *Peryphus* [*q.v.*] and the Latin suffix *-idium* (small, little) [neuter].

**Diversity.** Northern Hemisphere, with 24 species in the Nearctic (6 species) and Palearctic (18 species) Regions arrayed in three species groups, two of these groups being exclusively Eurasian. One species from India, *B. braminum* Andrewes, is usually also included in this subgenus (see Lorenz 2005: 234) but its taxonomic position should be reevaluated.

**Identification.** Lindroth (1963b: 312-314, as *nebraskense* group) covered all but two species (*B. modocianum* and *B. perbrevicolle*) described by Casey.

### ***Bembidion commotum* Casey, 1918**

*Bembidion commotum* Casey, 1918: 23. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 118), in USNM [# 36824].

*Bembidion seclusum* Casey, 1918: 23. Type locality: «Placer Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 36825]. Synonymy established by Lindroth (1963b: 313).

**Distribution.** This species is found in the North American Cordilleras from southeastern Alberta and southern British Columbia south to the Sierra Nevada in California (Lindroth 1963b: 313) and to central Colorado (Wickham 1902: 233, as *B. breve*) along the Rocky Mountains.

**Records.** CAN: AB, BC USA: CA, CO, ID, MT, NV, OR, WA, WY

**Note.** This species has been known until the 1960s under the name *B. breve* (Motschulsky).

### ***Bembidion modocianum* Casey, 1924**

*Bembidion modocianum* Casey, 1924: 29. Type locality: «Modoc Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 177), in USNM [# 36882].

**Distribution.** This species is known so far only from the type series collected in northeastern California.

**Records.** USA: CA

### ***Bembidion nebraskense* LeConte, 1863**

*Bembidium nebraskense* LeConte, 1863c: 19. Type locality: «Nebraska [Territory], near the Rocky Mountains [probably in present day Colorado]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5506].



*Bembidion denveranum* Casey, 1918: 64. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Erwin (1984a: 177), in USNM [# 36898]. Synonymy established by Erwin (1984a: 177).

*Bembidion tractabile* Casey, 1918: 64. Type locality: «Utah» (original citation). Lectotype (♀), designated by Erwin (1984a: 177), in USNM [# 36901]. Synonymy established by Erwin (1984a: 177).

*Bembidion govanicum* Casey, 1924: 31. Type locality: «Govan [Lincoln County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 118), in USNM [# 36895]. Synonymy established by Hatch (1953: 89), confirmed by Lindroth (1963b: 312).

**Distribution.** This western species is known from southwestern Alberta and southern British Columbia (Lindroth 1963b: 312) south at least to northeastern California (Modoc County, CNC; Hayward 1897: 69), Nevada (White Pine County, CMNH), northern Utah (Rich County, UASM), and northern New Mexico (Taos County, UASM; Hayward 1897: 69; Maddison 2012: Supplementary content Table S1). The record from “Nebraska” (Hayward 1897: 69) probably originated from the original statement about the type locality.

**Records.** CAN: AB, BC USA: CA, CO, ID, MT, NM, NV, OR, UT, WA, WY

### *Bembidion obscuripenne* Blaisdell, 1902

*Bembidium obscuripenne* Blaisdell, 1902: 74. Type locality: «Oregon» (original citation), restricted to «Dallas [Polk County]» by Lindroth (1963b: 314). Syntype(s) [2 originally cited] in CAS [# 2657].

*Bembidium whitneyi* Fall, 1910: 96. Type locality: «M[oun]t Whitney (8,000 to 11,000 feet) [Tulare-Inyo Counties], California» (original citation). Syntype(s) in MCZ [# 23868]. Synonymy established by Lindroth (1963b: 314).

*Bembidium micans* Notman, 1919b: 227. Type locality: «Dallas [Polk County], Ore[gon]» (original citation). Syntype(s) [2 originally cited] location unknown (originally in collection C.W. Leng). Synonymy established by Lindroth (1963b: 314).

*Bembidion immaculosum* Hatch, 1950: 101. Type locality: «Spokane [Spokane County], Washington» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1963b: 314).

**Distribution.** This species is found along the North American Cordilleras from northern Washington (Hatch 1950: 101, as *B. immaculosum*) to Sequoia National Park in southeastern California along the Sierra Nevada (Fall 1910: 96, as *B. whitneyi*; Dajoz 2007: 16). The records from southern Idaho (Horning and Barr 1970: 24; Stafford et al. 1986: 288, as *B. immaculosum*) and British Columbia (Hatch 1953: 89, as *B. nevadense* sensu Hatch) need confirmation.

**Records.** USA: CA, OR, WA [BC, ID]

***Bembidion perbrevicolle* Casey, 1924**

*Bembidion perbrevicolle* Casey, 1924: 25. Type locality: «Placer Co[unty], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 178), in USNM [# 36826].

**Distribution.** According to Erwin (1984a: 178), this species occurs in the foothills of the Sierra Nevada of California.

**Records. USA:** CA

***Bembidion ulkei* Lindroth, 1963**

*Bembidion ulkei* Lindroth, 1963b: 314. Type locality: «Nevada» (original citation). Holotype (♂) in CMNH. Etymology. The specific name honors Henry Ulke [1821-1910], a German by birth, who emigrated with his two brothers in 1852 to the United States and settled first in New York, then Philadelphia and finally in Washington DC. He was a portrait painter by profession and painted presidents (hence his soubriquet of “painter of presidents”), cabinet officers, and worthy individuals. Following the death of his wife in 1893 he lost interest in entomology and sold his collection in November 1900 to the Carnegie Museum in Pittsburgh.

**Distribution.** This species is known only from the original six specimens collected in “Nevada.”

**Records. USA:** NV

**Subgenus *Leuchydrium* Casey, 1918**

*Leuchydrium* Casey, 1918: 46. Type species: *Bembidium tigrinum* LeConte, 1879 by monotypy. Etymology. From Greek *leukos* (white) and the generic name *Hydrium* [*q.v.*], alluding to the pale coloration of adults of the sole species (“pallid coloration”) [neuter].

**Diversity.** One North American species along the Pacific Coast.

**Identification.** The species is included in Lindroth’s (1963b: 224) key to the Canadian *Bembidion*.

***Bembidion tigrinum* LeConte, 1879**

*Bembidium tigrinum* LeConte, 1879d: 509. Type locality: «southern part of California» (original citation), herein restricted to Santa Barbara, Santa Barbara County (Fall 1901a: 43). Holotype [by monotypy] (♀) in MCZ [# 5521].

**Distribution.** This species ranges along the Pacific Coast from the southern tip of Vancouver Island (Bousquet 1987a: 121) to southern California (LeConte 1879d: 509; Fall 1901a: 9).

**Records. CAN:** BC **USA:** CA, OR, WA

### Subgenus *Bembidion* Latreille, 1802

*Bembidion* Latreille, 1802: 82. Type species: *Carabus quadriguttatus* Fabricius, 1775 (= *Cicindela quadrimaculata* Linnaeus, 1760) designated by Andrewes (1935: 17).

*Lopha* Dejean, 1821: 17. Type species: *Cicindela quadrimaculata* Linnaeus, 1760 designated by Westwood (1838: 7).

*Taractus* Gistel, 1856: 359. Type species: *Cicindela quadrimaculata* Linnaeus, 1760 designated by Bousquet (2002b: 50). Etymology. Possibly from the Greek *taractes* (disturbed) [masculine].

**Diversity.** Northern Hemisphere, with 11 species in the Nearctic (six species) and Palearctic (six species) Regions. One species (*B. quadrimaculatum*) is Holarctic but with different subspecies in the Nearctic and Palearctic Regions.

**Identification.** Lindroth (1963b: 382–387) covered four of the North American species in his monograph. A revision of the Nearctic species is needed.

### *Bembidion adductum* Casey, 1918

*Bembidion adductum* Casey, 1918: 149. Type locality: «Paraiso Hot Springs, Monterey Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 166), in USNM [# 37062].

*Bembidion relictum* Casey, 1918: 153 [primary homonym of *Bembidion relictum* Apfelbeck, 1904]. Type locality: «Truckee [Nevada County], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 37067]. Synonymy established by Erwin (1984a: 166).

*Bembidion reliquum* Csiki, 1928: 145. Replacement name for *Bembidion relictum* Casey, 1918.

**Distribution.** This species is known from the Sierra Nevada (Casey 1918: 153, as *B. relictum*; Dajoz 2007: 17) and the Coast Ranges in west-central California. The record from eastern Oregon (Hatch 1953: 98, as *B. relictum*) needs confirmation.

**Records. USA:** CA [OR]

### *Bembidion mutatum* Gemminger and Harold, 1868

*Ochthedromus axillaris* LeConte, 1850: 211 [secondary homonym of *Bembidion axillare* (Motschulsky, 1844)]. Type locality: «Sault [= Sault Sainte Marie; according to Lindroth (1963b: 386) probably the locality in Ontario]» (original citation). Two syntypes in MCZ [# 5550]. NOTE. Lindroth (1963b: 386) pointed out that the syntype, labeled as type, in MCZ has the forebody of this species glued to the hindbody of *B. quadrimaculatum* (Linnaeus). The description of *B. axillare* points to the forebody as being part of the original specimen.

*Bembicidium mutatum* Gemminger and Harold, 1868a: 416. Replacement name for *Bembicidiun axillare* (LeConte, 1850).

*Bembidion vegetum* Casey, 1918: 151. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 121), in USNM [# 37064]. Synonymy established by Lindroth (1963b: 386).

**Distribution.** The range of this species extends from Newfoundland (Lindroth 1955a: 73) to east-central Alaska (Lindroth 1963b: 387), south to Nechako River in central British Columbia, northern New Mexico (Fall and Cockerell 1907: 157), west-central Minnesota (Gandhi et al. 2005: 924), the Adirondack Mountains in northeastern New York (Notman 1928: 218), and New England (Lindroth 1963b: 387). The record from “Washington” (Bousquet and Larochelle 1993: 146) is probably in error.

**Records.** CAN: AB, BC, MB, NB, NF, NS, NT, ON, QC, SK, YT USA: AK, CO, ID, ME, MI, MN, NH, NM, NY, UT, VT, WI, WY

### *Bembidion oregonense* Hatch, 1953

*Bembidion oregonense* Hatch, 1953: 98. Type locality: «Clear Lake [Marion County], Ore[gon]» (original citation). Holotype (♀) in USNM.

**Distribution.** As far as known, this species has been recorded from the type locality and Frenchglen, Harney County, in Oregon (Hatch 1953: 98).

**Records.** USA: OR

### *Bembidion pedicellatum* LeConte, 1857

*Bembidium pedicellatum* LeConte, 1857a: 6. Type locality: «Lancaster Co[unty], Pennsylvania» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5551].

*Bembidion strigulosum* Casey, 1918: 150. Type locality: «District of Columbia» (original citation). Lectotype (♂), designated by Erwin (1984a: 178), in USNM [# 37068]. Synonymy established by Lindroth (1963b: 383), confirmed by Erwin (1984a: 178).

*Bembidion fastidiosum* Casey, 1918: 150. Type locality: «S[ain]t Louis, Missouri» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1984a: 178), in USNM [# 37069]. Synonymy established by Lindroth (1963b: 383), confirmed by Erwin (1984a: 178).

**Distribution.** This species ranges from southeastern Pennsylvania (Delaware and Lebanon Counties, Robert L. Davidson pers. comm. 2008) to southeastern Minnesota (Gandhi et al. 2005: 925), south to central Texas (Bosque County, CMNH) and eastern Tennessee (Sevier County, CNC). The records from “New Jersey” and “North Carolina” (Bousquet and Larochelle 1993: 146) need confirmation.

**Records.** USA: DC, DE, IA, IL, IN, KY, KS, MD, MI, MN, MO, NE, OH, PA, TN, TX, VA, WI, WV [NC, NJ]



***Bembidion praecinctum* LeConte, 1879**

*Bembidium praecinctum* LeConte, 1879d: 509. Type locality: «Alamosa [Alamosa County], Colo[rado]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5547].

*Bembidion veridicum* Casey, 1918: 152. Type locality: «Elko [Elko County], Nevada» (original citation). Lectotype (♂), designated by Erwin (1984a: 179), in USNM [# 37066]. Synonymy established by Erwin (1984a: 179).

*Bembidion alutaceum* Hatch, 1950: 103. Type locality: «Mottet Meadow, Blue M[oun]t[ain]s [Union County], Oregon» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1963b: 385).

**Distribution.** This species is found from southern Manitoba (Lindroth 1963b: 386) to southeastern Washington (Hatch 1953: 98), including southern Saskatchewan and Alberta (Lindroth 1963b: 386), south at least to Santa Barbara County in southwestern California (Maddison 1985: 113), southern Arizona (Dajoz 2007: 21), and southern Colorado (LeConte 1879d: 509; Wickham 1902: 234).

**Records.** CAN: AB, MB, SK USA: AZ, CA, CO, ID, MT, NV, OR, UT, WA, WY

***Bembidion quadrimaculatum dubitans* (LeConte, 1852)**

*Ochthedromus dubitans* LeConte, 1852a: 189. Type locality: «San Francisco [San Francisco County, California]» (original citation). Syntype(s) in MCZ [# 5548].

*Ochthedromus cruralis* LeConte, 1852a: 189. Type locality: «San Jose [Santa Clara County, California]» (original citation). Syntype(s) in MCZ [# 5549]. Synonymy established by Hayward (1897: 136), confirmed by Lindroth (1963b: 384).

*Bembidion gregale* Casey, 1918: 148. Type locality: «Agassiz, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 121), in USNM [# 37060]. Synonymy established by Hatch (1953: 98), confirmed by Lindroth (1963b: 384).

*Bembidion pugetanum* Casey, 1918: 148 [primary homonym of *Bembidion pugetanum* Fall, 1916]. Type locality: «Spokane [Spokane County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37061]. Synonymy established by Hatch (1953: 98), confirmed by Lindroth (1963b: 384).

*Bembidion sapphicum* Casey, 1918: 149. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37063]. Synonymy established by Lindroth (1963b: 384).

*Bembidion tenax* Casey, 1918: 152. Type locality: «Fort Wingate [McKinley County], New Mexico» (original citation). Lectotype (♂), designated by Erwin (1984a: 180), in USNM [# 37065]. Synonymy established by Erwin (1984a: 180).

*Bembidion caseyi* Leng, 1919b: 202. Replacement name for *Bembidion pugetanum* Casey, 1918.

**Distribution.** This subspecies ranges from the southwestern edge of Lac Winnipeg in southern Manitoba to Vancouver Island (Hayward 1897: 119), north to the Brook Range in Alaska (Lindroth 1963b: 385), south to the Baja California Peninsula (Horn



1894: 308) and southern New Mexico (Fall and Cockerell 1907: 157). The records from Kansas (Snow 1903: 193; Knaus 1905a: 218) need confirmation.

**Records.** **CAN:** AB, BC (VCI), MB, NT, SK, YT **USA:** AK, AZ, CA, CO, ID, MT, NM, NV, OR, WA, WY [KS] – Mexico

**Note.** Three other subspecies, including the nominotypical one, are known from the Palaearctic Region (Toledano 1999: 205-210).

### ***Bembidion quadrimaculatum oppositum* Say, 1823**

*Bembidium oppositum* Say, 1823a: 86. Type locality: «Rumney [Grafton County], N[ew] H[ampshire]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 338), in MCZ [# 33062].

**Distribution.** This subspecies ranges from Newfoundland (Lindroth 1955a: 72) to the Rocky Mountains in Alberta (Lindroth 1963b: 384), south to central Colorado (Wickham 1902: 235), “Texas” (Lindroth 1963b: 384), northern Georgia (Fattig 1949: 18), and east-central South Carolina (Ciegler 2000: 48).

**Records.** **CAN:** AB, MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** CO, CT, DC, GA, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

### **Subgenus *Cyclolopha* Casey, 1918**

*Cyclolopha* Casey, 1918: 144. Type species: *Bembidium sphaeroderum* Bates, 1882 designated by Erwin (1982b: 483). Etymology. From the Greek *cyclos* (circle) and the generic name *Lopha* [*q.v.*], alluding to the sphaerical body shape (“oblong-oval, convex body”) of adults of these *Lopha*-like species [feminine].

**Diversity.** Six Neotropical species of which three extend into southwestern North America.

**Identification.** Perrault (1982a) revised the species except *B. jucundum* Horn.

### ***Bembidion jucundum* Horn, 1895**

*Bembidium jucundum* G.H. Horn, 1895: 230. Type locality: «San José del Cabo [Baja California, Mexico]» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1984a: 175), in CAS [# 1].

**Distribution.** This species is known from the Baja California Peninsula and “Arizona” (Hayward 1897: 121).

**Records.** **USA:** AZ – Mexico

### ***Bembidion poculare* Bates, 1884**

*Bembidium poculare* Bates, 1884: 291. Type locality: «Mexico» (original citation). One syntype in BMNH (Perrault 1982a: 98).

*Bembidium dilaticolle* Notman, 1919b: 227. Type locality: «Huachuca M[oun]t[ain]s [Cochise County], Ariz[ona]» (original citation). Holotype [by monotypy] (♀) in SIM (Hennessey 1990: 466). Synonymy established by Perrault (1982a: 98).

**Distribution.** This species ranges from southeastern Arizona and southwestern New Mexico (Hidalgo County, CMNH) south to the Isthmus of Tehuantepec in southern Mexico [see Perrault 1982a: Fig. 64].

**Records. USA:** AZ, NM – Mexico

### *Bembidion sphaeroderum* Bates, 1882

*Bembidium sphaeroderum* Bates, 1882a: 147. Type locality: «Jalapa [Veracruz], Mexico» (original citation). Lectotype (♂), designated by Perrault (1982a: 100), in BMNH.

*Bembidion occultum* Casey, 1918: 144. Type locality: «Grand Cañon of the Colorado, Arizona» (original citation). One syntype in USNM [# 37056]. Synonymy established by Perrault (1982a: 100).

*Bembidion minax* Casey, 1918: 146. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). One syntype in USNM [# 37059]. Synonymy established by Perrault (1982a: 100).

**Distribution.** This species is found from Arizona and New Mexico south to Oaxaca in Mexico [see Perrault 1982a: Fig. 64].

**Records. USA:** AZ, NM – Mexico

### Subgenus *Furcacampa* Netolitzky, 1931

*Furcacampa* Netolitzky, 1931: 158. Type species: *Bembidium affinis* Say, 1823 by original designation. Etymology. From the Latin *furca* (fork) and the generic name *Campa* [feminine].

**Diversity.** Western Hemisphere, with nine species in North America (nine species) and northern Neotropical (three species in Cuba and Mexico, all shared with North America) Regions.

**Identification.** Lindroth (1963b: 376–381, as *affine* and *versicolor* groups) covered six of the nine species, leaving three species described by Casey. A taxonomic revision of the subgenus is needed.

#### [*affine* group]

### *Bembidion affine* Say, 1823

*Bembidium affinis* Say, 1823a: 86. Type locality: «Mobile [Mobile County], Ala[bama]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 338), in MCZ [# 33063].

*Bembidium decipiens* Dejean, 1831: 159. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 14). Synonymy established by LeConte (1847: 462), confirmed by Lindroth (1955b: 14).

*Bembidium fallax* Dejean, 1831: 189. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 14). Synonymy established by LeConte (1850: 211), confirmed by Lindroth (1955b: 14).

*Bembidion thespis* Casey, 1918: 128. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37001]. Synonymy established by Lindroth (1963b: 376).

**Distribution.** This species ranges from southwestern Quebec (CNC) to “North Dakota” (Donald P. Schwert pers. comm. 1989), south to east-central Texas (Casey 1918: 128; Riley 2011) and the Florida Panhandle (Peck and Thomas 1998: 18); also recorded from Cuba (Jacquelin du Val 1857: 23). The records from Arizona (Wickham 1896a: 157; Hayward 1897: 122) and “Colorado” (Wickham 1902: 235) need confirmation.

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, NC, ND, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [AZ, CO] – Cuba

[**versicolor group**]

***Bembidion egens* Casey, 1918**

*Bembidion egens* Casey, 1918: 132. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype (♂), designated by Erwin (1984a: 171), in USNM [# 37016].

*Bembidion demissum* Casey, 1918: 133. Type locality: «near Benson [Cochise County], Arizona» (original citation). Lectotype (♀), designated by Erwin (1984a: 171), in USNM [# 37019]. Synonymy established by Erwin (1984a: 171).

**Distribution.** This species is known from central Wyoming (Natrona County, CMNH) south to northwestern New Mexico (Casey 1918: 132) and southern Arizona (Casey 1918: 133, as *B. demissum*; Cochise and Pima Counties, CMNH). The record from northeastern California (Notman 1929b: 223, as *B. demissum*) needs confirmation.

**Records.** USA: AZ, CO, NM, WY [CA]

***Bembidion fuchsii* Blaisdell, 1902**

*Bembidium fuchsii* Blaisdell, 1902: 77. Type locality: «Blue Lakes, Alpine County, Cal[ifornia]» (original citation). Holotype (♂) in CAS [# 2664]. Etymology. The specific name was proposed for Charles Fuchs [1839-1914], an enthusiastic coleopterist. Born in Germany, Fusch immigrated to the United States at the age of 25 and settled first in New York and later in California. A large part of his collection was lost in the San Francisco earthquake and fire in 1906. He was instrumental in the establishment of the Brooklyn Entomological Society in 1872 and the California Entomological Club in 1901 which became a year later the Pacific Coast Entomological Society.

**Distribution.** This species is known from eastern Washington (Hatch 1953: 97) to central Wyoming (Natrona County, CMNH), south at least to the Sierra Nevada in east-central California (Blaisdell 1902: 77).

**Records. USA:** CA, ID, OR, WA, WY

### ***Bembidion impotens* Casey, 1918**

*Ochthedromus pictus* LeConte, 1847: 461 [secondary homonym of *Bembidion pictum* (Duftschmid, 1812)]. Type locality: «Rocky Mountains» (original citation). Syntype(s) in MCZ [# 5537].

*Emphanes flavopictus* Motschulsky, 1858: 153. Replacement name for *Emphanes pictus* (LeConte, 1847). NOTE. This name was first introduced by Motschulsky (1850a: 13) in a catalogue but the taxon was not described. Subsequently Motschulsky (1858: 153) listed the name in synonymy with *Ochthedromus pictus* LeConte and pointed out that since LeConte's name was preoccupied, his name could be preserved. In my opinion such statement should be interpreted as the introduction of a replacement name. Casey (1918: 135) eventually described *Bembidion flavopictum* Motschulsky from the "coast region, from S[an]ta Cruz to Humboldt, California." This name should have precedence over *B. impotens* Casey, 1918 but since Casey's name has been used as valid since the 1920s, I believe it should be preserved and the case eventually submitted to the Commission for a ruling. The reversal of precedence (ICZN 1999: Article 23.9.1) could not be applied since Motschulsky's name has been used as a valid name after 1899 by Casey (1918: 135).

*Bembidion impotens* Casey, 1918: 129. Replacement name for *Bembidion pictum* (LeConte, 1847).

*Bembidion aestivum* Casey, 1918: 129. Type locality: «Highland Park [Lake County], northern Illinois» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37005]. Synonymy established by Lindroth (1963b: 380).

*Bembidion frugale* Casey, 1918: 130. Type locality: «Yuma Reservation, California» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 37006]. Synonymy established by Erwin (1984a: 174).

*Bembidion imbelle* Casey, 1918: 130. Type locality: «Dallas [Dallas County], Texas» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 37007]. Synonymy established by Erwin (1984a: 174).

*Bembidion gratuitum* Casey, 1918: 130. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 37004]. Synonymy established by Erwin (1984a: 174).

*Bembidion virgatulum* Casey, 1918: 131. Type locality: «Reno [Washoe County], Nevada» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 37003]. Synonymy established by Erwin (1984a: 174).

*Bembidion indigens* Casey, 1918: 133. Type locality: «Federal District, Mexico» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 37017]. Synonymy established by Erwin (1984a: 174).



*Bembidion pullulum* Casey, 1918: 133. Type locality: «Amecameca, Mexico» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 37018]. Synonymy established by Erwin (1984a: 174).

**Distribution.** This species occurs from southwestern New Brunswick (Larochelle and Larivière 1990a: 29, 34) to southern British Columbia (Lindroth 1963b: 381), south to southeastern California (Casey 1918: 130, as *B. frugale*; Andrews et al. 1979: 28), the Federal District in Mexico (Casey 1918: 133, as *B. indigens*), and southern Florida (Peck and Thomas 1998: 18).

**Records.** CAN: BC, MB, NB, ON, QC, SK USA: AR, AZ, CA, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NJ, NM, NV, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY – Mexico

### *Bembidion mimus* Hayward, 1897

*Bembidium mimus* Hayward, 1897: 108. Type locality not stated; «Nipigon, Ont[ario]» selected by Lindroth (1963b: 380). One possible syntype in MCZ [# 5536] labeled “L[ake] Sup[erior].”

*Bembidion rotundiceps* Casey, 1918: 132. Type locality: «Long Island, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 121), in USNM [# 37012]. Synonymy established by Lindroth (1963b: 380).

*Bembidion pallax* Casey, 1918: 136. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37015]. Synonymy established by Lindroth (1954b: 127).

**Distribution.** The range of this species extends from southern Newfoundland (Lindroth 1955a: 72) to southern Saskatchewan (Ronald R. Hooper pers. comm. 1990), south to northern Nebraska (Cherry County, Foster F. Purrington pers. comm. 2010), “Illinois” (Lindroth 1955a: 72), and northeastern West Virginia (Tucker County, CMNH). The record from the Atlantic Coast in South Carolina (Kirk 1969: 10; Ciegler 2000: 48) needs confirmation.

**Records.** CAN: MB, NB, NF, NS (CBI), ON, PE, QC, SK USA: CT, IA, IL, MA, ME, MI, MN, NE, NH, NJ, NY, OH, PA, RI, SD, VT, WI, WV [SC]

### *Bembidion nogalesium* Casey, 1924

*Bembidion nogalesium* Casey, 1924: 42. Type locality: «Nogales, S[an]ta Cruz Co[unty], Arizona» (original citation). Lectotype (♀), designated by Erwin (1984a: 177), in USNM [# 37020].

**Distribution.** This species has been collected in western Texas (Brewster County, CMNH), southern Arizona (Cochise, Pima, and Pinal Counties, CMNH; Casey, 1924: 42), and in Baja California Sur (CMNH).

**Records.** USA: AZ, TX – Mexico





**Figure 24.** *Mioptachys flavicauda* (Say). This small species is a characteristic element of the fauna that lives under the bark of dead deciduous trees. Despite its size, it is easily recognized in the field by its conspicuous yellow apical third of the elytra. Thomas Say, the first entomologist born on this continent worthy of the name, was struck by the coloration and for that reason proposed the name *flavicauda*, derived from the Latin *flavus* (yellow) and *cauda* (tail), for the species.

***Bembidion timidum* (LeConte, 1847)**

*Ochthedromus timidus* LeConte, 1847: 460. Type locality: «Rocky Mountains» (original citation), restricted to «San Luis Valley [Alamosa County], Color[ado]» by Lindroth (1963b: 378). Holotype [by monotypy] (♀) in MCZ [# 5534].

*Bembidium sordidulum* Chaudoir, 1868b: 244. Type locality: «Californie» (original citation). Holotype [by monotypy; designated lectotype by Lindroth (1963b: 378)] (♀) in MHNP. Synonymy established by Hayward (1901: 158), confirmed by Lindroth (1963b: 378).

*Bembidion oregonum* Casey, 1924: 42. Type locality: «Josephine Co[unty], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37010]. Synonymy established by Hatch (1953: 97), confirmed by Lindroth (1963b: 378).

**Distribution.** This species is found from western Ontario to Vancouver Island (Lindroth 1963b: 379), north to northern Yukon Territory (Maddison 1985: 114) and southern Northwest Territories (Lindroth 1963b: 379), south to southern California (Fall 1901a: 42; Andrews et al. 1979: 28), southern Arizona (Wickham 1898: 300; Griffith 1900: 565; Snow 1907: 142), central New Mexico (Ellis et al. 2001: 16), southern South Dakota (Kirk and Balsbaugh 1975: 19), and northwestern Minnesota (Polk County, CMNH; Kittson and Roseau Counties, Peter W. Messer pers. comm. 2009). The record from “Michigan” (Bousquet and Larochelle 1993: 145) needs confirmation.

**Records.** CAN: AB, BC (VCI), MB, NT, ON, SK, YT USA: AZ, CA, CO, ID, MN, MT, ND, NM, NV, OR, SD, UT, WA, WY [MI]

***Bembidion triviale* Casey, 1918**

*Bembidion triviale* Casey, 1918: 134. Type locality: «Lake Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 184), in USNM [# 37008].

*Bembidion temperans* Casey, 1918: 135. Type locality: «Lake Co[unty], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 184), in USNM [# 37009]. Synonymy established by Erwin (1984a: 184).

**Distribution.** This species is known only from Lake County in the California Coast Ranges.

**Records.** USA: CA

***Bembidion versicolor* (LeConte, 1847)**

*Notaphus variegatus* Kirby, 1837: 58 [secondary homonym of *Bembidion variegatum* Say, 1823]. Type locality: northern parts of British America (inferred from title of the book), restricted to «Nipigon, Ont[ario]» by Lindroth (1963b: 377). Two syntypes in BMNH labeled «S[outh] of L[ake] Winnipeg» (Lindroth 1953b: 176).

*Ochthedromus versicolor* LeConte, 1847: 462. Replacement name for *Ochthedromus variegatus* (Kirby, 1837). NOTE. Because this name was proposed as a replacement name, the specimen labeled as type [# 5535] of *B. versicolor* in MCZ has no status.

*Bembidion tolerans* Casey, 1918: 132. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 121), in USNM [# 37014]. Synonymy established by Lindroth (1954b: 127).

*Bembidion terracense* Casey, 1924: 41. Type locality: «Terrace, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37011]. Synonymy established by Lindroth (1954b: 128).

*Bembidion wisconsinium* Casey, 1924: 41. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♀), designated by Lindroth (1975: 121), in USNM [# 37013]. Synonymy established by Lindroth (1963b: 377).

**Distribution.** This species is found from Newfoundland (Lindroth 1955a: 70–71) to central Alaska (Lindroth 1963b: 378), south to northwestern Oregon (Westcott et al. 2006: 7), southern Colorado (LeConte 1879d: 501; Wickham 1902: 234; Elias 1987: 632), southwestern Nebraska (Keith County, CMNH), and southern South Carolina (Ciegler 2000: 49). The records from “Kansas” (Popenoe 1878: 79) and Arkansas (Wickham 1897: 104) need confirmation; those from Texas (Wickham 1897: 104), New Mexico (Fall and Cockerell 1907: 157) and Arizona (Wickham 1897: 104; Griffith 1900: 565) possibly refer to *B. impotens*.

**Records.** FRA: PM CAN: AB, BC (QCI, VCI), LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK USA: AK, CO, CT, DE, IA, ID, IL, IN, KY, MA, ME, MI, MN, MT, NC, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SC, SD, VA, VT, WA, WI, WV, WY [AR, KS]

### Subgenus *Neobembidion* Bousquet, 2006

*Neobembidion* Bousquet [in Bousquet and Webster], 2006: 34. Type species: *Bembidion constricticolle* Hayward, 1897 by original designation. Etymology. From the Greek prefix *neo-* (new) and the generic name *Bembidion* [*q.v.*], alluding to the fact that these *Bembidion* inhabit the New World [neuter].

**Diversity.** Four North American species.

**Identification.** Bousquet and Webster (2006) provided a key for the identification of three species. Subsequently, a species described by Casey and incorrectly placed in another subgenus, as a synonym, was found to belong to this subgenus (see below under *B. tencenti*).

### *Bembidion constricticolle* Hayward, 1897

*Bembidium constricticolle* Hayward, 1897: 112. Type locality: «valley of the San Juan River, N[ew] Mex[ico]; Winslow, Ariz[ona]; Colorado Springs, Colo[rado]» (original citation), restricted to «San Juan Valley [San Juan County]» by Lindroth (1963b: 346). Four syntypes in MCZ [# 16300].

**Distribution.** This species is found from southern Alberta (Lindroth 1969a: 1115) to southeastern Arizona (Cochise County, CMNH), southern New Mexico (Hidalgo County, CMNH; Fall and Cockerell 1907: 157), and western Texas (Brewster and Culberson Counties, CMNH, MCZ).

**Records.** CAN: AB USA: AZ, CO, NM, TX, UT, WY

***Bembidion nitidicolle* Bousquet, 2006**

*Bembidion nitidicolle* Bousquet [in Bousquet and Webster], 2006: 32. Type locality: «Rosefield (s[outh] e[ast] of Val Marie), Sask[at]chewan» (original citation). Holotype (♂) in CNC [# 23457].

**Distribution.** This species is known from southern Saskatchewan, central South Dakota (Bousquet and Webster 2006: 32), and southeastern Colorado (Pueblo County, Foster F. Purrington pers. comm. 2009).

**Records.** CAN: SK USA: CO, SD

**Note.** Members of this species are probably conspecific with *B. tencenti* Hatch (see “Note” section under *B. tencenti*).

***Bembidion nudipenne* Lindroth, 1963**

*Bembidion nudipenne* Lindroth, 1963b: 347. Type locality: «Brandon, Manit[oba]» (original citation). Holotype (♂) in CNC [# 8377].

**Distribution.** This species ranges from southern Manitoba to southern Alberta (Lindroth 1963b: 347), south to southern Texas (Kenedy County, CNC).

**Records.** CAN: AB, MB, SK USA: CO, ND, TX

***Bembidion tencenti* Hatch, 1951**

*Bembidion tencenti* Hatch, 1951: 115. Type locality: «Tencent L[ake], Harney Co[unty], Ore[gon]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from the holotype collected in southeastern Oregon.

**Records.** USA: OR

**Note.** This taxon has been listed as a junior synonym of *B. dejectum* Casey by Lindroth (1963b: 356) but the holotype is not conspecific with members of *B. dejectum*. The specimen belongs to the subgenus *Neobembidion* and is externally very similar and probably conspecific with members of *B. nitidicolle* Bousquet.

**Subgenus *Diplocampa* Bedel, 1896**

*Diplocampa* Bedel, 1896: 56, 70. Type species: *Bembidium assimile* Gyllenhal, 1810 designated by Jeannel (1941b: 462). Etymology. From the Greek prefix *diplo-* (double) and the generic name *Campa*, alluding to the frontal sulcus being dou-

ble (“*les bourrelets frontaux sont dédoublés*”) in the adult [feminine]. NOTE. Bedel (1896: 56) originally included two species in his new genus-group taxon: *Bembidion assimile* Gyllenhal and *B. fumigatum* (Duftschmid).

*Paralopha* Casey, 1918: 153 [junior homonym of *Paralopha* Bethune-Baker, 1908]. Type species: *Ochthedromus sulcatus* LeConte, 1847 (= *Peryphus transparens* Gebler, 1830) by original designation. Synonymy established by Netolitzky (1931: 164). Etymology. From the Greek *para* (near, next to) and the generic name *Lopha* [*q.v.*] [feminine].

**Diversity.** Northern Hemisphere, with eight species in the Nearctic (one Holarctic species) and Palaearctic (eight species) Regions.

**Identification.** Lindroth (1963b: 393–395) covered the North American species in his monograph of the Canadian and Alaskan Carabidae.

**Taxonomic Note.** One species (*B. longipenne* Putzeys) from Venezuela is currently included in this subgenus but is probably not consubgeneric with members of *Diplocampa*. *Bembidion hesperus* Crotch, described from the Azores and listed in this subgenus by Lorenz (2005: 223), is a junior synonym of *B. ambiguum* Dejean (Lindroth 1960b: 6), a species of the subgenus *Neja* Motschulsky.

### ***Bembidion transparens transparens* (Gebler, 1830)**

*Peryphus transparens* Gebler, 1830: 61. Type locality: «prope Barnaul [Altai Kray, southwestern Siberia, Russia]» (original citation). Syntype(s) probably in MHNP (Lindroth 1963b: 393).

*Ochthedromus sulcatus* LeConte, 1847: 463. Type locality: «Lacum Superiorem» (original citation). Three syntypes in MCZ [# 5552]. Synonymy established by Hatch (1953: 99), confirmed by Lindroth (1954b: 127).

*Ochthedromus trepidus* LeConte, 1847: 463. Type locality: «Lacum Superiorem» (original citation). Holotype [by monotypy] in MCZ [# 5557]. Synonymy established, under the name *B. sulcatum* (LeConte), by LeConte (1857a: 5), confirmed by Lindroth (1954b: 128).

*Bembidiun contaminatum* J.R. Sahlberg, 1875: 83. Type locality: «Åbo [= Turku, Finland]» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1963b: 393), in ZMH. Synonymy established (as aberration) by Csiki (1928: 136), confirmed by Lindroth (1963b: 393).

*Bembidion edmontonense* Casey, 1924: 37. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 121), in USNM [# 36953]. Synonymy established by Lindroth (1954b: 129).

**Distribution.** This Holarctic subspecies is found from northern Europe (Maggi et al. 2003: 248) to eastern Siberia (Kryzhanovskij et al. 1995: 82) and from the Chukchi Sea coast in Alaska (Lindroth 1963b: 394) to Newfoundland (Lindroth 1955a: 75–76), south to northern Pennsylvania (Bradford County, CMNH), northeastern Illinois



(Lake County, CNC), east-central South Dakota (Kirk and Balsbaugh 1975: 20), and “Oregon” (Hatch 1953: 99).

**Records.** **FRA:** PM **CAN:** AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, IA, ID, IL, IN, MA, ME, MI, MN, MT, NH, NY, OH, OR, PA, SD, VT, WA, WI – **Holarctic**

**Note.** The subspecies *B. transparens prostratum* (Motschulsky) occurs in the eastern part of Asia.

### **Subgenus *Semicampa* Netolitzky, 1910**

*Semicampa* Netolitzky, 1910: 217. Type species: *Bembidium schuppelii* Dejean, 1831 designated by Jeannel (1941b: 462). Etymology. From the Latin *semi-* (half) and the generic name *Campa* [feminine].

**Diversity.** Northern Hemisphere, with 26 species in the Nearctic (eight species) and Palaearctic (18 species) Regions.

**Identification.** Bousquet and Webster (2006) provided a key for the identification of all North American species except *B. rubiginosum*. Lindroth (1963b: 387-393) covered six of the eight North American species.

### ***Bembidion convexulum* Hayward, 1897**

*Bembidium convexulum* Hayward, 1897: 106. Type locality: «British Columbia; Laggan, Alberta» (original citation), restricted to «Creston, B[ritish] C[olumbia]» by Lindroth (1963b: 392). Syntype(s) [5 originally cited] in MCZ [# 16297].

*Bembidion novellum* Casey, 1918: 113. Type locality: «Truckee [Nevada County], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 37021]. Synonymy established by Lindroth (1963b: 392).

**Distribution.** This species inhabits the North American Cordilleras from the arctic circle in eastern Alaska and west-central Yukon Territory (Lindroth 1963b: 392) south to San Bernardino County in southeastern California (Dajoz 2007: 20, as *B. convexiuscula*), northern Idaho (Hatch 1953: 94), northwestern Wyoming (Teton County, UASM), and east-central Montana (Russell 1968: 57).

**Records.** **CAN:** AB, BC, YT **USA:** AK, CA, ID, MT, OR, WA, WY

### ***Bembidion morulum* LeConte, 1863**

*Bembidium morulum* LeConte, 1863c: 19. Type locality: «Hudson's Bay Territory» (original citation), restricted to «Churchill, Manit[oba]» by Lindroth (1963b: 389). Two syntypes in CMNH (collection Ulke).

*Bembidion browni* Lindroth, 1955a: 73. Type locality: «Churchill, Manitoba» (original citation). Holotype (♂) in CNC [# 6572]. Synonymy established by Lindroth (1963b: 389). **NOTE.** Lindroth (1954b: 158) proposed the name earlier but he did not meet the requirements of availability (ICZN, Article 13.1) at the time.

**Distribution.** This species is known from Newfoundland to central Alaska, south to northeastern British Columbia and southern Alberta in the Rocky Mountains (Lindroth 1963b: 389). Fossil remnants of this species, dated between about 10,400 and 28,000 years B.P., have been unearthed in eastern Minnesota, northeastern Wisconsin, Illinois (Schwert 1992: 77), Iowa (Baker et al. 1986: 96; Schwert 1992: 77), central North Dakota (Ashworth and Schwert 1992: 260), and Cape Breton Island in Nova Scotia (Miller 1997: 250).

**Records.** CAN: AB, BC, MB, NF, NT, ON, SK, YT USA: AK

***Bembidion muscicola* Hayward, 1897**

*Bembidium muscicola* Hayward, 1897: 122. Type locality: «Cambridge [Middlesex County], Massachusetts» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1963b: 387), in MCZ [# 16303].

**Distribution.** This eastern species ranges from Cape Breton Island to southern Saskatchewan (Lindroth 1963b: 388), south to eastern South Dakota (Larsen and Purrington 2010: 571), northern Illinois (Hayward 1897: 123), and northeastern West Virginia (Tucker County, CMNH).

**Records.** CAN: MB, NB, NS (CBI), ON, PE, QC, SK USA: IL, MA, ME, MI, MN, NH, NJ, NY, PA, RI, SD, VT, WI, WV

***Bembidion nigrivestis* Bousquet, 2006**

*Bembidion nigrivestis* Bousquet [in Bousquet and Webster], 2006: 24. Type locality: «Sainte-Catherine-de-Hatley (Stanstead), Quebec» (original citation). Holotype (♂) in CNC [# 23455].

**Distribution.** This species ranges from New Brunswick and Maine west to eastern Minnesota and southeastern Manitoba (Bousquet and Webster 2006: 24).

**Records.** CAN: MB, NB, ON, QC USA: MA, ME, MI, MN, NH, WI

***Bembidion praticola* Lindroth, 1963**

*Bembidion praticola* Lindroth, 1963b: 388. Type locality: «Amberley, S[outh] Kincardine, L[ake] Huron, Ont[ario]» (original citation). Holotype (♂) in CNC [# 8385].

**Distribution.** This species is found from New Brunswick (Bousquet 1987a: 121) to the Osoyoos Valley in southern British Columbia, south to central Washington (Lindroth 1963b: 389), northern Iowa (Purrington et al. 2002: 201), northeastern Illinois (Lake County, CNC), and New York (Liebherr and Song 2002: 132; Saint Lawrence County, CMNH). The species seems to be local.

**Records.** CAN: BC, NB, ON, QC, SK USA: IA, IL, ME, MI, MN, NH, NY, WA, WI

***Bembidion roosevelti* Pic, 1902**

*Bembidium concinnum* Blaisdell, 1902: 78 [secondary homonym of *Bembidion concinnum* (Stephens, 1828)]. Type locality: «Eldorado County, Cal[ifornia]» (original citation). Syntype(s) in CAS [# 2665].

*Bembidium roosevelti* Pic, 1902: 71. Replacement name for *Bembidium concinnum* Blaisdell, 1902. NOTE. The spelling *roosvelti* used by some authors, including Lindroth (1963b: 392), is an incorrect subsequent spelling that I consider not to be in prevailing usage. Pic (1902: 71) did not give the etymology of the specific name.

*Bembidium perconcinnum* Blaisdell, 1904: 349. Replacement name for *Bembidium concinnum* Blaisdell, 1902.

*Bembidion blaisdelli* Casey, 1918: 222. Replacement name for *Bembidion concinnum* Blaisdell, 1902.

**Distribution.** This species is found from the southern part of the Prairie Provinces (Lindroth 1963b: 393) to eastern Oregon (Baker County, CNC), south to Riverside County in southern California (Dajoz 2007: 19), central Nevada (Lander County, CNC), central Utah (Sevier County, CNC), southern Wyoming (Lindroth 1963b: 393), and southwestern North Dakota (Bowman County, CNC).

**Records.** CAN: AB, MB, SK USA: CA, ID, MT, ND, NV, OR, UT, WY

***Bembidion rubiginosum* LeConte, 1879**

*Bembidium rubiginosum* LeConte, 1879d: 508. Type locality: «[Fort] Garland [Costilla County], Colo[rado]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5541].

**Distribution.** This species is known from Saskatchewan and Alberta (David R. Madison pers. comm. 2012), southwestern Idaho (Owyhee County, CNC), southeastern Wyoming (Lavigne 1977: 44), and Costilla County in south-central Colorado (LeConte 1879d: 508; Wickham 1902: 234).

**Records.** CAN: AB, SK USA: CO, ID, WY

***Bembidion semicinctum* Notman, 1919**

*Bembidium semicinctum* Notman, 1919c: 129. Type locality: «Mooers, Clinton Co[unty], N[ew] Y[ork]» (original citation). Holotype [by monotypy] (♀) in SIM (Hennessey 1990: 466).

**Distribution.** This eastern species ranges from Cape Breton Island (CNC) to “Michigan” (Garry A. Dunn pers. comm. 1986), south to northeastern West Virginia (Randolph County, CMNH).

**Records.** CAN: NB, NS (CBI), ON, QC USA: CT, MA, ME, MI, NH, NJ, NY, PA, RI, VT, WV

### Subgenus *Notaphus* Dejean, 1821

*Notaphus* Dejean, 1821: 16. Type species: *Carabus ustulatus* Linnaeus *sensu* Illiger, 1798 (= *Carabus varius* Olivier, 1795) designated by Westwood (1838: 7). Etymology. Probably from the Latin *nota* (mark) and the Greek *phos* (light, by extension bright, clear), alluding to the elytral spots of the adult rather than from the Greek *notos* (dorsum) and *phos* (light, by extension bright, clear) [masculine]. The name was proposed by Johann Karl Megerle von Mühlfeld and made available by Dejean.

*Austronotaphus* Jeannel, 1962: 620. Type species: *Poecilus luridus* Blanchard, 1843 by original designation. Synonymy established by Lorenz (1998: 204), confirmed by Toledano (2002: 5). Etymology. From the Greek *auster*, *-tri* (south) and the generic name *Notaphus* [*q.v.*] [masculine].

*Notaphidius* Jeannel, 1962: 620, 622. Type species: *Notaphus aricensis* Jeannel, 1962 by original designation. Synonymy established by Lorenz (1998: 204), confirmed by Toledano (2002: 5).

*Notaphiellus* Jeannel, 1962: 618, 631. Type species: *Bembicidium solieri* Gemminger & Harold, 1868 by original designation. Synonymy established by Maddison (2012: 564).

**Diversity.** About 90 species in the Nearctic (50 species), Neotropical (about 35 species), and Palearctic (seven species) Regions. One species from the Philippines (*B. igorot* Darlington) and one from Myanmar (*B. serpentinum* Landin) are also listed in this subgenus by Lorenz (2005: 220). Two species (*B. nigripes* and *B. semipunctatum*) are Holarctic. One South American species (*B. brullei* Gemminger and Harold) has been introduced in Australia and New Zealand (Lindroth 1976a: 197–198). The North American species are arrayed here in six species groups for convenience.

**Identification.** Lindroth (1963b: 357–375, as *scudderi*, *obtusangulum*, *dorsale*, *contractum*, and *oberthueri* groups) covered 28 of the 50 North American species. A taxonomic revision of the North American species is needed.

#### [*contractum* group]

#### *Bembidion acticola* Casey, 1884

*Bembidion acticola* Casey, 1884c: 63. Type locality: «N[ew] J[ersey]» (lectotype label). Lectotype (♂), designated by Erwin (1984a: 166), in USNM [# 37042]. NOTE. According to Casey (1884c: 63), the type specimens from New Jersey came from Atlantic City and Cape May.

*Bembidion argutum* Casey, 1918: 123. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♂), designated by Erwin (1984a: 166), in USNM [# 37045]. Synonymy established by Erwin (1984a: 166).

*Bembidion assensum* Casey, 1924: 41. Type locality: «near Brooklyn [Kings County], L[ong] I[sland], New York» (original citation). Lectotype (♀), designated by Erwin (1984a: 166), in USNM [# 37046]. Synonymy established by Erwin (1984a: 166).

**Distribution.** This species is found along the Atlantic Coast from Long Island (Casey 1924: 41, as *B. assensum*) to Maryland (Erwin 1984a: 166).

**Records. USA:** DE, MD, NJ, NY, RI

***Bembidion constrictum* (LeConte, 1847)**

*Ochthedromus constrictus* LeConte, 1847: 462. Type locality: United States east of the Rocky Mountains (inferred from title of the paper), restricted to «Ipswich [Essex County], Mass[achusetts]» by Lindroth (1963b: 373). Four syntypes in MCZ [# 5538].

*Bembidion vernula* Casey, 1884c: 62. Type locality: «Cap May [Cap May County], New Jersey» (original citation). Holotype [by monotypy] (♀) in USNM [# 37038]. Synonymy established by Horn (1885b: 108), confirmed by Erwin (1984a: 169).

*Bembidion festinans* Casey, 1918: 121. Type locality: «Texas» (original citation). Lectotype (♀), designated by Erwin (1984a: 169), in USNM [# 37043]. Synonymy established by Erwin (1984a: 169).

*Bembidion constrictum civile* Casey, 1918: 124. Type locality: «Brownsville [Cameron County], Texas» (original citation). Lectotype (♀), designated by Erwin (1984a: 170), in USNM [# 37044]. Synonymy established (as aberration) by Csiki (1928: 59), confirmed by Erwin (1984a: 170).

**Distribution.** This species is found along the Atlantic and Gulf of Mexico coasts from the Maritime Provinces (Lindroth 1963b: 373; Bousquet 1987a: 121) to southern Florida including the Keys (Leng 1915: 572), west to southeastern Texas (Wickham 1897: 104; Casey 1918: 124, as *B. constrictum civile*). The records from Ohio (Everly 1938: 141), Indiana (Wolcott and Montgomery 1933: 125), South Dakota (Kirk and Balsbaugh 1975: 19), “Nebraska” (Hayward 1897: 108), Kansas (Knaus 1887: 87; Snow 1903: 193), and “New Mexico” (Hayward 1897: 108) probably refer to *B. viridicollis* LaFerté-Sénectère.

**Records. CAN:** NB, NS (CBI), PE **USA:** AL, CT, DC, DE, FL, GA, LA, MA, MD, ME, MS, NC, NH, NJ, NY, RI, VA, TX

***Bembidion contractum* Say, 1823**

*Bembidium contractum* Say, 1823a: 85. Type locality: «Ipswich [Essex County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 337), in MCZ [# 33064].

**Distribution.** This species is found along the Atlantic Coast from Newfoundland (Lindroth 1955a: 70), the Maritime Provinces (Lindroth 1963b: 373), and the Magdalen Islands (Laroche 1975: 55) to southern Florida (Peck and Thomas 1998: 18) and along the Gulf Coast to southern Louisiana (Summers 1874a: 81; Hine 1906: 76; Allen 1965: 65). The records from “Ohio,” “Tennessee” (Hayward 1897: 109), eastern Kansas (Popenoe 1877: 24), and “Pennsylvania” (Bousquet and Laroche 1993: 144) need confirmation.



**Records.** FRA: PM CAN: NB, NF, NS (CBI), PE, QC USA: AL, CT, DC, DE, FL, GA, LA, MA, MD, ME, NH, NJ, NY, RI, SC [KS, OH, PA, TN]

***Bembidion luculentum* Casey, 1918**

*Bembidion luculentum* Casey, 1918: 122. Type locality: «Indian River [Brevard County], Florida» (original citation). Lectotype (♂), designated by Erwin (1984a: 176), in USNM [# 37050].

*Bembidion prosperum* Casey, 1918: 122. Type locality: «Lake Worth [Palm Beach County], Florida» (original citation). Lectotype (♀), designated by Erwin (1984a: 176), in USNM [# 37049]. Synonymy established by Erwin (1984a: 176).

**Distribution.** This species is known so far only from the Florida Peninsula (Peck and Thomas 1998: 18).

**Records.** USA: FL

***Bembidion pilatei* Chaudoir, 1868**

*Bembidium pilatei* Chaudoir, 1868b: 243. Type locality: «Texas» (original citation). Holotype [by monotypy] (♀) in MHNP (Lindroth 1963b: 373).

**Distribution.** This species is known from central Texas (Lee County, CMNH), southwestern Louisiana (Cameron Parish, Igor M. Sokolov pers. comm. 2009), and southwestern Florida (Monroe County, CMNH).

**Records.** USA: FL, LA, TX

**Note.** Hayward (1901: 158) listed *B. pilatei* Chaudoir as a synonym of *B. constrictum* LeConte but Lindroth (1963b: 373) regarded the two forms as distinct species.

***Bembidion viridicolle* (LaFerté-Sénectère, 1841)**

*Notaphus viridicollis* LaFerté-Sénectère, 1841a: 48. Type locality: Texas (inferred from title of the paper). Lectotype (♂), designated by Lindroth (1963b: 374), in MHNP.

*Bembidium apicale* Jacquelin du Val, 1857: 23 [primary homonym of *Bembidium apicale* Ménétriés, 1832]. Type locality: Cuba (inferred from title of the book). Syntype(s) location unknown. Synonymy established by Darlington (1934: 77).

*Bembidium hamiferum* Chaudoir, 1868b: 244. Type locality: «Texas» (original citation). Lectotype (♂), designated by Lindroth (1963b: 374), in MHNP. Synonymy established by Hayward (1901: 157), confirmed by Lindroth (1963b: 374).

*Bembicidium chevrolati* Gemminger and Harold, 1868a: 409. Replacement name for *Bembicidium apicale* Jacquelin du Val, 1857. Etymology. The specific name was proposed to honor Louis Alexandre Auguste Chevrolat [1799-1884], one of the leading coleopterist of his time. Born in Paris, Chevrolat was an employee at the Minister of Finances and despite his obligations wrote extensively on the taxonomy of beetles (particularly Curculionidae). Chevrolat gathered an impressive col-

lection which was dispersed during his life time and by his heirs. Nevertheless, most of his specimens are now in MHNP (Cambefort 2006: 145).

*Bembidion particeps* Casey, 1918: 124. Type locality: «Arizona» (original citation). Lectotype (♀), designated by Erwin (1984a: 185), in USNM [# 37039]. Synonymy established by Erwin (1984a: 185).

**Distribution.** This species ranges from Connecticut (Krinsky and Oliver 2001: 88) to southeastern Alberta (Lindroth 1963b: 375), including southernmost Ontario (Bousquet 1987a: 121), north to Fort Smith in southern Northwest Territories (Lindroth 1963b: 374-375), south to northeastern Arizona (Apache County, CMNH), west-central New Mexico (Cibola County, CMNH), southern Texas (Johnson 1978: 67), and southern Florida, including the Keys (Peck and Thomas 1998: 18). The species is also known from the Bahamas (Darlington 1953: 5, as *B. chevrolati*), several islands of the West Indies (Peck and Thomas 1998: 18), and “Mexico” (Erwin et al. 1977: 4.21).

**Records.** CAN: AB, MB, NT, ON, SK USA: AZ, CO, CT, FL, GA, IA, IN, IL, KS, LA, MS, ND, NE, NJ, NM, OH, OK, PA, SC, SD, TX, VA, WI, WY – Bahamas, Cuba, Dominica Republic, Haiti, Jamaica, Mexico, Puerto Rico

### *Bembidion vividum* Casey, 1884

*Bembidion vividum* Casey, 1884c: 66. Type locality: «Cap May [Cape May County], New Jersey» (original citation). Lectotype (♀), designated by Erwin (1984a: 185), in USNM [# 37048].

**Distribution.** This species is known only from the type locality, from Atlantic County in New Jersey (CMNH), and from one specimen simply labeled “Md” (CMNH).

**Records.** USA: MD, NJ

**Note.** This form was listed in synonymy with *B. contractum* Say by Horn (1885b: 108) but considered a valid species by Erwin (1984a: 185).

### [dorsale group]

### *Bembidion dorsale* Say, 1823

*Bembidium dorsalis* Say, 1823a: 84. Type locality: «M[iss]o[uri]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 337), in MCZ [# 33066]. NOTE. «Missouri [Territory]» was the area originally cited by Say (1823a: 85).

**Distribution.** This species is found from southeastern Manitoba to the foothills of the Rocky Mountains in southern Alberta, north to northeastern British Columbia (Lindroth 1963b: 359), south to northeastern Wyoming (Crook County, CNC), Kansas (Popenoe 1877: 24; Snow 1903: 193), Missouri (Summers 1873: 147; Lindroth and Freitag 1969: 337), southern Illinois (Hayward 1897: 101), and southwestern Ohio (Dury 1902: 111). The record from “Colorado” (Bousquet and Laroche 1993: 141) needs confirmation.

**Records.** CAN: AB, BC, MB, SK USA: IA, IL, IN, KS, MI, MN, MO, MT, ND, NE, OH, SD, WI, WY [CO]

***Bembidion oberthueri* Hayward, 1901**

*Bembidium oberthüri* Hayward, 1901: 158. Type locality: «Winnipeg, Man[itoba]» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1963b: 375), in MCZ. Etymology. The specific name honors René Oberthür [1852-1944], a wealthy amateur coleopterist. His father, François-Charles Oberthür, himself an amateur lepidopterist, owned the largest printing house in France at one time, with about 1,000 employees, and became extremely rich through his creativity. At Rennes he built a specially-made house just to hold the Lepidoptera collection of his oldest son, Charles, and the Coleoptera collection of René. The Oberthür collection was built almost entirely through purchases, by financing collecting expeditions abroad, and by trade. Indeed, the Oberthürs agreed to provide several missionary congregations with their printed material free of charge in exchange for an obligation for the missionaries to collect all insects they saw. During World War II, Georg Frey, himself a beetle collector who eventually gathered one of the two largest personal collections ever built (the other was the Oberthür collection), was an officer in the German army; he made sure that the Oberthür building housing the collection was properly heated and maintained (Cambefort 2006: 244-250). NOTE. This name was proposed for *Notaphus viridicollis* LaFerté-Sénectère, 1841 *sensu* Hayward (1897: 103) and the description was by indication (see ICZN 1999: Article 12.2). Three specimens in MCZ are labeled as “Type” [# 16296] but the lectotype is the one labeled “Winnipeg Man July 7-12, 1887 / Roland Hayward Coll.”

**Distribution.** The range of this species extends from New Brunswick to the foothills of the Rocky Mountains in Alberta (Lindroth 1963b: 375), south to south-central Montana (Carbon County, UASM), “Nebraska,” “Illinois” (Hayward 1897: 103, as *B. viridicolle*), and southeastern West Virginia (Greenbrier County, David R. Maddison pers. comm. 2011). The record from San Bernardino County, California (Cooper 1976: 163) is probably based on a mislabeled specimen; that from “Indiana” (Bousquet and Larochelle 1993: 144) needs confirmation. One specimen from Kamloops, British Columbia, was regarded as possibly mislabeled by Lindroth (1963b: 375).

**Records.** CAN: AB, MB, NB, ON, QC, SK USA: CT, IA, IL, MA, ME, MI, MN, MT, ND, NE, NH, NY, OH, PA, SD, VT, WI, WV [BC, IN]

***Bembidion umbratum* (LeConte, 1847)**

*Ochthedromus umbratus* LeConte, 1847: 458. Type locality: «ad Rocky Mountains» (original citation), restricted to «Green R[iver] [Sweetwater County], Wyom[ing]» by Lindroth (1963b: 360). Two syntypes in MCZ [# 5529].

*Notaphus variolosus* Motschulsky, 1859a: 131. Type locality: «environs de Ross [farming community about 75 miles north of San Francisco along the coast, California]» (orig-

inal citation). Lectotype, designated by Bousquet (1997b: 332), in ZMMU. Synonymy established by Lindroth (1963b: 360), confirmed by Bousquet (1997b: 332).

**Distribution.** This species is found from Saskatchewan to western British Columbia, north to southern Northwest Territories (Lindroth 1963b: 361), south to central California along the coast (Motschulsky, 1859a: 131, as *B. variolosum*) and southern Colorado (LeConte 1879d: 501; Wickham 1902: 234). The record from “Alaska” (Hayward 1897: 102, as *B. variolosum*) needs confirmation.

**Records.** CAN: AB, BC, NT, SK USA: CA, CO, ID, MT, NV, OR, WA, WY [AK]

### ***Bembidion versutum* LeConte, 1878**

*Bembidium versutum* LeConte, 1878c: 594. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation). Six syntypes in MCZ [# 5528].

**Distribution.** This species ranges from New Brunswick (Larochelle and Larivière 1990a: 29) to northwestern Wisconsin (Hayward 1897: 100; Messer 2010: 36; Barron County, CMNH), south to northeastern Ohio (Lake and Trumbull Counties, CMNH, Harry J. Lee pers. comm. 2008) and northeastern West Virginia (Hampshire and Tucker Counties, CMNH). The record from southwestern Iowa (Wickham 1911b: 6) is probably in error.

**Records.** CAN: NB, ON, QC USA: CT, MA, ME, MI, NH, NJ, NY, OH, PA, RI, VT, WI, WV

### **[obtusangulum group]**

### ***Bembidion callens* Casey, 1918**

*Bembidion callens* Casey, 1918: 112. Type locality: «Tucson [Pima County], Arizona» (original citation). Lectotype (♀), designated by Erwin (1984a: 168), in USNM [# 37033].

**Distribution.** This species has been recorded yet only from the type locality in southern Arizona.

**Records.** USA: AZ

### ***Bembidion dejectum* Casey, 1884**

*Bembidion dejectum* Casey, 1884c: 67. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 37054].

*Bembidion fidele* Casey, 1918: 113. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 37032]. Synonymy established by Lindroth (1963b: 356).

*Bembidion aberti* Hatch, 1950: 102. Type locality: «L[ake] Abert [Lake County], Oregon» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1963b: 356).

**Distribution.** The range of this species extends from southern Manitoba (Lindroth 1963b: 357) to eastern Washington (Hatch 1953: 96, as *B. aberti*), including southern Alberta (Lindroth 1963b: 357), south to Inyo County in eastern California (UASM), southeastern Arizona (Snow 1906b: 161; Casey 1884c: 67), east-central Colorado (Wickham 1902: 234), and west-central Kansas (Knaus 1905a: 218).

**Records.** CAN: AB, MB, SK USA: AZ, CA, CO, KS, ND, NE, NV, OR, SD, UT, WA, WY

### ***Bembidion hageni* Hayward, 1897**

*Ochthedromus sexpunctatus* LeConte, 1852a: 186 [secondary homonym of *Bembidion sexpunctatum* Heer, 1841]. Type locality: «ad Colorado [River, California]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 99].

*Bembidium hageni* Hayward, 1897: 89. Replacement name for *Bembidium sexpunctatum* (LeConte, 1852). Etymology. The specific name honors Herman August Hagen [1817-1893], physician, entomologist, and bibliographer. Born in East Prussia, Hagen moved to Cambridge in Massachusetts at the age of 50 on the insistence of Louis Agassiz and worked at the Museum of Comparative Zoology. He eventually became professor of entomology at the University. His impressive library was bought by the MCZ.

**Distribution.** This rarely collected species is known only from the Colorado River valley in southeastern California to western New Mexico (Cibola County, CMNH).

**Records.** USA: AZ, CA, NM

### ***Bembidion lecontei* Csiki, 1928**

*Ochthedromus grandicollis* LeConte, 1852a: 189 [secondary homonym of *Bembidion grandicolle* Motschulsky, 1850]. Type locality: «San Diego [San Diego County, California]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5539].

*Bembidion lecontei* Csiki, 1928: 62. Replacement name for *Bembidion grandicolle* (LeConte, 1852).

**Distribution.** This species is known from southwestern California (Fall 1901a: 43; Moore 1937: 8).

**Records.** USA: CA

### ***Bembidion mormon* Hayward, 1897**

*Bembidium mormon* Hayward, 1897: 110. Type locality: «vicinity of Salt Lake, Utah; Sherman, Wyo[ming]; California» (original citation), restricted to «Salt L[ake City] [Salt Lake County]» by Lindroth (1963b: 356). At least two syntypes [9 originally cited] in MCZ [# 16298].

**Distribution.** This species ranges from the Okanagan Valley in southern British Columbia (Lindroth 1963b: 356) south to Inyo County in the Sierra Nevada of Califor-



nia (CMNH, MCZ, UASM) and southern Colorado (Elias 1987: 632). The record from southeastern South Dakota (Kirk and Balsbaugh 1975: 19) needs confirmation.

**Records.** CAN: BC USA: CA, CO, ID, NV, OR, UT, WA, WY [SD]

***Bembidion obtusangulum* LeConte, 1863**

*Bembidium obtusangulum* LeConte, 1863c: 19. Type locality: «Nebraska [Territory], near the Rocky Mountains [probably in present day Colorado]» (original citation). One syntype in CMNH (collection Ulke). NOTE. The specimen of *B. obtusangulum* in the LeConte's collection (MCZ), labeled "8-10,000 ft. South Park, Col. Aug. 11-16, 1877 / Type 5540 / *B. obtusangulum* Lec. [handwritten]," is not a syntype as indicated by Lindroth (1963b: 355).

*Bembidion cornix* Casey, 1918: 111. Type locality: «Washington State» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 37031]. Synonymy established by Hatch (1953: 96), confirmed by Lindroth (1963b: 355).

**Distribution.** The range of this species extends from southwestern Manitoba to the Okanagan Valley in British Columbia (Lindroth 1963b: 356), south to central California along the Sierra Nevada (Dajoz 2007: 18), central Colorado (LeConte 1878a: 465; Wickham 1902: 234) along the Rocky Mountains, and northwestern Nebraska (Sheridan County, CNC).

**Records.** CAN: AB, BC, MB, SK USA: CA, CO, ID, MT, ND, NE, OR, UT, WA, WY

[patruele group]

***Bembidion aeneicolle* (LeConte, 1847)**

*Ochthedromus aeneicollis* LeConte, 1847: 459. Type locality: «Lacum Superiorem» (original citation). One syntype in MCZ [# 5531].

**Distribution.** This species is known from southeastern Manitoba to southwestern British Columbia (Lindroth 1963b: 365), south to eastern Washington (Hatch 1953: 96), northwestern Utah (Toole County, CMNH), south-central Colorado (Wickham 1902: 234; LeConte 1879d: 501; Lindroth 1963b: 365; Armin 1963: 165), central Nebraska (Blaine County, Foster F. Purrington pers. comm. 2010), and southeastern Wisconsin (Milwaukee County, Peter W. Messer pers. comm. 2009). The record from "Northwest Territories" (Bousquet and Larochelle 1993: 141) was based on four old specimens in the CNC labeled "N.W.T." which does not refer to present day Northwest Territories or Nunavut.

**Records.** CAN: AB, BC, MB, SK USA: CO, ID, MT, ND, NE, SD, UT, WA, WI, WY

***Bembidion approximatum* (LeConte, 1852)**

*Ochthedromus approximatus* LeConte, 1852a: 187. Type locality: «San Diego [San Diego County, California]» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1984a: 167), in MCZ [# 5526].

*Notaphus flammulipennis* Motschulsky, 1859a: 129. Type locality: «Col[onie] Ross [farming community about 75 miles north of San Francisco along the coast, California]» (original citation). One syntype in ZMMU (Keleinikova 1976: 197) and a possible one in MCZ (collection LeConte). Synonymy established by LeConte (1863b: 14).

*Notaphus laterimaculatus* Motschulsky, 1859a: 130. Type locality: «Califor[nie]» (lectotype label). Lectotype, designated by Bousquet and Laroche (1993: 15), in ZMMU. Synonymy established by Bousquet and Laroche (1993: 15).

*Bembidium suspectum* Blaisdell, 1902: 76. Type locality: «Oregon City [Clackamas County], Ore[gon], on the shore of the Willamette river» (original citation). Holotype (♀) in CAS [# 2663]. Synonymy established by Hatch (1953: 93), confirmed by Lindroth (1963b: 359).

*Bembidium simulator* Casey, 1918: 93. Type locality: Santa Rosa, Sonoma County, California (lectotype label according to Lindroth 1975: 120). Lectotype (♀), designated by Lindroth (1975: 120), in USNM [# 36958]. Synonymy established by Lindroth (1963b: 359).

*Bembidium cernens* Casey, 1918: 100. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 167), in USNM [# 36997]. Synonymy established by Erwin (1984a: 167).

*Bembidium haustum* Casey, 1924: 38. Type locality: «Alameda Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 37000]. Synonymy established by Erwin (1984a: 167).

*Bembidium stevensoni* Hatch, 1953: 93. Type locality: «Stevenson [Skamania County], Wash[ington]» (original citation). Holotype (♀) in USNM. Synonymy established by Lindroth (1963b: 359).

**Distribution.** This species is found from Skamania County in southern Washington (Hatch 1953: 93, as *B. stevensoni*) to the San Diego area in southwestern California (LeConte 1852a: 187; Moore 1937: 7). The records from Nevada (Bechtel et al. 1983: 474), “British Columbia,” “Arizona,” “Dacota” (Hayward 1897: 99), and northern Idaho (Hatch 1953: 93) are likely based on misidentified specimens (see Lindroth 1963b: 359).

**Records. USA:** CA, OR, WA

### *Bembidium auxiliator* Casey, 1924

*Bembidium auxiliator* Casey, 1924: 38. Type locality: «San Joaquin Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 167), in USNM [# 36964].

**Distribution.** This species is known only from the type series collected in central California.

**Records. USA:** CA

***Bembidion castor* Lindroth, 1963**

*Bembidion castor* Lindroth, 1963b: 366. Type locality: «Walsingham n[ea]r Simcoe, S[outh] Ont[ario]» (original citation). Holotype (♂) in CNC [# 8390].

**Distribution.** The range of this species extends from western Newfoundland to the Rocky Mountains in Alberta (Lindroth 1963b: 367), south to north-central Colorado (Motz and Morgan 2001: Fig. 4d), northern Nebraska (Cherry County, Foster F. Purrington pers. comm. 2010), central Iowa (Story County, CNC), western West Virginia (Cabell County, CMNH), and Maryland (Erwin 1981b: 147). The records from northern Oklahoma (French et al. 2001: 228; Elliott et al. 2006: 125) need confirmation.

**Records.** CAN: AB, MB, NB, NF, NS, ON, QC, SK USA: CO, CT, IA, MA, MD, ME, MI, MT, ND, NE, NH, NY, OH, PA, SD, VA, VT, WI, WV [OK]

***Bembidion coloradense* Hayward, 1897**

*Bembidium coloradense* Hayward, 1897: 98. Type locality: «Vicinity of Rico (85-10000 ft.), Dolores Co[unty], Col[orado]» (lectotype label). Lectotype (♀), designated by Erwin (1984a: 169), in MCZ [# 16295].

*Bembidion imperitum* Casey, 1918: 91. Type locality: «Victoria, Vancouver Island [British Columbia]» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36950]. Synonymy established by Lindroth (1963b: 357).

*Bembidion prociduum* Casey, 1918: 91. Type locality: «Washington State» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36951]. Synonymy established, under the name *B. imperitum* Casey, by Nicolay and Weiss (1934: 197), confirmed by Lindroth (1963b: 357).

*Bembidion amplipenne* Casey, 1924: 36. Type locality: «Trout Creek, Juab Co[unty], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 120), in USNM [# 36952]. Synonymy established by Lindroth (1963b: 357).

*Bembidion albertanum* Casey, 1924: 40. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 120), in USNM [# 36984]. Synonymy established by Lindroth (1963b: 357).

**Distribution.** This species ranges from southern Manitoba to Vancouver Island (Lindroth 1963b: 358), north to the Great Slave Lake area in Northwest Territories (Bousquet 1987a: 121), south at least to Sierra County in the Sierra Nevada of California (MCZ; Lindroth 1963b: 358), the Grand Canyon in northern Arizona (CMNH), the Sacramento Mountains in southern New Mexico (CMNH), west-central Minnesota (Gandhi et al. 2005: 924), and central Wisconsin (Messer 2010: 36).

**Records.** CAN: AB, BC (VCI), MB, NT, SK USA: AZ, CA, CO, ID, MN, MT, ND, NM, NV, OR, UT, WA, WI

***Bembidion conspersum* Chaudoir, 1868**

*Ochthedromus tessellatus* LeConte, 1852a: 188 [secondary homonym of *Bembidion tessellatum* Brullé, 1843]. Type locality: «San Diego [San Diego County, California]» (original citation). Lectotype (♀), designated by Erwin (1984a: 169), in MCZ [# 5532].

*Bembidium conspersum* Chaudoir, 1868b [July]: 244. Replacement name for *Bembidium tessellatum* (LeConte, 1852).

*Bembicidium xanthostictum* Gemminger and Harold, 1868a [August]: 424. Replacement name for *Bembicidium tessellatum* (LeConte, 1852).

**Distribution.** According to Erwin (1984a: 169), this species is found throughout California.

**Records. USA:** CA

***Bembidion consuetum* Casey, 1918**

*Bembidion consuetum* Casey, 1918: 93. Type locality: «Gualala River, Mendocino Co[unty], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 170), in USNM [# 36955].

*Bembidion augurale* Casey, 1918: 92. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 170), in USNM [# 36954]. Synonymy established by Erwin (1984a: 170).

**Distribution.** This species, as far as known, is restricted to the San Francisco Bay area in California (Erwin 1984a: 170).

**Records. USA:** CA

***Bembidion cordatum* (LeConte, 1847)**

*Ochthedromus cordatus* LeConte, 1847: 457. Type locality: «NovEboraci [= New York]» (original citation). Lectotype (♀), designated by Erwin (1984a: 170), in MCZ [# 5522].

*Bembidion placabile* Casey, 1918: 119. Type locality: «Big Springs [Howard County], Texas» (original citation). Lectotype (♂), designated by Erwin (1984a: 170), in USNM [# 37034]. Synonymy established by Erwin (1984a: 170).

**Distribution.** This species is found from western New Hampshire (Cooper 1976: 164) to eastern North Dakota (Grand Forks County, CNC), north to southern Manitoba (Lindroth 1963b: 362) and southern Saskatchewan (Ronald R. Hooper pers. comm. 2002), south to southern Arizona (Snow 1906b: 161; Coconino County, CMNH), including north-central Utah (Cache County, CMNH), the Big Bend National Park in western Texas (Dajoz 2007: 23), west-central Arkansas (Garland County, Robert L. Davidson pers. comm. 2012), northern Tennessee (Montgomery County, Foster F. Purrington pers. comm. 2010), and west-central West Virginia (Roane County, CMNH).

**Records.** CAN: MB, ON, SK USA: AR, AZ, CO, IA, IL, IN, KS, MI, MO, ND, NE, NH, NM, NY, OH, OK, PA, SD, TN, TX, UT, VA, VT, WI, WV, WY

***Bembidion debiliceps* Casey, 1918**

*Bembidion debiliceps* Casey, 1918: 104. Type locality: «Corvallis [Benton County], Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 120), in USNM [# 36961].

**Distribution.** This species is found along the Pacific Coast from southwestern British Columbia, including Vancouver Island (Lindroth 1963b: 369), south at least to west-central Oregon (Casey 1918: 104).

**Records.** CAN: BC (VCI) USA: OR, WA

***Bembidion evidens* Casey, 1918**

*Bembidion evidens* Casey, 1918: 93. Type locality: «Milford [Beaver County], Utah» (original citation). Lectotype (♂), designated by Erwin (1984a: 171), in USNM [# 36956].

**Distribution.** This species is known only from the type locality in southwestern Utah.

**Records.** USA: UT

***Bembidion graphicum* Casey, 1918**

*Bembidion graphicum* Casey, 1918: 108. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36972].

*Bembidion lassulum* Casey, 1918: 118. Type locality: «Tucson [Pima County], Arizona» (original citation). Holotype [by monotypy] (♀) in USNM [# 37040]. Synonymy established by Erwin (1984a: 173).

**Distribution.** The range of this species extends from western Ontario (Lindroth 1963b: 369) to central Yukon Territory (Dawson, CNC), south to south-central Oregon (Lake County, UASM), southern Arizona (Casey 1918: 118, as *B. lassulum*), southern Colorado (Elias 1987: 632), and northeastern Wisconsin (Casey 1918: 108). The records from “Nebraska” and “South Dakota” (Bousquet and Larochelle 1993: 142) need confirmation.

**Records.** CAN: AB, BC, MB, NT, ON, SK, YT USA: AZ, CO, MN, MT, OR, UT, WA, WI, WY [NE, SD]

***Bembidion idoneum* Casey, 1918**

*Bembidion idoneum* Casey, 1918: 90. Type locality: «Mendocino Co[unty], California» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1984a: 173), in USNM [# 36946].



*Bembidion idoneum obsequens* Casey, 1918: 90. Type locality: «Lake Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 173), in USNM [# 36947]. Synonymy established (as aberration) by Csiki (1928: 61), confirmed by Erwin (1984a: 173).

*Bembidion efficiens* Casey, 1918: 90. Type locality: «Mokelumne Hill, Calaveras Co[unty], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 173), in USNM [# 36949]. Synonymy established by Erwin (1984a: 173).

*Bembidion continens* Casey, 1918: 91. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 173), in USNM [# 36948]. Synonymy established by Erwin (1984a: 173).

**Distribution.** According to Erwin (1984a: 174), the range of this species “extends throughout the western United States in the mountainous regions;” the only documented records are those of the type localities in California and that from Valley County in central Idaho (Maddison 2012: Supplementary content Table S1). David R. Maddison (pers. comm. 2012) caught the species in Steens Mountains, southeastern Oregon.

**Records. USA:** CA, ID, OR

### *Bembidion indistinctum* Dejean, 1831

*Bembidium indistinctum* Dejean, 1831: 67. Type locality: «Californie» (original citation), restricted to «San Diego [San Diego County]» by Lindroth (1963b: 361). One syntype in MHNP (Lindroth 1955b: 14).

*Ochthedromus consentaneus* LeConte, 1852a: 187. Type locality: «San Diego [San Diego County, California]» (original citation). Syntype(s) in MCZ [# 5527]. Synonymy established by Lindroth (1963b: 361).

*Bembidion curiosum* Casey, 1918: 95. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36989]. Synonymy established by Lindroth (1963b: 361).

*Bembidion devinctum* Casey, 1918: 97. Type locality: «Alameda [Alameda County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 120), in USNM [# 36988]. Synonymy established by Lindroth (1963b: 361).

*Bembidion extricatum* Casey, 1918: 98. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 120), in USNM [# 36987]. Synonymy established by Lindroth (1963b: 361).

*Bembidion caudex* Casey, 1918: 98. Type locality: «Tehachapi [= Tehachapi] Pass [Kern County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 120), in USNM [# 36983]. Synonymy established by Lindroth (1963b: 361).

*Bembidion consentaneum barbara* Casey, 1918: 99. Type locality: «S[an]ta Barbara [Santa Barbara County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 120), in USNM [# 36985]. Synonymy established (as aberration).

tion), under the name *B. consentaneum* (LeConte), by Csiki (1928: 59), confirmed by Lindroth (1963b: 361).

*Bembidion derisor* Casey, 1918: 99. Type locality: «eastern shore of San Francisco Bay, California» (original citation). Lectotype (♀), designated by Erwin (1984a: 174), in USNM [# 36986]. Synonymy established by Erwin (1984a: 174).

*Bembidion expositum* Casey, 1918: 101. Type locality: «Tehatchapi [= Tehachapi] Pass [Kern County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 36999]. Synonymy established by Erwin (1984a: 174).

*Bembidion formale* Casey, 1918: 101. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 36995]. Synonymy established by Erwin (1984a: 174).

*Bembidion formale reconditum* Casey, 1918: 102. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 36996]. Synonymy established (as aberration), under the name *B. formale* Casey, by Csiki (1928: 60), confirmed by Erwin (1984a: 174).

*Bembidion franciscanum* Casey, 1918: 102. Type locality: «Alameda [Alameda County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 36991]. Synonymy established by Erwin (1984a: 174).

*Bembidion ornatellum* Casey, 1918: 102. Type locality: «Alameda [Alameda County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 36992]. Synonymy established by Erwin (1984a: 174).

**Distribution.** This species is found from Kupreanof Island in the Alexander Archipelago to southern California (Moore 1937: 7; Kavanaugh 1992: 67).

**Records.** CAN: BC (QCI, VCI) USA: AK, CA (CHI), OR, WA

### *Bembidion insulatum* (LeConte, 1852)

*Ochthedromus insulatus* LeConte, 1852a: 186. Type locality: «San Diego [San Diego County, California]» (original citation). Three syntypes in MCZ [# 100].

*Bembidion caliginosum* Casey, 1918: 119. Type locality: «Douglas [Cochise County], Arizona» (original citation). Lectotype (♂), designated by Erwin (1984a: 175), in USNM [# 37035]. Synonymy established by Erwin (1984a: 175).

**Distribution.** This species ranges from southern Manitoba to southern British Columbia though not reaching the coast, north to Fort Smith in southern Northwest Territories (Lindroth 1963b: 363), south to northern Baja California (CNC), southern Arizona (Casey 1918: 119, as *B. caliginosum*; Maddison 2012: Supplementary content Table S1), southwestern New Mexico (Hidalgo County, CNC), and southeastern South Dakota (Kirk and Balsbaugh 1975: 19). The record from northwestern Texas (Merickel and Wangberg 1981: 157) needs confirmation.

**Records.** CAN: AB, BC, MB, NT, SK USA: AZ, CA, MT, ND, NM, NV, OR, SD, UT, WA, WY [TX] – Mexico

***Bembidion intermedium* (Kirby, 1837)**

*Notaphus intermedius* Kirby, 1837: 58. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1963b: 365). Holotype [by monotypy] (♀) in BMNH (Lindroth 1953b: 176).

**Distribution.** This species occurs from the Saint Lawrence Plain in southern Quebec (Larochelle 1975: 57) to central British Columbia, north to east-central Alaska (Lindroth 1963b: 365), south to southern Colorado (Wickham 1902: 234; Bell 1971: 28), southern South Dakota (Kirk and Balsbaugh 1975: 18), southern Wisconsin (Messer 2010: 36), and southwestern Pennsylvania (Allegheny County, Robert L. Davidson pers. comm. 2008). The records from Missouri (Casey 1918: 109), southern Oklahoma (Hatch and Ortenburger (1930: 11), Texas (Wickham 1897: 104), Kansas (Popenoe 1877: 24; Snow 1878: 63), New Mexico (Fall and Cockerell 1907: 157), southern Arizona (Wickham 1897: 104), and “Delaware” (Bousquet and Larochelle 1993: 142) are probably in error.

**Records.** CAN: AB, BC, MB, ON, QC, SK USA: AK, CO, MI, MN, MT, NY, OH, PA, SD, VT, WI, WY

***Bembidion jacobianum* Casey, 1918**

*Bembidion jacobianum* Casey, 1918: 101. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 175), in USNM [# 36993].

*Bembidion procax* Casey, 1918: 103. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 175), in USNM [# 36994]. Synonymy established by Erwin (1984a: 175).

**Distribution.** This species is known only from the type locality in southwestern California.

**Records.** USA: CA

***Bembidion latebricola* Casey, 1918**

*Bembidion latebricola* Casey, 1918: 100. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Erwin (1984a: 175), in USNM [# 36998].

**Distribution.** This species is known only from the type series.

**Records.** USA: AZ

***Bembidion nigripes* (Kirby, 1837)**

*Notaphus nigripes* Kirby, 1837: 57. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1963b: 369). Two syntypes [3 originally cited] in BMNH (Lindroth 1953b: 176).

*Notaphus quadraticollis* Mannerheim, 1853: 148. Type locality: «ad ostia fl[umen] Kaktnu [= Kenai River] peninsulae Kenai [Alaska]» (original citation). Syntype(s) location unknown (Lindroth 1963b: 370). Synonymy established with doubt by LeConte (1860: 316).

*Bembidion retractum* Casey, 1918: 109. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36977]. Synonymy established by Lindroth (1963b: 370).

*Bembidion concitatum* Casey, 1924: 35. Type locality: «Marquette [Marquette County], Michigan» (original citation for *B. nigripes* (Kirby) *sensu* Casey, 1918). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36959]. Synonymy established by Hatch (1953: 93), confirmed by Lindroth (1963b: 370). NOTE. This name was proposed for *Notaphus nigripes* Kirby, 1837 *sensu* Casey (1918: 92).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 67) to Vancouver Island, north to central Alaska and the Mackenzie River delta in northern Northwest Territories (Lindroth 1963b: 370-371), south to El Dorado County in eastern California (Maddison 1985: 113), “Utah” (Hayward 1897: 105), northern New Mexico (Taos County, UASM), eastern North Dakota (Tinerella 2003: 635), northeastern Wisconsin (Messer 2010: 36), and the upper peninsula of Michigan (Casey 1924: 35, as *B. concitatum*); also found in eastern Siberia (Lindroth 1963b: 371) and Japan (Marggi et al. 2003: 254). The records from western Maine (Harvey and Knight (1897: 79), northeastern New York (Notman 1928: 216), “Pennsylvania” (Leng and Beutenmüller 1893: 136), “Illinois” (Bousquet and Laroche 1993: 142), southern South Dakota (Kirk and Balsbaugh 1975: 18), and southern Oklahoma (Elliott et al. 2006: 125) are likely in error. Fossil remnants, dated between 15,100 and 15,300 years B.P., have been unearthed in central Iowa (Schwert 1992: 77).

**Records.** FRA: PM CAN: AB, BC (VCI), LB, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT USA: AK, CA, CO, ID, MI, MN, MT, ND, NM, NV, OR, UT, WA, WI, WY – **Holarctic**

### *Bembidion obscuromaculatum* (Motschulsky, 1859)

*Notaphus obscuromaculatus* Motschulsky, 1859a: 130. Type locality: «Calif[ornia] bor[ealis]» (lectotype label). Lectotype (♂), designated by Bousquet (1997b: 332), in ZMMU.

**Distribution.** This species is yet known only from the lectotype.

**Records.** USA: CA

**Note.** This species is distinct from all other North American *Bembidion* (see Bousquet 1997b: 332) but only the original specimen is known. It is possible that the lectotype is mislabeled. Motschulsky (1859a: 130) added at the end of this species description “Je crois que cette espèce se rencontre aussi dans les possessions russes, notamment sur l’île Kenoi [Alaska]”.

***Bembidion operosum* Casey, 1918**

*Bembidion operosum* Casey, 1918: 103. Type locality: «S[an]ta Cruz [Santa Cruz County], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 178), in USNM [# 36960].

**Distribution.** This species is yet known only from the type locality and Santa Barbara County (Maddison 1985: 113) in western California.

**Records. USA:** CA

***Bembidion patrule* Dejean, 1831**

*Bembidium patrule* Dejean, 1831: 69. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1963b: 371). One syntype in MHNP (Lindroth 1955b: 14).

*Notaphus posticum* Haldeman, 1843b: 303. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Lectotype [as type] (♂), designated by Lindroth (1955a: 68), in MCZ [# 28694]. Synonymy established by Lindroth (1955b: 14).

*Bembidium fraternum* LeConte, 1857a: 6. Type locality: «Habersham County, Georgia» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5530]. Synonymy established, under the name *B. posticum* (Haldeman), by Lindroth (1954b: 127).

*Bembidion imitator* Casey, 1918: 105. Type locality: «Kamloops, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36962]. Synonymy established by Hatch (1953: 94), confirmed by Lindroth (1963b: 371).

*Bembidion monstratum* Casey, 1918: 106. Type locality: «Highland Park [Lake County], Illinois» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36971]. Synonymy established, under the name *B. posticum* (Haldeman), by Lindroth (1954b: 126).

*Bembidion fenisex* Casey, 1918: 106. Type locality: «Indiana» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36969]. Synonymy established, under the name *B. posticum* (Haldeman), by Lindroth (1954b: 126).

*Bembidion plectile* Casey, 1918: 107. Type locality: «Indiana» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36968]. Synonymy established, under the name *B. posticum* (Haldeman), by Lindroth (1954b: 126).

*Bembidion mediocre* Casey, 1918: 107. Type locality: «undoubtedly from somewhere in the Atlantic regions» (original citation). Holotype [by monotypy] (♂) in USNM [# 36967]. Synonymy established by Erwin (1984a: 178).

*Bembidion exclusum* Casey, 1918: 109. Type locality: «Highland Park [Lake County], Illinois» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 38970]. Synonymy established, under the name *B. posticum* (Haldeman), by Lindroth (1954b: 127).

*Bembidion marcidum* Casey, 1918: 110. Type locality: «lower Hudson Valley, New York» (original citation for the lectotype). Lectotype (♀), designated by Lindroth



(1975: 121), in USNM [# 36973]. Synonymy established, under the name *B. posticum* (Haldeman), by Lindroth (1954b: 127).

*Bembidion editum* Casey, 1918: 125. Type locality: «near the Delaware River, New Jersey» (original citation). Lectotype (♂), designated by Erwin (1984a: 178), in USNM [# 37041]. Synonymy established by Erwin (1984a: 178).

*Bembidion subexiguum* Casey, 1924: 37. Type locality: «Terrace, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 36957]. Synonymy established by Lindroth (1963b: 371).

*Bembidion contristans* Casey, 1924: 37. Type locality: «Rhode Island» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 36974]. Synonymy established, under the name *B. posticum* (Haldeman), by Lindroth (1954b: 127).

**Distribution.** This widely distributed species ranges from Newfoundland (Lindroth 1955a: 68) to western British Columbia, north to southern Northwest Territories (Lindroth 1963b: 372), south to Oregon (Hatch 1953: 94), southern Colorado (Elias 1987: 632), southern Texas (Kenedy County, CNC), northwestern Florida (Holmes County, UASM), and southern South Carolina (Ciegler 2000: 48).

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK USA: AL, AR, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NH, NJ, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY

### *Bembidion pimanum* Casey, 1918

*Bembidion pimanum* Casey, 1918: 98. Type locality: «near Benson [Cochise County], Arizona» (original citation). Lectotype (♀), designated by Erwin (1984a: 179), in USNM [# 36982].

**Distribution.** This species is known only from the type locality in southeastern Arizona.

**Records.** USA: AZ

### *Bembidion semiopacum* Casey, 1924

*Bembidion semiopacum* Casey, 1924: 39. Type locality: «San Joaquin Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 36965].

**Distribution.** This species is known only from the California central valley (Erwin 1984a: 182).

**Records.** USA: CA

### *Bembidion semipunctatum* (Donovan, 1806)

*Carabus semipunctatus* Donovan, 1806: 22. Type locality: «shore of the Severn sea, near the village of Newton, Glamorganshire [Wales, Great Britain]» (original citation). Holotype [by monotypy] probably lost (Lindroth 1963b: 367).

*Bembidium elegantulum* R.F. Sahlberg, 1844: 56. Type locality: «fluminis Ochotae [River Ochota, near Okhotsk, Khabarovsk Kray, Siberia, Russia]» (original citation). Lectotype (♀), designated by Lindroth (1963b: 367), in ZMUT. Synonymy established by Lindroth (1963b: 367).

*Notaphus alternans* Motschulsky, 1845b: 349. Type locality: «Kamtschatka [Russia]» (original citation). One syntype in ZMMU (Keleinikova 1976: 185). Synonymy established by Shilenkov (1994: 20).

*Bembidion provoanum* Casey, 1918: 105. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♀), designated by Erwin (1984a: 182), in USNM [# 36966]. Synonymy established by Erwin (1984a: 182).

*Bembidion accuratum* Casey, 1924: 39. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♂), designated by Lindroth (1975: 120), in USNM [# 36963]. Synonymy established by Lindroth (1963b: 367).

**Distribution.** This Holarctic species is found from Great Britain to eastern Siberia and Japan (Maggi et al. 2003: 254), and from the Arctic Plains in northern Alaska to the Hudson Bay shore in northwestern Ontario, south to southeastern Minnesota (Olmsted Country, CMNH), north-central Utah (Casey 1918: 105, as *B. provoanum*), and northeastern California (Notman 1929b: 223, as *B. provoanum*).

**Records.** CAN: AB, BC, MB, NT, ON, SK, YT USA: AK, CA, MN, MT, OR, UT, WA – **Holarctic**

**Note.** *Elaphrus sturmi*, credited to Duftschmid (1812: 203), is usually listed as junior synonym of this species (e.g., Maggi et al. 2003: 254). However, it is quite evident that Duftschmid (1812: 203) referred to *Carabus sturmi* Panzer listed on the preceding page (page 202).

### ***Bembidion vulpecula* Casey, 1918**

*Bembidion vulpecula* Casey, 1918: 126. Type locality: «Brownsville [Cameron County], Texas» (original citation). Lectotype (♀), designated by Erwin (1984a: 185), in USNM [# 37047].

**Distribution.** This species is known from southern Texas (Johnson 1978: 67) and “Mexico” (Erwin 1984a: 185).

**Records.** USA: TX – Mexico

### **[rapidum group]**

### ***Bembidion aratum* (LeConte, 1852)**

*Ochthedromus aratus* LeConte, 1852a: 189. Type locality: «ad flumen Gila» (original citation). Lectotype (♀), designated by Erwin (1982b: 479), in MCZ [# 3343].

*Bembidion definitum* Casey, 1918: 116. Type locality: «Tucson [Pima County], Arizona» (original citation). Holotype [by monotypy] (♂) in USNM [# 37030]. Synonymy established by Erwin (1982b: 479).

**Distribution.** This species is known from the Gila River drainage in southwestern New Mexico (David R. Maddison pers. comm. 2007) and southern Arizona (Casey 1918: 116, as *B. definitum*; Cochise and Santa Cruz Counties, CMNH), south to San Luis Potosí in the Sierra Madre Oriental (Ball and Shpeley 1992a: 47, as *B. definitum*). The record from Inyo County in eastern California (Riley 1893: 239) needs confirmation.

**Records. USA:** AZ, NM [CA] – Mexico

***Bembidion nubiculosum* Chaudoir, 1868**

*Ochthedromus laticollis* LeConte, 1852a: 187 [secondary homonym of *Bembidion laticolle* (Duftschmid, 1812)]. Type locality: «Colorado [River, California]» (original citation). Lectotype (♂), designated by Erwin (1984a: 177), in MCZ [# 5523].

*Bembidium nubiculosum* Chaudoir, 1868b [July]: 244. Replacement name for *Bembidium laticolle* (LeConte, 1852).

*Bembicidium platyderum* Gemminger and Harold, 1868a [August]: 418 [primary homonym of *Bembidium platyderum* Chaudoir, 1868]. Replacement name for *Bembicidium laticolle* (LeConte, 1852).

*Ochthedromus pardalis* Zimmermann [in LeConte], 1869b: 247. Replacement name for *Ochthedromus laticollis* LeConte, 1852.

*Bembidion nubiculosum daphnis* Casey, 1918: 120. Type locality: «El Paso [El Paso County], Texas» (original citation). Lectotype (♂), designated by Erwin (1984a: 177), in USNM [# 37036]. Synonymy established by Erwin (1984a: 177).

*Bembidion amnicum* Casey, 1918: 121. Type locality: «Brownsville [Cameron County], Texas» (original citation). Lectotype (♂), designated by Erwin (1984a: 178), in USNM [# 37037]. Synonymy established by Erwin (1984a: 178).

**Distribution.** This species is found from the Baja California Peninsula (Horn 1894: 308) and southeastern California (Casey 1918: 120; Andrews et al. 1979: 28) to southeastern Texas (Snow 1906a: 141; Casey, 1918: 121, as *B. amnicum*) and northern Mexico (Erwin 1984a: 178). The record from “Utah” (Hayward 1897: 96) needs confirmation.

**Records. USA:** AZ, CA, NM, TX [UT] – Mexico

***Bembidion rapidum* (LeConte, 1847)**

*Ochthedromus rapidus* LeConte, 1847: 460. Type locality: «ad Rocky Mountains» (original citation), restricted to «Colorado Spring[s] [El Paso County], Color[ado]» by Lindroth (1963b: 363). Lectotype (♀), designated by Erwin (1984a: 180), in MCZ [# 5533].

*Bembidion docile* Casey, 1918: 126. Type locality: «Arizona» (original citation). Lectotype (♀), designated by Erwin (1984a: 180), in USNM [# 37055]. Synonymy established by Erwin (1984a: 180).

*Bembidion sociale* Casey, 1918: 127. Type locality: «Marquette [Marquette County], Michigan» (original citation for the lectotype). Lectotype (♀), designated by

Lindroth (1975: 120), in USNM [# 37051]. Synonymy established by Lindroth (1963b: 363).

*Bembidion negligens* Casey, 1918: 127. Type locality: «El Paso [El Paso County], Texas» (original citation). Holotype [by monotypy] (♂) in USNM [# 37052]. Synonymy established by Erwin (1984a: 180).

*Bembidion fugitans* Casey, 1918: 127. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Erwin (1984a: 180), in USNM [# 37053]. Synonymy established by Erwin (1984a: 180).

**Distribution.** The range of this species extends from Nova Scotia (Majka et al. 2007: 8) to the Rocky Mountains in Alberta (Lindroth 1963b: 364), south to southeastern Arizona (Dajoz 2007: 21; Cochise County, UASM), southern Texas (Johnson 1978: 67), northern Alabama (Madison County, CMNH), and eastern South Carolina (Cieglar 2000: 48), west along the southwest to southern California (Lindroth 1963b: 364; Los Angeles County, CMNH).

**Records.** CAN: AB, MB, NB, NS, ON, QC, SK USA: AL, AR, AZ, CA, CO, CT, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY

### *Bembidion scintillans* Bates, 1882

*Bembidium scintillans* Bates, 1882a: 150. Type locality: «Capulalpam [= Calpulalpam, Oaxaca], Mexico» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1982b: 479), in BMNH.

*Bembidium vinnulum* Casey, 1884b: 15. Type locality: «Arizona» (original citation). Lectotype (♀), designated by Erwin (1982b: 479), in USNM [# 37029]. Synonymy established by Horn (1886b: xii).

**Distribution.** This species is known from the Gila River drainage in southwestern New Mexico (David R. Maddison pers. comm. 2007) and southeastern Arizona (Graham and Greenlee Counties, CMNH; Casey 1884b: 15, as *B. vinnulum*), and from southeastern Mexico (Bates 1882a: 150).

**Records.** USA: AZ, NM – Mexico

**Note.** This taxon has been listed in synonymy with *B. aratum* (LeConte) by Erwin (1982b: 479) but according to Maddison (2012: 535) it represents a distinct species.

### [scudderi group]

### *Bembidion consimile* Hayward, 1897

*Bembidium consimile* Hayward, 1897: 88. Type locality: «Lincoln, Nebraska; Salt Lake, Utah; Colorado Springs, Colo[rado]» (original citation), restricted to «Lincoln [Lancaster County], Nebraska» by Lindroth (1963b: 353). Two syntypes [“about a dozen” originally cited] in MCZ [# 16293].

**Distribution.** This species is found from southern Manitoba to southern Alberta (Lindroth 1963b: 353), south to Mono County in east-central California (Dajoz 2007: 17), west-central Nevada (Bechtel et al. 1983: 474), central Colorado, and Nebraska (Hayward 1897: 88).

**Records.** CAN: AB, MB, SK USA: CA, CO, ND, NE, NV, SD, UT, WY

### *Bembidion flobri* Bates, 1878

*Bembidium flobri* Bates, 1878a: 602. Type locality: «near the capital, Mexico» (original citation). Lectotype (♂), designated by Erwin (1984a: 172), in BMNH.

*Bembidium henshawi* Hayward, 1897: 87. Type locality: «Salt Lake [Millard County], Utah» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1984a: 172), in MCZ [# 16292]. Synonymy established by Erwin (1984a: 172). Etymology. The specific name was proposed for Samuel Henshaw [1852-1941], American entomologist, librarian, and biographer. Henshaw was assistant to Professor Alpheus Hyatt at Lowell Institute from 1876 to 1891 and worked at the Museum of Comparative Zoology from 1891 to 1927, first as assistant in entomology and librarian, then as curator, and finally as director.

**Distribution.** This species ranges from southern Manitoba to central British Columbia (Lindroth 1963b: 354, as *B. henshawi*), south to southern California (Hayward 1897: 88) and to the “Mexican transverse volcanic belt” (Erwin 1984a: 172).

**Records.** CAN: AB, BC, MB, SK USA: CA, CO, MT, ND, NV, OR, UT, WA, WY – Mexico

### *Bembidion obtusidens* Fall, 1922

*Bembidion obtusidens* Fall, 1922c: 170. Type locality: «Baldur, Manitoba» (original citation). Holotype (♂) in MCZ [# 23864].

**Distribution.** This species occurs from northwestern Ontario (CNC) to central Alberta (Lindroth 1963b: 355), south to central Utah (Fall 1922c: 171), southeastern Wyoming (Albany County, MCZ), and east-central South Dakota (Kirk and Balsbaugh 1975: 20). The record from “Colorado” (Bousquet and Laroche 1993: 140) needs confirmation.

**Records.** CAN: AB, MB, ON, SK USA: MT, ND, SD, UT, WY [CO]

### *Bembidion scudderi* LeConte, 1878

*Bembidium scudderi* LeConte, 1878a: 451. Type locality: «Salt Lake Valley (4,300 feet) [Salt Lake County, Utah]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5520]. Etymology. The specific name honors the celebrated American paleontologist, entomologist, and nomenclatorist Samuel Hubbard Scudder [1837-1911] who worked primarily on Orthoptera and Lepidoptera at Harvard University.



*Bembidion spissicorne* Casey, 1924: 40. Type locality: «Bellevue (3400 ft.) [Weber County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 120), in USNM [# 36990]. Synonymy established by Lindroth (1963b: 351).

**Distribution.** This species is found from southern Manitoba to the Okanagan Valley in British Columbia (Lindroth 1963b: 352), south to Kern County in southern California (Fall 1901a: 43), northern Utah (LeConte 1878a: 451; Casey, 1924: 40, as *B. spissicorne*; Box Elder and Utah Counties, MCZ), and Yellowstone National Park in Wyoming (MCZ). The record from “Colorado” (Bousquet and Laroche 1993: 140) needs confirmation.

**Records.** CAN: AB, BC, MB, SK USA: CA, MT, ND, NV, OR, UT, WA, WY [CO]

### Subgenus *Trepanedoris* Netolitzky, 1918

*Trepanedoris* Netolitzky, 1918: 24. Type species: *Carabus doris* Panzer, 1796 by original designation. Etymology. From the generic name *Trepanes* and the specific name of the type species *doris* [masculine].

**Diversity.** Northern Hemisphere, with 16 species in the Nearctic (13 species) and Palearctic (three species) Regions. The North American species are placed in two groups following Maddison (2012: 544).

**Identification.** Lindroth (1963b: 395–402) covered all North American species except for three (*B. scenicum*, *B. clemens* and *B. elizabethae*).

#### [connivens group]

### *Bembidion acutifrons* LeConte, 1879

*Bembidium acutifrons* LeConte, 1879d: 509. Type locality: «Alamosa [Alamosa County], Colo[rado]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5553].

*Bembidion microreticulatum* Hatch, 1950: 105. Type locality: «Stickney L[ake] [Snohomish County], Washington» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1963b: 400).

**Distribution.** The range of this species extends from southern Manitoba to Vancouver Island, north to east-central Alaska (Lindroth 1963b: 400), south to western Oregon (Hatch 1953: 100, as *B. microreticulatum*), southern Colorado (LeConte 1879d: 509; Wickham 1902: 235), and east-central South Dakota (Kirk and Balsbaugh 1975: 20).

**Records.** CAN: AB, BC (VCI), MB, NT, SK USA: AK, CO, MT, ND, OR, SD, UT, WA, WY

### *Bembidion ampliceps* Casey, 1918

*Bembidion ampliceps* Casey, 1918: 161. Type locality: «Gilroy Hot Springs, S[an]ta Clara Co[unty], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 37084].

**Distribution.** This species is known from east-central Oregon (Union County, CMNH; Lindroth 1963b: 401) to southeastern California (Dajoz 2007: 20). The records from southwestern British Columbia and eastern Washington (Hatch 1953: 100) are probably in error (see Lindroth 1963b: 401).

**Records. USA:** CA, OR

***Bembidion canadianum* Casey, 1924**

*Bembidion canadianum* Casey, 1924: 43. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 122), in USNM [# 37083].

**Distribution.** This species is found from the Saint Lawrence Estuary in Quebec (Larochelle 1975: 53) to south-central British Columbia (Jarrett and Scudder 2001: 381) and central Washington (Grant County, Foster F. Purrington pers. comm. 2011), north to south-central Northwest Territories (near Hay River, CNC), south to southern Utah (Garfield County, FFPC).

**Records. CAN:** AB, BC, MB, NT, ON, QC, SK **USA:** MT, UT, WA

***Bembidion clemens* Casey, 1918**

*Bembidion clemens* Casey, 1918: 159. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♀), designated by Erwin (1984a: 168), in USNM [# 37080].

*Bembidion vapidum* Casey, 1918: 160. Type locality: «M[oun]t Diablo [Contra Costa County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 169), in USNM [# 37073]. Synonymy established by Erwin (1984a: 169).

*Bembidion disparile* Casey, 1918: 161. Type locality: «S[an]ta Barbara [Santa Barbara County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 169), in USNM [# 37074]. Synonymy established by Erwin (1984a: 169).

*Bembidion invidiosum* Casey, 1918: 162. Type locality: «road between Fort Wingate and Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype (♂), designated by Erwin (1984a: 169), in USNM [# 37081]. Synonymy established by Erwin (1984a: 169).

*Bembidion remotum* Casey, 1918: 163. Type locality: «Paraiso Hot Springs, Monterey Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 169), in USNM [# 37086]. Synonymy established by Erwin (1984a: 169).

**Distribution.** This species is known from western California (Casey 1918: 160, 161, 163 as *B. vapidum*, *B. disparile*, and *B. remotum*), north-central Utah (Casey 1918: 159), central Arizona (Maddison 2012: Supplementary content Table S1), and north-western New Mexico (Casey 1918: 162, as *B. invidiosum*).

**Records. USA:** AZ, CA, NM, UT

***Bembidion connivens* (LeConte, 1852)**

*Ochthedromus connivens* LeConte, 1852a: 188. Type locality: «San Francisco [San Francisco County, California]» (original citation). Two syntypes in MCZ [# 5556].

*Bembidion digressum* Casey, 1918: 155. Type locality: «S[ain]t Helena, Napa Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 122), in USNM [# 37075]. Synonymy established by Fall (1926a: 134), confirmed by Lindroth (1963b: 401).

**Distribution.** This species is found from Vancouver Island (Lindroth 1963b: 401) to northwestern Montana (Russell 1968: 58), south to central New Mexico (Fall and Cockerell 1907: 157) and southwestern California (Moore 1937: 8).

**Records.** CAN: BC (VCI) USA: CA, CO, ID, MT, NM, OR, WA

***Bembidion elizabethae* Hatch, 1950**

*Bembidion elizabethae* Hatch, 1950: 104. Type locality: «Licten Springs, King Co[unty], Washington» (original citation). Holotype in USNM. Etymology. The specific name is based on the first name of Elizabeth Farrar (see *Bembidion farrarae*).

**Distribution.** This species is known from the type locality and Lincoln County in western Oregon (Maddison 2012: Supplementary content Table S1).

**Records.** USA: OR, WA

**Note.** This name has been listed in synonymy with *B. connivens* (LeConte) by Lindroth (1963b: 401) but according to Maddison (2012: 535) it applies to a valid species.

***Bembidion frontale* (LeConte, 1847)**

*Ochthedromus frontalis* LeConte, 1847: 462. Type locality: «Detroit [Wayne County, Michigan]» (original citation). Syntype(s) in MCZ [# 26893].

**Distribution.** This species is found from Cape Breton Island (Bousquet 1987d: 105) to south-central British Columbia, south to northern Idaho (Kootenai County, CNC), Missouri (Summers 1873: 147), and West Virginia (Pocahontas and Randolph Counties, CMNH). The records from “Washington,” “Oregon,” and “California” (Hayward 1897: 127, as *B. assimile*) probably refer to *B. siticum*; those from Colorado (Wickham 1902: 235) and New Mexico (Fall and Cockerell 1907: 157, as *B. assimile*) need confirmation as they could also refer to *B. siticum*.

**Records.** CAN: BC, MB, NB, NS (CBI), ON, PE, QC, SK USA: CT, IA, ID, IL, IN, KS, MA, ME, MI, MN, MO, ND, NH, NJ, NY, OH, PA, RI, SD, VA, VT, WI, WV [CO, NM]

**Note.** This species has passed under the name *B. assimile* Gyllenhal, 1810 until the 1950s.



**Figure 25.** *Platypatrobus lacustris* Darlington. Described in 1938, this species remained a great rarity for more than 20 years. The few specimens known had all been captured at light. Henri Goulet, then a summer student working at the Biosystematics Research Centre in Ottawa (now part of the Eastern Cereal and Oilseed Research Centre), found out that a mite of the genus *Protodinychus*, members of which occurred commonly in beaver houses, had been found on one of the specimens of *P. lacustris*. Armed with this information, Goulet visited an abandoned beaver house in Gatineau Park in southwestern Quebec and found more than 50 specimens of *Platypatrobus*. The habitat requirements of the species were discovered: *Platypatrobus lacustris* lives in the walls of active or recently deserted beaver houses.



***Bembidion scenicum* Casey, 1918**

*Bembidion scenicum* Casey, 1918: 159. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 181), in USNM [# 37079].

**Distribution.** This species is known only from the type locality in the Sierra Nevada.

**Records. USA:** CA

***Bembidion siticum* Casey, 1918**

*Bembidion siticum* Casey, 1918: 157. Type locality: «Gualala River, Mendocino Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 36803].

*Bembidion adolescens* Casey, 1918: 158. Type locality: «Booneville, Mendocino Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 122), in USNM [# 37071]. Synonymy established by Lindroth (1963b: 402).

**Distribution.** This species is known from Vancouver Island (Lindroth 1963b: 402) to northwestern Montana (Russell 1968: 58), south to “Nevada” (Lindroth 1963b: 402) and Mendocino County in western California (Casey 1918: 157).

**Records. CAN:** BC (VCI) **USA:** CA, ID, MT, NV, OR, WA

**[fortestriatum group]*****Bembidion anguliferum* (LeConte, 1852)**

*Omala polita* Motschulsky, 1845a: 29 [*nomen dubium*]. Type locality: «Californie» (original citation). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976).

*Ochthedromus angulifer* LeConte, 1852a: 188. Type locality: «San Francisco [San Francisco County, California]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5554]. Synonymy established with doubt by LeConte (1863b: 15). NOTE. As for *Bembidion ephippigerum* (see “Note” following the species name), the evidence of usage indicates that the name has been treated as an adjective (e.g., *B. anguliferum*) since Hayward (1897: 125) and not as a noun in apposition (e.g., *B. angulifer*).

*Bembidion tersum* Casey, 1918: 162. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37082]. Synonymy established by Lindroth (1963b: 396).

**Distribution.** According to Lindroth (1963b: 396), this species is “probably restricted to C[entral] Calif[ornia].” It has been recorded so far from Placer (Casey 1918: 162, as *B. tersum*), Mono (Dajoz 2007: 17), Nevada (Lindroth 1963b: 396), and San Francisco Counties (LeConte 1852a: 188).

**Records. USA:** CA



***Bembidion concretum* Casey, 1918**

*Bembidion concretum* Casey, 1918: 156. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♀), designated by Lindroth (1975: 121), in USNM [# 37076].

*Bembidion congruens* Casey, 1918: 156. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♀), designated by Lindroth (1975: 121), in USNM [# 37077]. Synonymy established by Lindroth (1963b: 395).

*Bembidion habile* Casey, 1918: 162. Type locality: «Highland Park [Lake County], Illinois» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37085]. Synonymy established by Lindroth (1963b: 395).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 77, as *B. anguliferum*) to east-central Alaska, south to eastern Oregon (Harney County, UASM), southern South Dakota (Kirk and Balsbaugh 1975: 20), “Indiana” (Schrock 1985: 346), and western Virginia (Richard L. Hoffman pers. comm. 1992).

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT USA: AK, IL, IN, MA, MD, ME, MI, MN, MT, ND, NH, NY, OH, OR, PA, RI, SD, VA, VT, WA, WI, WV

**Note.** This species has passed under the name *B. anguliferum* (LeConte, 1852) until the 1960s.

***Bembidion fortistriatum* (Motschulsky, 1845)**

*Omala fortistriata* Motschulsky, 1845b: 352. Type locality: «île Sitka [= Baranof Island, Alaska]» (original citation). Lectotype (♂), designated by Bousquet (1997b: 330), in ZMMU.

*Ochthedromus cautus* LeConte, 1847: 464. Type locality: «Rocky Mountains» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5555]. Synonymy established by Lindroth (1963b: 396).

*Bembidium fortistriatum* Mannerheim, 1852: 302. Unjustified emendation of *Bembidium fortistriatum* (Motschulsky, 1845).

*Bembidion umbraticum* Casey, 1918: 158. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 37078]. Synonymy established by Lindroth (1963b: 397).

*Bembidion peregrinum* Casey, 1918: 159. Type locality: «Masset, Queen Charlotte Islands [British Columbia]» (original citation). Holotype [by monotypy] (♀) in USNM [# 37072]. Synonymy established by Lindroth (1963b: 397).

*Bembidion concurrens* Fall, 1926a: 134. Type locality: «Scow Bay (north of Wrangel), Alaska» (original citation). Holotype (♂) in MCZ [# 23861]. Synonymy established by Lindroth (1963b: 397).

**Distribution.** This species occurs from Newfoundland (Lindroth 1963b: 397) to central Alaska (Lindroth 1963b: 397), south to northeastern Oregon (Umatilla

County, MCZ), western Montana (Russell 1968: 57), western Nebraska (Keith County, CMNH), and northeastern West Virginia (Tucker County, CMNH). The records from central New Mexico (Fall and Cockerell 1907: 157, as *B. cautum*) and south-central Colorado (Wickham 1902: 235, as *B. cautum*) probably refer to *B. connivens*.

**Records.** **CAN:** AB, BC (QCI, VCI), MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, CT, ID, IL, IN, MA, ME, MI, MN, MT, NE, NH, NY, OR, PA, RI, VT, WA, WI, WV

### ***Bembidion pseudocautum* Lindroth, 1963**

*Bembidion pseudocautum* Lindroth, 1963b: 397. Type locality: «Grand Bend, L[ake] Huron, Ont[ario]» (original citation). Holotype (♂) in CNC [# 8387].

**Distribution.** This species is found from Nova Scotia (Maddison 2012: Supplementary content Table S1) to the Okanagan Valley in British Columbia (Lindroth 1963b: 399), north to southern Northwest Territories (CNC), south to northern Illinois (Purrington et al. 2002: 200; McHenry County, MCZ), southwestern Pennsylvania (Allegheny County, CMNH), and Connecticut (Lindroth 1963b: 398).

**Records.** **CAN:** AB, BC, MB, NB, NS, NT, ON, QC, SK **USA:** CT, IL, MA, ME, MI, MN, NH, NY, OH, PA, VT, WI

### **Subgenus *Peryphodes* Casey, 1918**

*Peryphodes* Casey, 1918: 85. Type species: *Ochthedromus ephippiger* LeConte, 1852 by original designation (see Casey 1918: 89). Etymology. From the generic name *Peryphus* and the Greek suffix *-odes* (likeness), alluding to the resemblance of the adults to those of *Peryphus* [masculine].

**Diversity.** Two North American species in the temperate regions.

**Identification.** Lindroth (1963b: 345–346) treated both species.

### ***Bembidion ephippigerum* (LeConte, 1852)**

*Ochthedromus ephippiger* LeConte, 1852a: 188. Type locality: «San Diego [San Diego County, California]» (original citation). Two syntypes in MCZ [# 5542]. NOTE. According to ICZN (1999: example for Article 31.2.2), names ending in *-fer* and *-ger* may be nouns in apposition (e.g., *Bembidion ephippiger*) or adjectives in the masculine gender (e.g., *B. ephippigerum*). In such case the name is to be treated as a noun in apposition unless the author indicated that the name was an adjective or the evidence of usage is decisive. LeConte (1852a: 188) did not specify that the name was an adjective but the evidence of usage is decisive because the name has been treated as an adjective since Leng (1920: 51).

**Distribution.** This species is confined to the west coast ranging from Vancouver Island (Lindroth 1963b: 345) to southern California (LeConte 1852a: 188; Fall 1901a: 42).

The records from “Montana,” “Wyoming,” “Utah,” “Arizona” (Hayward 1897: 111), and “Colorado” (Csiki 1928: 118) almost certainly refer to *B. salinarium* Casey.

**Records.** CAN: BC (VCI) USA: CA (CHI), OR, WA

### ***Bembidion salinarium* Casey, 1918**

*Bembidion salinarium* Casey, 1918: 86. Type locality: «Parowan [Iron County], Utah» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36944].

**Distribution.** The range of this species extends from southern Manitoba (Lindroth 1963b: 346) to the Okanagan Valley in south-central British Columbia (Bousquet 1987a: 121), south at least to Inyo County in California (MCZ), “Arizona” (Lindroth 1963b: 346), southern Colorado (Alamosa County, CNC), and northeastern North Dakota (Ramsay County, MCZ).

**Records.** CAN: AB, BC, MB, SK USA: AZ, CA, CO, MT, ND, NV, OR, UT, WA, WY

### **Subgenus *Emphanes* Motschulsky, 1850**

*Omala* Motschulsky, 1844: 238 [junior homonym of *Omala* Schumacher, 1817]. Type species: *Bembidium normannum* Dejean, 1831 designated by Jeannel (1941b: 457). Etymology. Uncertain, possibly from the Greek *homalos* (even, equal) [feminine].

*Emphanes* Motschulsky, 1850a: 12. Replacement name for *Omala* Motschulsky, 1844. Etymology. From the Greek *emphanes* (clear, evident) [feminine].

**Diversity.** Northern Hemisphere, with 21 species in the Nearctic (two species) and Palaearctic (19 species) Regions.

**Identification.** Lindroth (1963b: 381-382) treated both species found in North America.

### ***Bembidion diligens* Casey, 1918**

*Bembidion diligens* Casey, 1918: 114. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 121), in USNM [# 37022].

*Bembidion parabile* Casey, 1918: 114. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♀), designated by Lindroth (1975: 121), in USNM [# 37023]. Synonymy established by Lindroth (1963b: 382).

*Bembidion vilesans* Casey, 1924: 43. Type locality: «Bellevue (3400 ft.) [Weber County], Utah» (original citation). Holotype [by monotypy] (♀) in USNM [# 37024]. Synonymy established by Lindroth (1963b: 382).

**Distribution.** This species ranges from central British Columbia to southwestern Manitoba (Lindroth 1963b: 382), south to northern Nebraska (Cherry County, Rob-

ert L. Davidson pers. comm. 2012), southwestern Colorado (Elias 1987: 632), and Mono County in east-central California (Dajoz 2007: 17).

**Records.** CAN: AB, BC, MB, SK USA: CA, CO, MT, NE, NV, OR, SD, UT, WY

### ***Bembidion vile* (LeConte, 1852)**

*Ochthedromus vilis* LeConte, 1852a: 189. Type locality: «San Diego [San Diego County, California]» (original citation). Holotype [by monotypy] in MCZ [# 5545].

**Distribution.** This species is confined to the Pacific Coast from southern Vancouver Island (Lindroth 1963b: 382) to southern California (LeConte 1852a: 189; Fall 1901a: 43). The record from northern Idaho (Hatch 1953: 95) is probably in error.

**Records.** CAN: BC (VCI) USA: CA, OR, WA

### **Subgenus *Blepharoplataphus* Netolitzky, 1920**

*Blepharoplataphus* Netolitzky, 1920b: 96. Type species: *Bembidium virens* Gyllenhal, 1827 by original designation. Etymology. From the Greek *blepharis* (eyelash) and the generic name *Plataphus* [*q.v.*], alluding to the transverse row of small setae on the abdominal sternites (“*wimperartiger Härchen vor dem Hinterrande der Abdominal sternite*”) of the adult [masculine].

*Parataphus* Jedlička, 1932: 38. Type species: *Bembidion heyrovskyi* Jedlička, 1932 by monotypy. Synonymy established by Toledano (2008: 10, 23). Etymology. From the Greek *para* (near, next to) and the last two syllables of the genus-group name *Notaphus* [*q.v.*] [masculine].

**Diversity.** Northern Hemisphere, with five species in the Nearctic (one Holarctic species) and Palaearctic (five species) Regions.

**Identification.** Lindroth (1963b: 297-298) covered the species found in North America.

**Taxonomic Note.** This taxon is listed as a junior synonym of *Trichoplataphus* Netolitzky by some authors (e.g., Kryzhanovskij et al. 1995: 84). Toledano (2000: 36-37) discussed the taxonomic status of both taxa. According to Maddison (2012: 569), *Blepharoplataphus* is closely related to the subgenus *Plataphus*.

### ***Bembidion hastii* Sahlberg, 1827**

*Bembidium hastii* C.R. Sahlberg, 1827a: 195. Type locality: «Lapponia» (original citation), restricted to «Enontekis [Finland]» by Lindroth (1963b: 297). Lectotype (♂), designated by Lindroth (1963b: 297), in ZMH.

*Peryphus litigiosus* Motschulsky, 1844: 246. Type locality: «Sibérie orientale» (original citation), restricted to «Irkutsk [Russia]» by Netolitzky (1943a: 109). Seven syntypes in ZMMU (Keleinikova 1976: 203). Synonymy established by Lindroth (1963b: 297).

*Peryphus cupreus* Motschulsky, 1844: 247 [secondary homonym of *Bembidion cupreum* Gory, 1833]. Type locality: «bords du fleuve Selenga près de Verkhne-Oudinsk

[Siberia, Russia]» (original citation). One syntype in ZMMU (Keleinikova 1976: 194). Synonymy established, under the name *B. litigiosum* (Motschulsky), by Netolitzky (1935a: 21).

*Peryphus ventricosus* Motschulsky, 1860: 89 [*nomen dubium*]. Type locality: «rivages du fl[euve] Kodogorek, Kamtschatka [Russia]» (original citation). One badly damaged syntype in ZMMU (Netolitzky 1935a: 20; Keleinikova 1976: 222). Synonymy established with doubt by Lindroth (1963b: 297).

*Bembicidium cupripenne* Gemminger and Harold, 1868a: 410. Replacement name for *Bembicidium cupreum* (Motschulsky, 1844).

**Distribution.** The range of this Holarctic species extends from Norway to the Far East (Marggi et al. 2003: 246) in the Palaearctic Region and from the Seward Peninsula in Alaska east to northern Labrador (Lindroth 1963b: 298).

**Records.** CAN: BC, LB, MB, NT, ON, QC, YT USA: AK – **Holarctic**

### Subgenus *Plataphus* Motschulsky, 1864

*Plataphus* Motschulsky, 1864: 184. Type species: *Elaphrus prasinus* Duftschmid, 1812 designated by Jeannel (1941b: 532). Etymology. From the Greek *platys* (flat) and *phos* (light, by extension appearance), alluding to the flat body (“*corps très déprimé*”) of the adult [masculine]. NOTE. Concerning the type species designation, see Bousquet (2002b: 40).

*Plataphodes* Ganglbauer, 1891a: 152. Type species: *Peryphus fellmanni* Mannerheim, 1823 by monotypy. Synonymy established by Maddison (2012: 569). Etymology. From the generic name *Plataphus* [q.v.] and the Greek suffix *-odes* (likeness), alluding to the resemblance of the species to those of *Plataphus* [masculine].

*Micromelomalus* Casey, 1918: 37. Type species: *Bembidium planiusculum* Mannerheim, 1843 designated by Netolitzky (1943b: 61). Synonymy established by Netolitzky (1943b: 61). Etymology. From the Greek *micros* (small, little) and the generic name *Melomalus* [q.v.] [masculine].

*Trachelonepha* Casey, 1918: 37. Type species: *Bembidium falsum* Blaisdell, 1902 designated by Lindroth (1963b: 283). Synonymy established by Lindroth (1963b: 283). Etymology. From the Greek *trachelos* (neck, by extension pronotum) and the generic name *Nepha* [feminine].

**Diversity.** Northern Hemisphere, with about 75 species in the Nearctic (36 species) and Palaearctic (45 species) Regions. Only two species (*B. hyperboreaorum* and *B. prasinum* Duftschmid) occur in Europe. Seven species are Holarctic, some of them represented by different subspecies in the Nearctic and Palaearctic Regions.

**Identification.** Lindroth (1963b: 268-297, as *simplex*, *kuprianovii*, *incertum*, and *planiusculum* groups) covered all the species found in North America except *B. falsum*, *B. oppressum*, *B. vandykei*, and *B. placeranum*. Subsequently to Lindroth's (1963b) work, the names of five species were changed because of homonymy or synonymy: *B. flebile* for *B. curtulatum*, *B. lenense* for *B. sulcipenne*, *B. coerulescens* for *B.*



*neocoerulescens*, *B. incertum* for *B. breve*, and *B. ochropus* for *B. manningense*. Species identifications are difficult and examination of the male genitalia is usually required for confirmation.

**[planiusculum group]**

***Bembidion basicorne* Notman, 1920**

*Bembidium basicorne* Notman, 1920c: 185. Type locality: «Windsor, Broome Co[unty], N[ew] Y[ork]» (original citation). Three syntypes [3 originally cited] in SIM (Hennessey 1990: 466).

**Distribution.** The range of this species extends from “Nova Scotia” (Larochelle and Larivière 1990a: 28) to northeastern Ohio (Lee 1994: 58), south to western North Carolina (Swain County, CMNH) and south-central Tennessee (Grundy County, CMNH) along the Appalachian Mountains.

**Records.** CAN: NS, QC USA: MA, ME, NC, NH, NY, OH, PA, TN, VA, VT, WV

***Bembidion carolinense* Casey, 1924**

*Bembidion carolinense* Casey, 1924: 27. Type locality: «Blacks M[oun]t[ain]s, North Carolina» (original citation). Holotype [by monotypy] (♂) in USNM [# 36862].

*Bembidion keeneanum* Casey, 1924: 28. Type locality: «Keene Heights, Essex Co[unty], New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36863]. Synonymy established by Lindroth (1954b: 128).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 55) to southern Quebec (Larochelle 1975: 54), south to northeastern Tennessee (Greene and Unicoi Counties, CMNH) and northeastern Georgia (Fattig 1949: 18) along the Appalachian Mountains.

**Records.** FRA: PM CAN: NB, NF, NS (CBI), QC USA: GA, MA, ME, NC, NH, NY, TN, VA, VT

***Bembidion curtulatum* Casey, 1918**

*Bembidion curtulatum* Casey, 1918: 39. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [# 36859].

*Bembidion effatum* Casey, 1918: 40. Type locality: «Soda Springs, Anderson Valley, in or near Mendocino Co[unty], California» (original citation). Holotype [by monotypy, see page 43; designated lectotype by Erwin (1984a: 170)] (♀) in USNM [# 36861]. Synonymy established by Erwin (1984a: 170).

*Bembidion flebile* Casey, 1918: 41. Type locality: Santa Rosa, Sonoma County, California (lectotype label according to Lindroth 1975: 117). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36867]. Synonymy established with doubt by Lindroth (1963b: 295), confirmed by Erwin (1984a: 170).

*Bembidion timefactum* Casey, 1918: 41. Type locality: Soda Springs, Anderson Valley, Mendocino County, California (lectotype label according to Lindroth 1975: 117). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36864]. Synonymy established, under the name *B. flebile* Casey, by Lindroth (1954b: 124).  
*Bembidion decrepitum* Casey, 1918: 41. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [# 36868]. Synonymy established, under the name *B. flebile* Casey, by Lindroth (1954b: 124).

**Distribution.** The range of this species extends from central Alaska to west-central Northwest Territories (Maddison 1985: 111, as *B. flebile*), south at least to west-central California along the Coast Ranges (Casey 1918: 41, as *B. flebile*) and to southwestern Colorado (Hinsdale County, CMNH; Casey 1918: 41, as *B. decrepitum*) along the Rocky Mountains.

**Records.** CAN: AB, BC (VCI), NT, YT USA: AK, CA, CO, ID, MT, OR, WA

**Note.** Maddison (2012: 535) noted that there at least two species within the current concept of this species.

### *Bembidion falsum* Blaisdell, 1902

*Bembidium falsum* Blaisdell, 1902: 76. Type locality: «Mendocino County, Cal[ifornia]» (original citation). Lectotype (♂), designated by Erwin (1984a: 171), in CAS [# 2661].

*Bembidion extensum* Casey, 1918: 42. Type locality: «Soda Springs, Anderson Valley, Mendocino Co[unty], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 171), in USNM [# 36870]. Synonymy established by Erwin (1984a: 171).

*Bembidion kincaidi* Hatch, 1950: 100. Type locality: «M[oun]t Baker [Whatcom County], Washington» (original citation). Holotype (♂) in USNM [# 75671]. Synonymy established by Hatch (1953: 86), confirmed by Erwin (1984a: 172).

**Distribution.** This species is found along the Cascade Range and Coastal Ranges (Erwin 1984a: 172) from northwestern Washington to central California.

**Records.** USA: CA, OR, WA

### *Bembidion gebleri turbatum* Casey, 1918

*Bembidion turbatum* Casey, 1918: 32. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36847].

*Bembidion conflictum* Casey, 1918: 32. Type locality: «Red Cliff [Eagle County], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [# 36848]. Synonymy established by Lindroth (1954b: 124).

**Distribution.** This subspecies ranges from southern Yukon Territory (Lindroth 1963b: 291) to northern Colorado along the Rocky Mountains (Casey 1918: 32) and to «California» (Lindroth 1963b: 291).

**Records.** CAN: AB, BC (VCI), YT **USA:** CA, CO, ID, MT, UT, WA, WY

**Note.** Three other subspecies of *B. gebleri* Gebler live in eastern Asia.

***Bembidion gordonii* Lindroth, 1963**

*Bembidion gordonii* Lindroth, 1963b: 284. Type locality: «Kitchener, B[ritish] C[olumbia]» (original citation). Holotype (♂) in UBC. Etymology. The specific name was proposed for Gordon Stace Smith [1866-1962], a dedicated beetle collector in British Columbia.

**Distribution.** This mountain species is known from southern British Columbia south at least to central Oregon along the Cascade Range (Lindroth 1963b: 286), west to Gallatin County in southern Montana (Maddison 2012: Supplementary content Table S1).

**Records.** CAN: BC **USA:** MT, OR, WA

***Bembidion gratiosum* Casey, 1918**

*Bembidion gratiosum* Casey, 1918: 34. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [# 36851].

**Distribution.** The range of this species extends from the Alaska Peninsula to southern Yukon Territory (Lindroth 1963b: 290), south at least to Ouray County in southwestern Colorado (CNC) along the Rocky Mountains (Lindroth 1963b: 289) and to the Sierra Nevada in eastern California (Dajoz 2007: 16).

**Records.** CAN: AB, BC, YT **USA:** AK, CA, CO, MT, OR, UT, WA

***Bembidion hyperboreaorum* Munster, 1923**

*Bembidion hyperboreaorum* Munster, 1923a: 238. Type locality: «Staburselven ad Bojobaeski [northern Norway]» (original citation for the holotype according to Lindroth 1963b: 294). Holotype in ZMUO (Lindroth 1969a: 1114).

**Distribution.** This Holarctic species ranges from Scandinavia to eastern Siberia and the Far East (Maggi et al. 2003: 265) and from the Seward Peninsula in Alaska (Lindroth 1963b: 295) to the Hudson Bay in northeastern Manitoba (Garry 1993: 95).

**Records.** CAN: MB, NT, NU, YT **USA:** AK – **Holarctic**

***Bembidion kalumae* Lindroth, 1963**

*Bembidion kalumae* Lindroth, 1963b: 286. Type locality: «Kalum L[ake] N[orth] Terrace, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CNC [# 8395].

**Distribution.** This species is known only from a few localities in central and west-central British Columbia (Lindroth 1963b: 286).

**Records.** CAN: BC

***Bembidion oppressum* Casey, 1918**

*Bembidion oppressum* Casey, 1918: 40. Type locality: «Duncan's Mills, Sonoma Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 178), in USNM [# 36866].

**Distribution.** This species is known from the Coast Ranges from Humboldt County (Notman 1929b: 222) to central California (Erwin 1984a: 178).

**Records. USA:** CA

***Bembidion planiusculum* Mannerheim, 1843**

*Bembidium planiusculum* Mannerheim, 1843: 216. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Two syntypes in ZMH (Silfverberg 1987: 22) and MHNG (Marggi 2010: 186); a possible syntype in MCZ [# 5502]. NOTE. Lindroth (1963b: 287) designated a specimen in ZMH as lectotype but, according to Silfverberg (1987: 22), the specimen is not a syntype. In such case, the specimen loses its status of lectotype (ICZN 1999: Article 74.2).

**Distribution.** This species is known from the Kenai Peninsula in Alaska (Lindroth 1963b: 288) south to northern Washington (Glesne et al. 2000: 89) and central Alberta (Maddison 1985: 113). All records prior to Lindroth (1963b) listed by Bousquet and Laroche (1993: 132) need confirmation.

**Records. CAN:** AB, BC (QCI, VCI) **USA:** AK, WA [CO, MT, NM, OR, UT, WY]

***Bembidion rufinum* Lindroth, 1963**

*Bembidion rufinum* Lindroth, 1963b: 287. Type locality: «Big Boulder Creek, E[ast] Pine Pass, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CNC [# 8382].

**Distribution.** The range of this species extends from the Haines district in southeastern Alaska to southeastern Yukon Territory (Lindroth 1963b: 287), south to western Montana (Russell 1968: 51) along the Rocky Mountains and foothills and to "California" (Lindroth 1963b: 287). The record from "Idaho" (Bousquet and Laroche 1993: 132) needs confirmation.

**Records. CAN:** AB, BC, YT **USA:** AK, CA, MT [ID]

***Bembidion rusticum lenensoides* Lindroth, 1963**

*Bembidion rusticum lenensoides* Lindroth, 1963b: 293. Type locality: «Elmendorf, Anchorage, Alaska» (original citation). Holotype (♂) in MCZ [# 35345].

**Distribution.** This subspecies occurs from northern Alaska to southeastern Yukon Territory (Lindroth 1963b: 293), south to northwestern Montana (Edwards 1975: 54, as *B. rusticum*) and central British Columbia (Lindroth 1963b: 293).

**Records. CAN:** AB, BC, YT **USA:** AK, MT

***Bembidion rusticum rusticum* Casey, 1918**

*Bembidion rusticum* Casey, 1918: 33. Type locality: «Catskill M[oun]t[ain]s, New York» (original citation). Holotype [by monotypy] (♂) in USNM [# 36854].

*Bembidion notmani* Casey, 1924: 27. Type locality: «Keene Heights, Essex Co[unty], New York» (original citation). Holotype [by monotypy] (♂) in USNM [# 36844]. Synonymy established by Lindroth (1954b: 128). Etymology. The specific name was proposed for Howard Notman [1881-1966], painter and amateur entomologist interested in Lepidoptera and Coleoptera.

**Distribution.** This subspecies is found from Newfoundland (Lindroth 1955a: 54) to the Lake Superior area in western Ontario (Lindroth 1963b: 293), south to north-central Pennsylvania (Lycoming County, Robert L. Davidson pers. comm. 2008; Lindroth 1955a: 54).

**Records.** FRA: PM CAN: LB, NB, NF, NS (CBI), ON, QC USA: MA, ME, NH, NY, PA, VT

**Note.** This subspecies is reported from eastern Siberia and the Far East (Maggi et al. 2003: 266) but the specimens probably belong to a distinct (still undescribed) subspecies as pointed out by Lindroth (1963b: 293).

***Bembidion sierricola* Casey, 1924**

*Bembidion sierricola* Casey, 1924: 28. Type locality: «Nevada Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36871].

**Distribution.** This species is known from a few mountain locations in the Similkameen district in southern British Columbia (Lindroth 1963b: 286) and from the Sierra Nevada in California (Casey 1924: 28; Maddison 1985: 114).

**Records.** CAN: BC USA: CA

***Bembidion simplex* Hayward, 1897**

*Bembidium simplex* Hayward, 1897: 63. Type locality: «Labrador, Hudson Bay Territory, New Hampshire, Vermont, Massachusetts, Lake Superior region, Missouri, Highlands [in] N[orth] C[arolina]» (original citation). At least five syntypes in MCZ [# 16282].

*Bembidion essexense* Casey, 1924: 26. Type locality: «Keene Heights, Essex Co[unty], New York» (original citation). Holotype [by monotypy] (♂) in USNM [# 36843]. Synonymy established by Lindroth (1954b: 128).

**Distribution.** The range of this species extends from western Maine (Oxford County, MCZ; Larochelle and Larivière 1990a: 28) to southeastern Wisconsin (Rauterberg 1885: 22; Messer 2010: 36), including the Appalachian region in southern Quebec (Larochelle 1975: 62), south to Tennessee (Sevier County, CMNH) and North Carolina (Hayward 1897: 64; Brimley 1938: 117; Swain County, CMNH) along the



Appalachian Mountains. The records from “Labrador,” “Hudson Bay Territory,” and “Missouri” (Hayward 1897: 64) refer to other species.

**Records.** CAN: QC USA: CT, MA, ME, MI, NC, NH, NY, OH, PA, TN, VA, VT, WI, WV

**Note.** Lindroth (1963b: 268) included this species in its own group. However, I believe the species is closely related to some of the species included by Lindroth (1963b) in his *planiusculum* group.

***Bembidion stillaguamish* Hatch, 1950**

*Bembidion stillaguamish* Hatch, 1950: 98. Type locality: «Snoqualmie Falls, Snoqualmie R[iver], King Co[unty], Washington» (original citation). Holotype (♀) in USNM.

**Distribution.** This species ranges from southwestern British Columbia, including Vancouver Island (Lindroth 1963b: 290), to southwestern Oregon (Hatch 1950: 98).

**Records.** CAN: BC (VCI) USA: OR, WA

***Bembidion sulcipenne hyperboroides* Lindroth, 1963**

*Bembidion lenense hyperboroides* Lindroth, 1963b: 294. Type locality: «Colville R[iver], Umiat, Alaska» (original citation). Holotype (♂) in MCZ [# 34750].

**Distribution.** This subspecies is known from Alaska, including the arctic zone and Kodiak Island, southeastern Yukon Territory, and adjacent northern British Columbia (Lindroth 1963b: 294).

**Records.** CAN: BC, YT USA: AK

***Bembidion sulcipenne prasinoides* Lindroth, 1963**

*Bembidion lenense prasinoides* Lindroth, 1963b: 294. Type locality: «Millertown, C[entral] N[ew]f[ound]l[an]d» (original citation). Holotype (♂) in CNC [# 8376].

**Distribution.** This subspecies ranges from Newfoundland (Lindroth 1955a: 52, as *B. lenense*) to southwestern Alaska (Elias 1988: 41), south to southern British Columbia (Lindroth 1963b: 294) and the Saint Lawrence Estuary near Quebec City (Laroche 1975: Fig. 175).

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS, QC USA: AK

***Bembidion vandykei* Blaisdell, 1902**

*Bembidium vandykei* Blaisdell, 1902: 75. Type locality: «Mendocino County, Cal[ifornia]» (original citation). Syntype(s) in CAS [# 2660].

*Bembidion vespertinum* Casey, 1918: 40. Type locality: «coast regions just north of San Francisco, California» (original citation). Four syntypes in USNM [# 36860]. Synonymy established by Lindroth (1963b: 283).

*Bembidion electum* Casey, 1918: 42. Type locality: «Hydesville, Eel River Valley, Humboldt Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 36869]. Synonymy established by Lindroth (1963b: 283).

**Distribution.** This species is known from the California west coast region as far south as the San Francisco area (Casey 1918: 40, as *B. vespertinum*).

**Records. USA:** CA

[**complanulum group**]

***Bembidion arcticum* Lindroth, 1963**

*Bembidion arcticum* Lindroth, 1963b: 274. Type locality: «Unalaska, Aleut[ian] Isl[ands], Alaska» (original citation). Holotype (♂) in MCZ [# 34746].

**Distribution.** This Holarctic species ranges from western Siberia (Maggi et al. 2003: 265) to the Dempster Highway in Yukon Territory (Maddison 1985: 111; UASM), including the Aleutian Islands and Alaska Peninsula (Lindroth 1963b: 275), south to Saint Elias Mountains in northwestern British Columbia (Jarrett and Scudder 2001: 380).

**Records. CAN:** BC, YT **USA:** AK – **Holarctic**

***Bembidion brachythorax* Lindroth, 1963**

*Bembidion brachythorax* Lindroth, 1963b: 279. Type locality: «Upper Chatanika R[iver], Alaska» (original citation). Holotype (♂) in MCZ [# 34748].

**Distribution.** This species is found from eastern Siberia (Maggi et al. 2003: 265) to the Hudson Bay coast in northern Manitoba (Holliday 1982: 116), including the Great Slave Lake area in Northwest Territories (Lindroth 1963b: 279).

**Records. CAN:** MB, NT, YT **USA:** AK – **Holarctic**

***Bembidion breve* (Motschulsky, 1845)**

*Peryphus brevis* Motschulsky, 1845a: 28. Type locality: «Sitka [Baranof Island, Alaska]» (original citation). Lectotype (♂), designated by Bousquet and Laroche (1993: 16), in ZMMU.

*Notaphus incertus* Motschulsky, 1845b: 350. Type locality: «île Sitka [= Baranof Island, Alaska]» (original citation). One possible syntype in MCZ (Lindroth 1963b: 272). Synonymy established by Netolitzky (1935a: 23), confirmed by Bousquet and Laroche (1993: 16).

*Peryphus tetraglyptus* Mannerheim, 1853: 151. Type locality: «insula Kadjak [Alaska]» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1963b: 273), in ZMH. Synonymy established, under the name *B. incertum* (Motschulsky), by Hayward (1897: 133), confirmed by Lindroth (1963b: 273).

*Bembidion blanditum* Casey, 1918: 23. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM

[# 36829]. Synonymy established, under the name *B. incertum* (Motschulsky), by Hatch (1953: 84), confirmed by Lindroth (1963b: 273).

*Bembidion saturatum* Casey, 1918: 24. Type locality: «Placer Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36831]. Synonymy established, under the name *B. incertum* (Motschulsky), by Lindroth (1963b: 273).

*Bembidion ampliatus* Casey, 1918: 24. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [# 36828]. Synonymy established, under the name *B. incertum* (Motschulsky), by Lindroth (1963b: 273).

*Bembidion lividulum* Casey, 1918: 25. Type locality: «Placer Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36830]. Synonymy established, under the name *B. incertum* (Motschulsky), by Lindroth (1963b: 273).

*Bembidion improvisum* Casey, 1918: 25. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [# 36832]. Synonymy established, under the name *B. incertum* (Motschulsky), by Lindroth (1963b: 273).

*Bembidion testatum* Casey, 1918: 30. Type locality: «Lake Tahoe [Nevada County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 174), in USNM [# 36842]. Synonymy established, under the name *B. incertum* (Motschulsky), by Erwin (1984a: 174).

**Distribution.** The range of this species extends from the Aleutian Islands and the Gulf of Alaska coast to southwestern Yukon Territory (Lindroth 1963b: 273, as *B. incertum*), south to north-central New Mexico (Fall and Cockerell 1907: 157; Hayward 1897: 68, as *B. incertum*) along the Rocky Mountains and to the Sierra Nevada in eastern California (Casey 1918: 30, as *B. testatum*).

**Records.** CAN: AB, BC (QCI), YT USA: AK, CA, CO, ID, MT, NM, NV, OR, WA, WY

### *Bembidion complanulum* (Mannerheim, 1853)

*Peryphus complanulus* Mannerheim, 1853: 152. Type locality: «in ora orientali insulae Kadjak [Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1963b: 282), in ZMH.

*Bembidion parvulum* Notman, 1922b: 99 [primary homonym of *Bembidion parvulum* Dejean, 1831]. Type locality: «Paradise Park (6,000 ft.), M[oun]t Rainier [Pierce County], Wash[ington]» (original citation). Holotype (♀) in USNM [# 26594]. Synonymy established by Hatch (1953: 84), confirmed by Lindroth (1954b: 128).

**Distribution.** The range of this species extends from the Aleutian Islands and the Alaska Peninsula (Lindroth 1963b: 283) south along the Rocky Mountains to northwestern Montana (Russell 1968: 51; Edwards 1975: 51) and to the central Sierra Nevada in

California (Papp 1978: 164). The records from “Northwest Territories” (Bousquet and Laroche 1993: 130) and from the San Juan River drainage in southwestern Colorado (Wickham 1902: 232) are probably in error.

**Records.** CAN: AB, BC (QCI) USA: AK, CA, MT, OR, WA

### ***Bembidion compressum* Lindroth, 1963**

*Bembidion compressum* Lindroth, 1963b: 276. Type locality: «Umiat, arctic Alaska» (original citation). Holotype (♂) in MCZ [# 34749].

**Distribution.** This Holarctic species is found from eastern Siberia (Marggi et al. 2003: 265) to the Hudson Bay in northeastern Manitoba (Garry 1993: 95), including northern Alberta (Birch Mountains, Gerald J. Hilchie pers. comm. 2009). Fossil remnants of this species, dated between about 16,700 and 18,100 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96).

**Records.** CAN: AB, MB, NT, NU, YT USA: AK – **Holarctic**

### ***Bembidion farrarae* Hatch, 1950**

*Bembidion farrarae* Hatch, 1950: 99. Type locality: «Sluskin Falls, M[oun]t Rainier [Pierce County], Washington» (original citation). Holotype (♀) in USNM. Etymology. The specific name was proposed for Elizabeth Farrar (later Mrs. Thomas G. Kinney) who did a master thesis, under the direction of Melville H. Hatch in 1936, at the University of Washington on the Bembidiini of the state of Washington.

**Distribution.** This species is known from the Kenai Peninsula in Alaska (Lindroth 1963b: 278) south to “Oregon” (Hatch 1953: 84) and from north-central Colorado (Lindroth 1963b: 278).

**Records.** CAN: BC (QCI) USA: AK, CO, OR, WA

### ***Bembidion haruspex* Casey, 1918**

*Bembidion haruspex* Casey, 1918: 31. Type locality: «Inverness [probably Inverness Passage], British Columbia» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36846].

**Distribution.** This species ranges from British Columbia, as far north as the Prince Rupert area (Lindroth 1963b: 274), to Mendocino County in western California (Maddison 1985: 112) and to southern Colorado along the Rocky Mountains (Elias 1987: 632).

**Records.** CAN: BC (VCI) USA: CA, CO, ID, MT, OR, WA

### ***Bembidion improvidens* Casey, 1924**

*Bembidion improvidens* Casey, 1924: 25. Type locality: «Placer Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [# 36841].

**Distribution.** This species is known from Mount Rainier in Washington (Lindroth 1963b: 283) and the Sierra Nevada in California (Casey 1924: 25; Papp 1978: 164).

**Records. USA:** CA, WA

***Bembidion kuprianovii* Mannerheim, 1843**

*Bembidium kuprianovii* Mannerheim, 1843: 217. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Lectotype (♀), designated by Lindroth (1963b: 269), in ZMH.

*Bembidium biimpressum* Mannerheim, 1843: 217. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Syntype(s) location unknown. Synonymy established by Lindroth (1963b: 269).

*Peryphus ovipennis* Motschulsky, 1845b: 352. Type locality: «île Sitka [= Baranof Island, Alaska]» (original citation). Syntype(s) in ZMMU (Netolitzky 1935a: 23). Synonymy established by Mannerheim (1852: 376), confirmed by Netolitzky (1935a: 23).

*Bembidium funereum* LeConte, 1860: 320. Type locality: «Saskatchewan River [probably in Alberta according to Lindroth (1963b: 269)]» (original citation). One syntype in MCZ [# 5504]. Synonymy established by Netolitzky (1942: 37), confirmed by Lindroth (1963b: 269).

*Bembidium maeklini* Hayward, 1897: 66. Type locality: «Woskresensk [= Resurrection Bay, Kenai Peninsula, Alaska]» (holotype label). Holotype in MCZ [# 34087]. Synonymy established by Lindroth (1963b: 269). NOTE. This name was first proposed, but not made available, by LeConte (1863b: 14). In his original description, Hayward stated “The only specimens [of this species] known to me are in the LeConte collection. The type is probably from Alaska. The other three are from British Columbia.” Three specimens are labeled as type of this species at MCZ. Two of them, numbered “type 16284,” are from California and are not syntypes.

*Bembidion adultum* Casey, 1918: 33. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36853]. Synonymy established by Lindroth (1963b: 269).

*Bembidion dilutum* Casey, 1918: 33. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36855]. Synonymy established by Lindroth (1963b: 269).

*Bembidion bucolicum* Casey, 1918: 34. Type locality: «Stikine River Cañon, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 116), in USNM [# 36852]. Synonymy established by Netolitzky (1931: 161), confirmed by Lindroth (1963b: 269).

**Distribution.** This species ranges from central Alaska including the Alaska Peninsula and Kodiak Island (Lindroth 1963b: 270) to western Northwest Territories (Tungsten, UASM), south at least to northern Utah (LeConte 1878a: 465, as *B. maeklini*), including western Montana (Russell 1968: 50; Edwards 1975: 52) and north-central Wyoming (Big Horn County, Ken Karns pers. comm. 2009; Hamilton 1894a: 7, as



*B. funerum* [sic]), and the Sierra Nevada in California (Casey 1918: 33, as *B. adultum* and *B. dilutum*). The record from southwestern Colorado (Wickham 1902: 233, as *B. maeklini*) needs confirmation.

**Records.** CAN: AB, BC, NT, YT USA: AK, CA, ID, MT, NV, OR, UT, WA, WY [CO]

### ***Bembidion laxatum* Casey, 1918**

*Bembidion laxatum* Casey, 1918: 24. Type locality: «Placer Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [#36833].

*Bembidion adumbratum* Casey, 1918: 26. Type locality: «Placer Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [#36827]. Synonymy established by Lindroth (1963b: 274).

*Bembidion rainieri* Hatch, 1950: 97. Type locality: «Sunrise Park, M[oun]t Rainier [Pierce County], Washington» (original citation). Holotype (♀) in USNM. Synonymy established by Lindroth (1963b: 274).

**Distribution.** This species is known from Mount Rainier in Washington and the Sierra Nevada in California (Lindroth 1963b: 274). The record from British Columbia (Jarrett and Scudder 2001: 381) needs confirmation.

**Records.** USA: CA, WA [BC]

### ***Bembidion manningense* Lindroth, 1969**

*Bembidion ochropus* Lindroth, 1963b: 278 [primary homonym of *Bembidion ochropus* Andrewes, 1935]. Type locality: «Pasayten R[iver] E[ast] Manning Park, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CNC [#8393].

*Bembidion manningense* Lindroth, 1969a: 1114. Replacement name for *Bembidion ochropus* Lindroth, 1963.

**Distribution.** This species ranges from the Yukon River in western Alaska to the Mackenzie River delta in northwestern Northwest Territories (Lindroth 1963b: 278–279, as *B. ochropus*), south through the Rocky Mountains to western Montana (Russell 1968: 51) and mountains in southern British Columbia (Lindroth 1963b: 279, as *B. ochropus*).

**Records.** CAN: AB, BC, NT, YT USA: AK, MT

### ***Bembidion neocoerulescens* Bousquet, 1993**

*Bembidium coerulescens* Van Dyke, 1926a: 65 [primary homonym of *Bembidion andreae coerulescens* Dalla Torre, 1877]. Type locality: «Niles Cañon, Alameda County, California» (original citation). Holotype (♂) in CAS [#1818]. NOTE. Even if it is obvious that infrasubspecific rank was meant when Dalla Torre (1877: 56) proposed his *B. andreae coerulescens* (see Lindroth 1963b: 271, footnote), the fact that

Csiki (1928: 163) and Van Dyke (1949b: 56) treated Dalla Torre's name as a senior homonym makes the name subspecific from the date of its establishment (ICZN 1999: Article 45.6.4.1).

*Bembidion van dykei* Csiki, 1928: 163 [primary homonym of *Bembidion vandykei* Blaisdell, 1902]. Replacement name for *Bembidion coerulescens* Van Dyke, 1926.

*Bembidion umbraticola* Van Dyke, 1949b: 56 [primary homonym of *Bembidion umbraticola* Casey, 1918]. Replacement name for *Bembidion coerulescens* Van Dyke, 1926.

*Bembidion neoerulescens* Bousquet [in Bousquet and Laroche], 1993: 9. Replacement name for *Bembidion coerulescens* Van Dyke, 1926.

**Distribution.** This species is known yet only from the San Francisco Bay area in California.  
**Records. USA:** CA

### ***Bembidion nigrocoeruleum* Hayward, 1897**

*Bembidium nigrocoeruleum* Hayward, 1897: 66. Type locality: «Washington» (original citation). One syntype [7 originally cited] in MCZ [# 16283].

*Bembidion expansipenne* Casey, 1924: 26. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36840]. Synonymy established by Lindroth (1963b: 271).

**Distribution.** This species is known from southeastern British Columbia (Syringa Provincial Park, James C. Bergdahl pers. comm. 2008) south at least to northern California (Casey 1924: 26, as *B. expansipenne*) and northwestern Montana (Edwards 1975: 53).

**Records. CAN:** BC **USA:** CA, MT, OR, WA

### ***Bembidion occultator* Notman, 1920**

*Bembidium occultator* Notman, 1920a: 295. Type locality: «Meadow Pond, M[oun]t Redfield, Essex Co[unty], N[ew] Y[ork]» (original citation). Holotype [by monotypy] (♂) in SIM (Hennessey 1990: 466).

**Distribution.** The range of this species extends from Newfoundland (Lindroth 1955a: 51) to southeastern Alberta (Lindroth 1963b: 282), south to east-central Minnesota (Aitkin County, CMNH) and mountains in New York and New England (Lindroth 1963b: 282). The four specimens labeled from the Anchorage area in southern Alaska (Lindroth 1963b: 282) could be mislabeled in my opinion. The record from «Pennsylvania» (Bousquet and Laroche 1993: 131) needs confirmation.

**Records. CAN:** AB, LB, NB, NF, NS (CBI), ON, QC, SK **USA:** ME, MI, MN, NH, NY, VT [AK, PA]

### ***Bembidion placheranum* Casey, 1924**

*Bembidion placheranum* Casey, 1924: 28. Type locality: «Placer Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 36865].

**Distribution.** According to Erwin (1984a: 179), this species is found in the foothills of the Sierra Nevada in California.

**Records. USA:** CA

### ***Bembidion quadrifoveolatum* Mannerheim, 1843**

*Bembidium quadrifoveolatum* Mannerheim, 1843: 218. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). One syntype in ZMH (Silfverberg 1987: 23). NOTE. Lindroth (1963b: 275) designated a lectotype in ZMH but, according to Silfverberg (1987: 23), the specimen is not a syntype. In such case, the specimen loses its status of lectotype (ICZN 1999: Article 74.2).

*Bembidion illex* Casey, 1918: 31. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [# 36850]. Synonymy established by Hatch (1953: 85), confirmed by Lindroth (1963b: 275).

**Distribution.** This species ranges from the Aleutian Islands and Alaska Peninsula (Lindroth 1963b: 276) to south-central Yukon Territory, south to the Sierra Nevada in California (Papp 1978: 164; Dajoz 2007: 16) and at least to northwestern Montana along the Rocky Mountains (Russell 1968: 50; Edwards 1975: 53).

**Records. CAN:** AB, BC (QCI), YT **USA:** AK, CA, MT, OR, WA

### ***Bembidion rosslandicum* Lindroth, 1963**

*Bembidion rosslandicum* Lindroth, 1963b: 277. Type locality: «Rossland Trail, S[outh] Brit[ish] Col[umbia]» (original citation). Holotype (♂) in CNC [# 8392].

**Distribution.** This species is known from a few localities in northwestern Montana (Russell 1968: 51), southwestern Alberta, and southeastern British Columbia (Lindroth 1963b: 277).

**Records. CAN:** AB, BC **USA:** MT

### ***Bembidion viator* Casey, 1918**

*Bembidion viator* Casey, 1918: 31. Type locality: «Masset, Queen Charlotte Islands [British Columbia]» (original citation). Lectotype (♂), designated by Lindroth (1975: 117), in USNM [# 36849].

**Distribution.** This species is known from the Queen Charlotte Archipelago and adjacent mainland in British Columbia (Kavanaugh 1992: 65) and from northwestern Washington (Skagit County, James C. Bergdahl pers. comm. 2008).

**Records. CAN:** BC (QCI) **USA:** WA

### **Subgenus *Hydrium* LeConte, 1847**

*Hydrium* LeConte, 1847: 453. Type species: *Bembidium levigatum* Say, 1823 by monotypy. Etymology. From the Greek *hydrias* (from water), probably alluding to the habitat requirement of the species [neuter].

*Eudromus* Kirby, 1837: 55 [junior homonym of *Eudromus* Klug, 1835]. Type species: *Peryphus nitidus* Kirby, 1837 by monotypy. Synonymy established, under the name *Platytrachelus* Motschulsky, by Ganglbauer (1891b: 17). Etymology. From the Greek *eu* (well) and *dromos* (running) [masculine].

*Platytrachelus* Motschulsky, 1844: xi [junior homonym of *Platytrachelus* Schönherr, 1843]. Type species: *Platytrachelus sibiricus* Motschulsky, 1844 (= *Bembicidium vitiosum* Gemminger and Harold, 1868) designated by Netolitzky (1939: 9). Etymology. From the Greek *platys* (broad, wide) and *trachelos* (neck, by extension pronotum), alluding to the wide pronotum (“*corselet presque aussi large que les élytres*”) of the adult of *Bembidion sibiricum* [masculine].

*Eurytrachelus* Motschulsky, 1850a: 15. Replacement name for *Platytrachelus* Motschulsky, 1844. Synonymy established by Maddison (2012: 569). Etymology. From the Greek *eury*s (broad, wide) and *trachelos* (neck, by extension pronotum) [masculine].

*Pogonidium* Ganglbauer, 1891a: 151. Type species: *Elaphrus laticollis* Duftschmid, 1812 by monotypy. Synonymy established with the name *Eudromus* Kirby by Csiki (1906: 37). Etymology. From the generic name *Pogonus* [q.v.] and the Latin suffix *-idium* (little) [neuter].

**Diversity.** Northern Hemisphere, with ten species in the Nearctic (four species) and Palearctic (six species) Regions.

**Identification.** Lindroth (1963b: 250-254, as *nitidum* and *levigatum* groups) covered all four North American species.

**Taxonomic Note.** Habu and Uéno (1955: 45) described the subgenus *Aptenidium* (one Japanese species) in the genus *Hydrium* implying (though not discussed by the authors) a close relationship between the two genus-group taxa. Based on the original description, *Aptenidium* is likely not closely related to *Hydrium*.

#### [**levigatum** group]

#### ***Bembidion levigatum* Say, 1823**

*Bembidion levigatum* Say, 1823a: 84. Type locality: «Missouri [Territory]» (original citation). Lectotype (♀), designated by Lindroth and Freitag (1969: 335), in MHNP (collection Dejean). NOTE. The spelling *laevigatum* is an incorrect subsequent spelling, introduced by Dejean (1831: 150), not in prevailing usage.

*Bembidion laevigatum delawarensense* Casey, 1924: 24. Type locality: «Pennsylvania» (original citation). Holotype [by monotypy] (♂) in USNM [# 36814]. Synonymy established by Lindroth (1963b: 254).

**Distribution.** This widely distributed species ranges from east-central Maine (Majka et al. 2011: 45) to “Montana” (Hayward 1897: 40) and southeastern Alberta (CNC), south to eastern Utah (Grand County, CNC), the Rio Grande in western Texas (Brewster County, CNC) and northern Chihuahua (Bates 1891a: 263), and the Florida Panhandle (Peck and Thomas 1998: 18).

**Records.** CAN: AB USA: AL, AR, CO, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NY, OH, OK, PA, SC, SD, TN, TX, UT, VA, WI, WV – Mexico

[**nitidum group**]

***Bembidion interventor* Lindroth, 1963**

*Bembidion interventor* Lindroth, 1963b: 252. Type locality: «Creston, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CNC [# 8394].

**Distribution.** This species occurs from the Laurentides region in western Quebec (Larochelle 1975: 57) to central Alaska (Lindroth 1963b: 253), south at least to northern Oregon (Morrow County, CMNH), northern Colorado (Eagle County, CMNH) along the Rocky Mountains, and southwestern North Dakota (Morton County, UASM).

**Records.** CAN: AB, BC, MB, NT, ON, QC, SK, YT USA: AK, CO, ID, MT, ND, OR, WA, WY

***Bembidion nitidum* (Kirby, 1837)**

*Peryphus nitidus* Kirby, 1837: 55. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1963b: 251). One syntype [2 originally cited] in BMNH (Lindroth 1953b: 176).

*Bembidion edolatum* Casey, 1924: 24. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 36813]. Synonymy established by Lindroth (1963b: 251).

**Distribution.** The range of this species extends from Prince Edward Island (Majka et al. 2008: 130) and New Brunswick (Webster and Bousquet 2008: 16) to eastern Alaska (Lindroth 1969a: 1114), south to eastern Idaho (Clark County, UASM), southern Colorado (Wickham 1896c: 132; Maddison 1985: 95) along the Rocky Mountains, “Kansas” (Wickham 1896c: 132), Missouri (Summers 1873: 147), northwestern Indiana (Blatchley 1910: 69), and New York (Notman 1928: 214). One old specimen simply labeled “N.M.” is known (MCZ). The record from “New Jersey” (Wickham 1896c: 132) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NT, ON, PE, QC, SK, YT USA: AK, CO, IA, ID, IN, KS, MA, ME, MI, MN, MO, MT, ND, NE, NH, NY, OH, SD, VT, WI, WY [NJ, NM]

***Bembidion obliquulum* LeConte, 1859**

*Bembidium obliquulum* LeConte, 1859a: 83. Type locality: «California» (original citation), herein restricted to Dog Island Park, Red Bluff, Tehama County (CNC). One syntype in MCZ [# 7399].

*Bembidium aptum* LeConte, 1859b: 281. Type locality: «Oregon» (original citation). One syntype in MCZ [# 7400]. Synonymy established by LeConte (1859b: 287), confirmed by Lindroth (1963b: 254).



*Bembidion obliquum* Casey, 1918: 17. Unjustified emendation of *Bembidion obliquum* LeConte, 1859.

*Bembidion nitidum* var. *josephineum* Casey, 1924: 25. Type locality: «Josephine Co[unty], Oregon» (original citation). Holotype [by monotypy] in USNM [# 36812]. Synonymy established by Hatch (1953: 82), confirmed by Lindroth (1963b: 254).

**Distribution.** This species is known from scattered localities from northern Idaho (Bonner County, MCZ) to west-central Washington (Grays Harbor County, CMNH), south to southern California (Ventura County, CMNH). The record from British Columbia (Jarrett and Scudder 2001: 381) needs confirmation.

**Records. USA:** CA, ID, OR, WA [BC]

### Subgenus *Metallina* Motschulsky, 1850

*Leja* Dejean, 1821: 17. Type species: *Carabus celer* Fabricius, 1792 (= *Carabus lampros* Herbst, 1784) designated by Desmarest (1851: 192). Etymology. From the Greek *leia* (smooth) [feminine]. The name was proposed by Johann Karl Megerle von Mühlfeld and made available by Dejean. NOTE. Regarding the type species designation, see Bousquet (2002b: 31).

*Metallina* Motschulsky, 1850a: 13. Unnecessary replacement name for *Leja* Dejean, 1821.

**Diversity.** Northern Hemisphere, with seven species in the Nearctic (three species, of which two are adventive) and Palaearctic (six species) Regions.

**Identification.** Lindroth (1963b: 254-258, as *lampros* group) covered all three species found in North America.

**Nomenclatural Note.** All recent authors seen (e.g., Marggi et al. 2003: 251; Lorenz 2005: 218; Ortuño and Toribio 2005: 278; Maddison 2012: 545) used *Metallina* as the valid name for this subgenus despite that *Leja* is the oldest available name and is not a junior homonym of any genus-group names. I am following them but the case needs to be submitted to the Commission for a ruling.

**Taxonomic Note.** According to Maddison (2012: 569), this group is closely related to subgenus *Hydrium*.

### *Bembidion dyschirinum* LeConte, 1861

*Bembidium dyschirinum* LeConte, 1861b: 340. Type locality: «east of Fort Colville [Washington]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5544].

*Bembidion aleneanum* Casey, 1918: 114. Type locality: «Coeur d'Alene [Kootenai County], Idaho» (original citation). Lectotype (♂), designated by Lindroth (1975: 115), in USNM [# 37028]. Synonymy established by Lindroth (1963b: 255).

*Bembidion perturbatum* Casey, 1918: 115. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 37025]. Synonymy established by Lindroth (1963b: 255).

*Bembidion agitabile* Casey, 1918: 115. Type locality: «Coeur d’Alene [Kootenai County], Idaho» (original citation). Lectotype (♀), designated by Lindroth (1975: 115), in USNM [# 37026]. Synonymy established by Hatch (1950: 97), confirmed by Lindroth (1963b: 255).

*Bembidion atrolucens* Casey, 1918: 115. Type locality: «Bull Run, Clackamas Co[unty], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 116), in USNM [# 37027]. Synonymy established by Lindroth (1963b: 255).

*Bembidion speculinum* Casey, 1924: 32. Type locality: «Terrace, British Columbia» (original citation). Holotype [by monotypy] (♀) in USNM [# 36892]. Synonymy established by Lindroth (1963b: 255).

*Bembidion keechelus* Hatch, 1950: 97. Type locality: «L[ake] Keechelus [Kittitas County], Washington» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1963b: 255).

**Distribution.** This species ranges from southeastern Alaska to southern Yukon Territory (Lindroth 1963b: 256), south along the Rocky Mountains to central Colorado (Wickham 1902: 234; Hayward 1897: 115; Casey 1918: 115, as *B. perturbatum*) and to the Sierra Nevada in California (Dajoz 2007: 17). Fossil remnants from a Plio-Pleistocene sequence have been found in northwestern Greenland (Böcher 1995: 24).

**Records.** CAN: AB, BC (QCI, VCI), YT USA: AK, CA, CO, ID, MT, OR, UT, WA, WY

### *Bembidion lampros* (Herbst, 1784)

*Carabus lampros* Herbst, 1784: 143. Type locality: «Berlin [Germany]» (original citation). Syntype(s) location unknown (possibly in ZMHB).

*Carabus rufipes* Paykull, 1790: 101 [primary homonym of *Carabus rufipes* DeGeer, 1774 and *Carabus rufipes* Goeze, 1777]. Type locality: «Svecia australi» (original citation). Syntype(s) possibly in NRSS. Synonymy established, under the name *Carabus celer* Fabricius, by Schönherr (1806: 223).

*Carabus celer* Fabricius, 1792: 167 [primary homonym of *Carabus celer* Gmelin, 1790]. Type locality: «Europa» (original citation). One syntype in ZMUC (Zimsen 1964: 60). Synonymy established by Schönherr (1806: 223).

*Carabus tristis* Fabricius, 1792: 167 [primary homonym of *Carabus tristis* Schaller, 1783 and *Carabus tristis* Herbst, 1786]. Type locality: «Germania» (original citation). One syntype in ZMUC (Zimsen 1964: 60). Synonymy established by Schaum (1860: 717).

*Carabus pulchellus* Marsham, 1802: 454 [primary homonym of *Carabus pulchellus* Razoumowsky, 1789 and *Carabus pulchellus* Panzer, 1796]. Type locality: Great Britain (inferred from title of the book). One syntype probably in BMNH (Stephens’ collection, see Netolitzky 1935: 134). Synonymy established by Jacquelin du Val (1851: 504).

*Carabus acutus* Marsham, 1802: 461. Type locality: Great Britain (inferred from title of the book). Two syntypes probably in BMNH (Stephens’ collection, see Stephens 1828b: 27). Synonymy established by Jacquelin du Val (1851: 504).

*Bembidium felixianum* Heer, 1837: 52 [second section]. Type locality: «Rheinwald [southeastern Switzerland]» (original citation). Syntype(s) location unknown (possibly in ETHZ). Synonymy established by Jacquelin du Val (1851: 504).

**Distribution.** This Palaearctic species is adventive in North America where it is known from southern British Columbia (Hatch 1953: 83; Smith et al. 2004: 96) to northwestern Oregon (Westcott et al. 2006: 7) in the west and from Newfoundland (Lindroth 1955a: 49; Larson and Langor 1982: 592) in the east. The first inventoried specimen collected in the eastern part of this continent was found in 1949 (see Lindroth 1955a: 49) and in the western part in 1947 (Hatch 1949c: 145). Fossil remnants from a Plio-Pleistocene sequence have been unearthed in northwestern Greenland (Böcher 1995: 24).

**Records.** CAN: BC, NF USA: OR, WA – **Adventive**

**Note.** *Carabus pygmaeus* attributed to Paykull (1798: 148) is often listed as a junior synonym of this species. However, Paykull did not describe a new species under that name since he referred to *Carabus pygmaeus* Fabricius, 1792.

### *Bembidion properans* (Stephens, 1828)

*Tachypus properans* Stephens, 1828b: 26. Type locality: «near London; Spitchweek, Devon; Netley, Salop [United Kingdom]» (original citation), restricted to «London, Engl[and]» by Lindroth (1963b: 256). Five syntypes in BMNH (Netolitzky 1935b: 135).

*Tachypus chaldeus* Stephens, 1828b: 27. Type locality: «near London [United Kingdom]» (original citation). Syntype(s) in BMNH. Synonymy established by Jacquelin du Val (1851: 504).

*Bembidium velox* Erichson, 1837: 134 [secondary homonym of *Bembidion velox* (Linnaeus, 1761)]. Type locality: Mark Brandenburg [Prussia] (inferred from title of the book). Syntype(s) probably in ZMHB. Synonymy established by Jacquelin du Val (1851: 505).

*Bembidium 14-striatum* C.G. Thomson, 1871: 361. Replacement name for *Bembidium velox* Erichson, 1837. NOTE. Because Thomson proposed this name as a replacement name, the lectotype of *B. quatuordecimstriatum* designated by Lindroth (1963b: 256) in ZMLS has no status.

**Distribution.** This Palaearctic species is adventive in North America where it is known from Newfoundland (Larson and Langor 1982: 592) to the coastal area of New Brunswick (Bousquet 1987a: 120), including the Magdalen Islands in the Gulf of Saint Lawrence (Laroche 1975: 60), and from southeastern Maine (Laroche and Laroche 1990a: 28, 33). One specimen has been collected recently in a campground in Kittitas County, central Washington (Robert L. Davidson pers. comm. 2008). The first inventoried specimen collected on this continent was found in Nova Scotia in 1942 (Majka et al. 2007: 7).

**Records.** CAN: NB, NF, NS (CBI), PE, QC USA: ME, WA – **Adventive**

### Subgenus *Lindrochthus* Maddison, 2012

*Lindrochthus* Maddison, 2012: 570. Type species: *Bembidium wickhami* Hayward, 1897 by original designation. Etymology (original). From the surname of Carl Lindroth and the ending “chthus” to suggest its similarity to *Philochthus* [masculine].

**Diversity.** One species in western North America.

**Identification.** The species is described in detail, under the name *B. carlhi*, by Erwin and Kavanaugh (1981: 37, 39).

### *Bembidion wickhami* Hayward, 1897

*Bembidium wickhami* Hayward, 1897: 112. Type locality: «Dunsmuir [Siskiyou County], Cal[ifornia]» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1984a: 185), in MCZ [# 16299]. Etymology. The specific name was proposed for Henry Frederick Wickham [1866-1933], professor of zoology and entomology at the University of Iowa. For many years, Wickham collected fossil insects at Florissant in Colorado.

*Bembidion delectum* Casey, 1918: 44. Type locality: «Gilroy Hot Springs, S[an]ta Clara Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 185), in USNM [# 36872]. Synonymy established by Erwin (1984a: 185).

*Bembidion carlhi* Erwin and Kavanaugh, 1981: 37. Type locality: «Steamboat Falls, Douglas County, Oregon» (original citation). Holotype (♀) in CAS [# 13657]. Synonymy established by Erwin (1984a: 185). Etymology. The species name is based on the first name and middle initial of Carl Hildebrand Lindroth (see *Schizogenius lindrothi*).

**Distribution.** This species is known from the Cascade Range in southwestern Oregon south to central California along the Coast Ranges (Casey, 1918: 44, as *B. delectum*), including the Klamath Mountains, and along the Sierra Nevada [see Erwin and Kavanaugh 1981: Fig. 18, as *B. carlhi*]; also recorded from “Nevada” (Hayward 1897: 112).

**Records. USA:** CA, NV, OR

### Subgenus *Eupetedromus* Netolitzky, 1911

*Eupetedromus* Netolitzky, 1911: 190. Type species: *Carabus dentellus* Thunberg, 1787 designated by Jeannel (1941b: 451). Etymology. From the Greek *eupetes* (easy) and *dromos* (running) [masculine].

**Diversity.** Eleven species in the Nearctic (five species) and Palaearctic (seven species) Regions. One species (*B. incrematum*) is Holarctic.

**Identification.** Bousquet and Webster (2006) provided a key for the identification of all North American species. Lindroth (1963b: 348-351, 360) covered four species, three he placed in the *incrematum* group, the other (*B. variegatum*) in the *dorsale* group.

***Bembidion graciliforme* Hayward, 1897**

*Bembidium graciliforme* Hayward, 1897: 97. Type locality: «Massachusetts, Pennsylvania, Michigan, Illinois and Iowa» (original citation), restricted to «Iowa» by Lindroth (1963b: 350). Syntype(s) in MCZ [# 16294].

**Distribution.** The range of this species extends from Nova Scotia (CNC) to eastern Minnesota (Epstein and Kulman 1990: 214), south to east-central Iowa (Johnson County, USNM), west-central Indiana (Blatchley 1910: 76), and southeastern West Virginia (Greenbrier County, MCZ). The record from southern South Dakota (Kirk and Balsbaugh 1975: 19) needs confirmation.

**Records.** CAN: NB, NS, ON, QC USA: CT, IA, IL, IN, MA, ME, MD, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, WV [SD]

***Bembidion immaturum* Lindroth, 1954**

*Bembidium immaturum* Lindroth, 1954b: 158. Type locality: «Steady Brook, Newfoundland» (holotype label). Holotype (♂) in CNC [# 6570]. NOTE. Although Lindroth's description is very short, I believe he met the requirements of availability for a species-group name published after 1930 (ICZN 1999: Article 13.1).

**Distribution.** This species occurs from Newfoundland (Lindroth 1955a: 66) to southeastern Ontario (Ottawa, CNC), south to New England and the Adirondack Mountains in northeastern New York (Lindroth 1963b: 349). The record from eastern Iowa (Cooper 1976: 163) needs confirmation.

**Records.** CAN: NB, NF, NS (CBI), ON, QC USA: ME, NH, NY, VT [IA]

***Bembidion incrematum* LeConte, 1860**

*Bembidium incrematum* LeConte, 1860: 316. Type locality: «Sitka [Baranof Island, Alaska]» (syntype label). Syntype(s) in MCZ [# 5524]. NOTE. LeConte (1860: 316) stated that *B. incrematum* was the species described by Mannerheim (1852: 300) under the name *B. nigripes* (Kirby).

*Bembidium arcuatum* LeConte, 1878c: 594. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation). Three syntypes in MCZ [# 5525]. Synonymy established by Lindroth (1954b: 127).

*Bembidium mobile* Casey, 1918: 95. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36979]. Synonymy established by Hatch (1953: 92), confirmed by Lindroth (1954b: 126).

*Bembidium semotum* Casey, 1918: 96. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 119), in USNM [# 36978]. Synonymy established by Lindroth (1954b: 126).

*Bembidium nubiferum* Casey, 1918: 96. Type locality: «Duncan's Mills, Sonoma Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 119), in USNM [# 36980]. Synonymy established by Lindroth (1954b: 126).



*Bembidion gulosum* Casey, 1918: 96. Type locality: «Coeur d’Alene [Kootenai County], Idaho» (original citation). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36981]. Synonymy established by Hatch (1953: 92), confirmed by Lindroth (1954b: 126).

*Bembidium lengi* Notman, 1919a: 98. Type locality: «Cochrane, Ont[ario]; Ausable Lakes, Essex Co[unty], N[ew] Y[ork]» (original citation). One syntype in SIM (Hennessey 1990: 466). Synonymy established by Lindroth (1954b: 129).

*Bembidion oblectans* Casey, 1924: 36. Type locality: «Edmonton, Alberta» (original citation). Holotype [by monotypy] (♀) in USNM [# 36975]. Synonymy established by Lindroth (1954b: 128).

*Bembidion fortunatum* Casey, 1924: 36 [primary homonym of *Bembidium fortunatum* Wollaston, 1871]. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 119), in USNM [# 36976]. Synonymy established by Lindroth (1954b: 128).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 64) to east-central Alaska (Lindroth 1963b: 349), south at least to Sonoma County in western California (Casey, 1918: 96, as *B. nubiferum*), northeastern New Mexico (Mora County, Foster F. Purrington pers. comm. 2012), east-central Ohio (Usis and MacLean 1998: 67), the Adirondack Mountains in New York (Notman 1928: 217, as *B. arcuatum*), and southeastern Maine (Washington County, CNC); also known from eastern Siberia (Marggi et al. 2003: 250). The records from “Massachusetts” (Bousquet and Laroche 1993: 139), “Pennsylvania,” and “West Virginia” (Hamilton 1894a: 8, as *B. dentellum*) need confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC (QCI, VCI), LB, MB, NB, NE, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, CA, CO, ID, ME, MI, MT, ND, NH, NY, OH, OR, SD, VT, WA, WI [MA, PA, WV] – **Holarctic**

**Note.** This species has passed for a long time under the name *B. dentellum* (Thunberg, 1787).

### *Bembidion iridipenne* Bousquet and Webster, 2006

*Bembidion iridipenne* Bousquet and Webster, 2006: 29. Type locality: «Lincoln, Sunbury Co[unty], New Brunswick» (original citation). Holotype (♂) in CNC [# 23456].

**Distribution.** This species ranges from New Brunswick to southwestern Quebec, south to Virginia (Bousquet and Webster 2006: 29).

**Records.** **CAN:** NB, QC **USA:** NH, PA, VA, VT

### *Bembidion variegatum* Say, 1823

*Bembidium variegatum* Say, 1823a: 89. Type locality: «Rivervale [Bergen County], N[ew] J[ersey]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 337), in MCZ [# 33065].

*Bembidium postfasciatum* Hamilton, 1893: 305. Type locality: near Allegheny, Allegheny County, Pennsylvania (inferred from title of the paper). Four syntypes [8 originally cited] in CMNH (collection Ulke). Synonymy established by Casey (1918: 111).

**Distribution.** The range of this species extends from New Brunswick (CNC) to eastern South Dakota (Kirk and Balsbaugh 1975: 19), south to western (Dajoz 2007: 23) and east-central (Tucker 1906: 85) Texas, southwestern Alabama (Baldwin County, CMNH), northeastern Georgia (Leng 1910: 73; Fattig 1949: 17), and eastern South Carolina (Ciegler 2000: 49). The record from Colorado (Wickham 1902: 234) needs confirmation; that from British Columbia (Jarrett and Scudder 2001: 382) was based on misidentified specimens of *B. patrule*, *B. graphicum*, and *B. nigripes* (UBC).

**Records.** CAN: NB, ON, QC USA: AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [CO]

**Note.** This species has been listed in the subgenus *Notaphus* by Lindroth (1963b: 360) but placed in the subgenus *Eupetedromus* by Bousquet and Webster (2006: 30).

### Subgenus *Trechonepha* Casey, 1918

*Trechonepha* Casey, 1918: 19. Type species: *Ochthedromus iridescens* LeConte, 1852 designated by Lindroth (1963b: 265). Etymology. From the generic names *Trechus* [*q.v.*] and *Nepha*, probably alluding to the resemblance of these *Nepha*-like species to those of *Trechus* ("habitus somewhat as in *Trechus*") [feminine].

**Diversity.** Western Nearctic Region, with two species.

**Identification.** Both species are included in Lindroth's (1963b: 266-267) monograph.

### *Bembidion iridescens* (LeConte, 1852)

*Ochthedromus iridescens* LeConte, 1852a: 191. Type locality: «San Jose [Santa Clara County, California]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5559].

*Peryphus parallellocollis* Motschulsky, 1859a: 125. Type locality: «St. Francisco [San Francisco County, California]» (original citation). Lectotype, designated by Bousquet (1997b: 331), in ZMMU. Synonymy established by Lindroth (1963b: 266), confirmed by Bousquet (1997b: 331).

*Bembidion fabrum* Casey, 1918: 27. Type locality: «Redwood Creek, Humboldt Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 36839]. Synonymy established by Lindroth (1963b: 266).

*Bembidion obliviosum* Casey, 1918: 27. Type locality: «Spokane [Spokane County], Washington» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36835]. Synonymy established by Lindroth (1963b: 266).

*Bembidion volatile* Casey, 1918: 28. Type locality: «Gilroy Hot Springs, S[an]ta Clara Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth

(1975: 116), in USNM [# 36836]. Synonymy established by Lindroth (1963b: 266).

*Bembidion impium* Casey, 1918: 28. Type locality: «Agassiz, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36837]. Synonymy established by Hatch (1953: 84), confirmed by Lindroth (1963b: 267).

*Bembidion parallelocolle amicum* Casey, 1918: 29. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 116), in USNM [# 36834]. Synonymy established (as aberration), under the name *B. parallelecolle* (Motschulsky), by Csiki (1928: 72), confirmed by Lindroth (1963b: 267).

*Bembidion deceptor* Casey, 1918: 29. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 116), in USNM [# 36838]. Synonymy established, under the name *B. obliviosum* Casey, by Hatch (1953: 84), confirmed by Lindroth (1963b: 267).

*Bembidion repens* Casey, 1918: 35. Type locality: «Booneville, Mendocino Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 116), in USNM [# 36856]. Synonymy established by Lindroth (1963b: 267).

**Distribution.** This species ranges from central Alberta (Lindroth 1963b: 267) to the Queen Charlotte Islands (Kavanaugh 1992: 64), south to southern California (Fall 1901a: 10; Moore 1937: 6) and northern Utah (Knowlton 1939: 2; Davis and Salt Lake Counties, CMNH).

**Records.** CAN: AB, BC (QCI, VCI) USA: CA (CHI), ID, MT, NV, OR, UT, WA

### *Bembidion trechiforme* (LeConte, 1852)

*Ochthedromus trechiformis* LeConte, 1852a: 190. Type locality: «ad montes, circa S[an]ta Isabel [San Bernardino County, California]» (original citation). Two syntypes in MCZ [# 5558].

**Distribution.** This species is known from southern California (Fall 1901a: 43; Moore 1937: 6; Maddison 2012: Supplementary content Table S1). The record from “Washington” (Hayward 1897: 128) was based on a misidentified *B. iridescens* (Lindroth 1963b: 267).

**Records.** USA: CA

### Subgenus *Liocosmius* Casey, 1918

*Liocosmius* Casey, 1918: 43. Type species: *Ochthedromus mundus* LeConte, 1852 designated by Lindroth (1963b: 343). Etymology. From the Greek *leios* (smooth) and *cosmos* (ornament, decoration), probably alluding to the polished surface (“highly polished throughout”) of the adults [masculine].

**Diversity.** Three western North American species.

**Identification.** Lindroth (1963b: 343-345) treated two species (*B. mundum* and *B. horni*) and listed the other one, based on the original description alone, as synonym of *B. mundum*. Later he rectified the synonymy (Lindroth 1969a: 1115).

***Bembidion festivum* Casey, 1918**

*Bembidion festivum* Casey, 1918: 45. Type locality: «S[an]ta Barbara [Santa Barbara County], California» (original citation). Lectotype (♀), designated by Erwin (1984a: 172), in USNM [# 36874].

**Distribution.** This species has been recorded from Benton and Jackson Counties in western Oregon (Westcott et al. 2006: 7), from Humboldt and Yolo Counties in northern California (Maddison 2012: Supplementary content Table S1), and from southwestern California (Casey 1918: 45; Moore 1937: 6).

**Records. USA:** CA, OR

***Bembidion horni* Hayward, 1897**

*Bembidium horni* Hayward, 1897: 116. Type locality: «Arizona; California» (original citation), restricted to «Tehachapi [Kern County], Calif[ornia]» by Lindroth (1963b: 344). Four syntypes [“about a dozen” originally cited] in MCZ [# 16301].

**Distribution.** This species is known from southern California (Fall 1901a: 43; Moore 1937: 6), northern Arizona (Navajo and Apache Counties, UASM; Hayward 1897: 117), southern Utah (San Juan and Kane Counties, MCZ, UASM), and western New Mexico (Maddison 2012: Supplementary content Table S1). The records from “Washington” and “Oregon” (Bousquet and Larochelle 1993: 139) are likely in error.

**Records. USA:** AZ, CA, NM, UT

***Bembidion mundum* (LeConte, 1852)**

*Lopha bifasciata* Motschulsky, 1850a: 12 [secondary homonym of *Bembidion bifasciatum* (Stephens, 1828)]. Type locality: «California?» (original citation). Lectotype (♂), designated by Bousquet (1997b: 331), in ZMMU.

*Ochthedromus mundus* LeConte, 1852a: 190. Type locality: «San Jose [Santa Clara County, California]» (original citation). Two syntypes in MCZ [# 35335]. Synonymy established with doubt by LeConte (1857c: 10), confirmed by Bousquet (1997b: 331).

*Bembidion hilare* Casey, 1918: 44. Type locality: «Cloverdale, Sonoma Co[unty], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 173), in USNM [# 36873]. Synonymy established by Lindroth (1963b: 344).

**Distribution.** This species is found from southwestern British Columbia, including Vancouver Island (Lindroth 1963b: 344), south to southern California (Fall 1901a: 43, as *B. bifasciatum*) and northern Arizona (Snow 1906b: 161; Coconino County,

CMNH), including southwestern (Tanner 1928: 269, as *B. bifasciatum*) and eastern Utah (Grand County, Foster F. Purrington pers. comm. 2010).

**Records.** CAN: BC (VCI) USA: AZ, CA, NV, OR, UT, WA

### **Subgenus *Melomalus* Casey, 1918**

*Melomalus* Casey, 1918: 37. Type species: *Ochthedromus planatus* LeConte, 1847 designated by Netolitzky (1943b: 61). Etymology. Unknown [masculine].

**Diversity.** Northern Hemisphere, with two species in the Nearctic (*B. planatum*) and Palaearctic (*B. altaicum* Gebler in Asia) Regions.

**Identification.** The North American species is treated in Lindroth's (1963b: 284) monograph.

**Taxonomic Note.** This subgenus was placed in synonymy with *Plataphus* Motschulsky by Netolitzky (1943b: 61) and Lindroth (1963b: 283) but considered a valid taxon by Toledano (2008: 12). According to Maddison (2012: 569), *Melomalus* is not closely related to the subgenus *Plataphus*.

### ***Bembidion planatum* (LeConte, 1847)**

*Ochthedromus planatus* LeConte, 1847: 456. Type locality: «Lacum Superiorem» (original citation), restricted to «Isle Royal[e] [Keweenaw County], Mich[igan]» by Lindroth (1963b: 284). Four syntypes in MCZ [# 5500].

*Peryphus aequalis* Walker, 1866: 316. Type locality: British Columbia (inferred from title of the book). Syntype(s) location unknown (possibly in BMNH). Synonymy established by LeConte (1870: 400).

*Bembidion solutum* Casey, 1918: 38. Type locality: «near San Francisco [San Francisco County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36857]. Synonymy established by Lindroth (1954b: 124).

*Bembidion adjutor* Casey, 1918: 39. Type locality: Duncan's Mills, Sonoma County, California (lectotype label according to Lindroth 1975: 117). Lectotype [as type] (♀), designated by Lindroth (1975: 117), in USNM [# 36858]. Synonymy established by Lindroth (1954b: 124).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 52) to the Norton Sound area in Alaska (Lindroth 1963b: 284), south to central California along the Coast Ranges, southern Colorado along the Rocky Mountains, Isle Royale in northernmost Michigan (Hubbard and Schwarz 1878: 629), and Cape Breton Island [see Lindroth 1963a: Fig. 63]. Fossil remnants from a Plio-Pleistocene sequence have been unearthed in northwestern Greenland (Böcher 1995: 24).

**Records.** CAN: AB, BC (VCI), NB, NF, NS (CBI), NT, ON, QC, YT USA: AK, CA, CO, ID, MI, MT, NV, OR, UT, WA, WY



**Subgenus *Trichoplataphus* Netolitzky, 1914**

*Trichoplataphus* Netolitzky, 1914: 51. Type species: *Bembidium lissonotum* Bates, 1873 designated by Netolitzky (1943a: 109). Etymology. From the Greek *trichos* (hair) and the generic name *Plataphus* [*q.v.*], alluding to the presence of sparse setae on the metasternum, metacoxae, and abdominal sterna (“*die schütterte Behaarung des Metasternums, der Hinterhüften und aller sichtbaren Ventralsegmente*”) on the adults of these *Plataphus*-related species [masculine].

*Triporus* Andrewes, 1921: 251. Type species: *Bembidium kara* Andrewes, 1921 by monotypy. Synonymy established by Netolitzky (1943a: 109). Etymology. From the Latin prefix *tri-* (three) and *porus* (holes), alluding to the presence of three discal setigerous punctures on the third elytral interval (“elytra ... stria ... 3 with three well-marked pores”) of the adult [masculine].

**Diversity.** Northern Hemisphere, with 22 species in the Nearctic (five eastern species) and Palaearctic (17 Asian species) Regions (see Toledano and Schmidt 2010).

**Identification.** Four of the North American species are included in Lindroth’s (1963b: 212-229) key to species of *Bembidion*; three of these were treated in detail (Lindroth 1963b: 298-300). One new species was described subsequently by Hildebrandt and Madison (2011) who provided a modified version of Lindroth’s key to include the new species.

***Bembidion fugax* (LeConte, 1848)**

*Ochthedromus fugax* LeConte, 1848: 467. Type locality: «Illinois» (original citation). Lectotype [as type], designated by Lindroth (1963b: 300), in MCZ [# 5508].

*Bembidion champlaini* Casey, 1918: 56. Type locality: «N[ew] Cumberland [Cumberland County], Pennsylvania» (original citation). Lectotype (♂), designated by Lindroth (1975: 118), in USNM [# 36912]. Synonymy established by Nicolay and Weiss (1934: 196), confirmed by Lindroth (1963b: 299).

**Distribution.** This eastern species ranges from “Vermont” (Hayward 1897: 72) and southwestern Massachusetts (Hampden County, MCZ) to “Illinois” (Hayward 1897: 72), south to northern and eastern Tennessee (Cheatham, Fentress, and Sevier Counties, CMNH, MCZ). The record from southern Wisconsin (Rauterberg 1885: 22) needs confirmation; those from Missouri (Summers 1873: 147) and the Rocky Mountains in northern Colorado (Wickham 1902: 232) must be in error.

**Records. USA:** DC, IL, IN, MA, MD, MI, NJ, NY, OH, PA, TN, VA, VT [WI]

***Bembidion grandiceps* Hayward, 1897**

*Bembidium grandiceps* Hayward, 1897: 70. Type locality: «Lowell [in] Mass[achusetts], New Jersey, Pennsylvania, the District of Columbia and Texas» (original citation). One syntype (labeled “Tex.”) in ANSP [# 1030]. NOTE. Six specimens, labeled “Pen” (1), “D.C.” (3), and “Tex.” (2), in LeConte’s collection (MCZ) are probably also syntypes.



**Figure 26.** *Nomius pygmaeus* (Dejean). This species is known under the vernacular name “stinking beetle” because of the strong fetid smell that the adults produce. They are attracted to lights and sometimes find their way into houses. It was reported in the literature that at one occasion an entire village had to be evacuated because of the odor produced by these small beetles. The species was often listed as very common at light in the XIX Century but is rare today. The species has an unusual range being found in North America and Europe and there is no evidence that it was transported by man from one continent to the other.

**Distribution.** This species is known from central Iowa (Maddison 2012: Supplementary content Table S1), northeastern Kansas (Pottawatomie County, CMNH; Lindroth 1963b: 218; Knaus 1903: 188), eastern Oklahoma (Latimer County, UASM) and central Texas (Blanco County, UASM; Hayward 1897: 70). According to Hildebrandt and Maddison (2011: 273), the records from Massachusetts, “New Jersey,” “Pennsylvania,” the District of Columbia (Hayward 1897: 70), and New York (Notman 1928: 216) are likely incorrect and may be based on *B. fugax*.

**Records. USA:** IA, KS, OK, TX

***Bembidion ozarkense* Maddison and Hildebrandt, 2011**

*Bembidion ozarkense* Maddison and Hildebrandt [in Hildebrandt and Maddison], 2011: 268. Type locality: «Current River at Van Buren (135 m), Carter Co[unty], Missouri» (original citation). Holotype (♂) in OSAC.

**Distribution.** This species is known from the Ozark Plateau of Missouri and Arkansas [see Hildebrandt and Maddison 2011: Fig. 6].

**Records. USA:** AR, MO

***Bembidion planum* (Haldeman, 1843)**

*Peryphus planus* Haldeman, 1843b: 303. Type locality: southeastern Pennsylvania (Haldeman 1843a: 298). One possible syntype, a ♂ labeled “[pale green disc] / O. planus (Hald) Lec. [handwritten] / B. guexii Chaud [handwritten],” in MCZ (collection LeConte).

*Ochthedromus planipennis* LeConte, 1850: 211 [*nomen dubium*]. Type locality: «Kaministiquia River below Kakàbeka Falls [= near Thunder Bay, Ontario]» (original citation). Syntype(s) location unknown. Synonymy established with doubt by Lindroth (1963b: 300). NOTE. This name has been listed in synonymy with *B. fugax* by LeConte (1857a: 5) himself. As expressed by Lindroth (1963b: 300), the type locality given suggests that the type specimen(s) was conspecific with *B. planum* rather than *B. fugax*.

*Bembidium guexii* Chaudoir, 1868b: 242. Unnecessary replacement name for *Bembidium planum* (Haldeman, 1843).

*Bembidion vulsum* Casey, 1918: 55. Type locality: «Catskill M[oun]t[ain]s, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 117), in USNM [# 36911]. Synonymy established by Nicolay and Weiss (1934: 196), confirmed by Lindroth (1963b: 298).

*Bembidion filicorne* Casey, 1918: 56. Type locality: «Oak Ridge [Ocean County], New Jersey» (original citation). Lectotype (♂), designated by Lindroth (1975: 118), in USNM [# 36910]. Synonymy established by Nicolay and Weiss (1934: 196), confirmed by Lindroth (1963b: 298).

**Distribution.** The range of this eastern species extends from Nova Scotia (Lindroth 1954c: 302) to “Minnesota” (Hildebrandt and Maddison 2011: 274), south to east-

ern Oklahoma (Le Flore County, FFPC ), northern Arkansas (Lindroth 1969a: 1114; Pope, Searcy, and Washington Counties, CMNH), northern Mississippi (Drew A. Hildebrandt pers. comm. 2010), central Alabama (Jefferson County, Drew A. Hildebrandt pers. comm. 2009), northern Georgia (Fattig 1949: 17), and northwestern South Carolina (Ciegler 2000: 48).

**Records.** CAN: NB, NS, ON, QC USA: AL, AR, CT, DC, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, VA, VT, WI, WV

### ***Bembidion rolandi* Fall, 1922**

*Bembidion rolandi* Fall, 1922c: 171. Type locality: «E[ast] Park, a suburb of Phila[delphia], Penn[sylvania]» (original citation). Holotype (♀) in MCZ [#23866]. Etymology. Although not indicated, the species name was probably proposed for Roland Hayward [1865-1906], who as an amateur studied the taxonomy of the North American Bembidiini and *Amara*.

**Distribution.** This eastern species ranges from Nova Scotia (Larochelle and Larivière 1990a: 28; Maddison 2012: Supplementary content Table S1) to the Ontario Peninsula (Lindroth 1963b: 300) and northern Ohio (Ashtabula, Cuyahoga, Erie, and Lorain Counties, Harry J. Lee, Jr. pers. comm. 2008), south to west-central Tennessee (Hickman County, CMNH) and northeastern Virginia (Richard L. Hoffman pers. comm. 1992).

**Records.** CAN: NB, NS, ON, QC USA: DC, KY, MA, MD, ME, NJ, NY, OH, PA, TN, VA, VT, WV

### **Subgenus *Phyla* Motschulsky, 1844**

*Phyla* Motschulsky, 1844: 238 (as *Phayla*). Type species: *Bembidion obtusum* Audinet-Serville, 1821 designated by Netolitzky (1939: 10). Etymology. Uncertain, possibly from the Greek *phylax* (guard) or *phyle* (tribe, race), or even *philia* (love) since Motschulsky used the spelling *Phila* later (Motschulsky 1850a: 14) [feminine]. NOTE. Motschulsky (1844) used two different original spellings for this name, *Phayla* (page 238) and *Phyla* (pages 260-263). Since he subsequently used the spelling *Phyla* (e.g., Motschulsky 1869: 8), this spelling becomes the correct original spelling (ICZN 1999: Article 24.2.4). *Phaula* used by Bedel (1879: 26, 34) is an incorrect subsequent spelling, not an unjustified emendation since there is no demonstrably intentional change (see ICZN 1999: Article 33.2).

*Microcys* J.R. Sahlberg, 1908: 11. Type species: *Microcys liliputanus* Sahlberg, 1908 by monotypy. Synonymy established by Müller (1918: 68). Etymology. From the Greek *mikros* (small) and the generic name *Ocys* [masculine].

**Diversity.** West Palaearctic Region, with nine species of which one is adventive in eastern North America.

**Identification.** The species found in North America was covered in Lindroth's (1963b: 258) monograph.

**Taxonomic Note.** Maddison (2012: 561) noted that this taxon may be the sister-group of the remaining *Bembidion*.

***Bembidion obtusum* Audinet-Serville, 1821**

*Bembidion obtusum* Audinet-Serville, 1821: 83. Type locality: «Paris [France]» (original citation). Syntype(s) probably lost.

**Distribution.** This Palaearctic species is adventive in North America where it is known from Prince Edward Island (Majka et al. 2008: 130), and from western Quebec, as far north as the Abitibi region (Paquin and Dupérré 2002: 86), to the Algoma District in northern Ontario (Pearce et al. 2003), south to southern Michigan (Purrington et al. 2002: 200), northeastern Ohio, and Long Island, New York [see Hoebeke et al. 1991: Fig. 1]. The first inventoried specimen collected on this continent was found in the Great Lake region in Ontario in 1956 (Lindroth 1963b: 258).

**Records.** CAN: ON, PE, QC USA: OH, MI, NY, PA, VT – **Adventive**

**Subgenus *Lymnaeum* Stephens, 1828**

*Lymnaeum* Stephens, 1828b: 2. Type species: *Carabus nigropiceus* Marsham, 1802 designated by Westwood (1838: 6). Etymology (original). From the Greek *limne* (marsh, pond, pool) [neuter].

*Limnaeum* Agassiz, 1846: 210, 218. Unjustified emendation of *Lymnaeum* Stephens, 1828.

*Lymneops* Casey, 1918: 168. Type species: *Lymneops angusticeps* Casey, 1918 (= *Lymnaeum laticeps* LeConte, 1858) by original designation. Synonymy established by Fall (1922a: 84). Etymology. From the generic name *Lymnaeum* and the Greek suffix *-ops* (having the appearance of) [masculine].

*Limneops* Csiki, 1928: 164. Unjustified emendation of *Lymneops* Casey, 1918.

**Diversity.** Northern Hemisphere, with four coastal species in North America (two species, one endemic along the Pacific and one adventive species along the Atlantic) and Europe (three species: *B. abeillei* Bedel, *B. eichleri* Marggi, Wrase and Huber, and *B. nigropiceum* Marsham).

**Identification.** Both species found in North America are included in Lindroth's (1963b: 213) key to the Canadian and Alaskan *Bembidion*.

***Bembidion laticeps* (LeConte, 1858)**

*Lymnaeum laticeps* LeConte, 1858b: 61. Type locality: «San Diego [San Diego County], California» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5562].

*Lymneops angusticeps* Casey, 1918: 169. Type locality: «San Pedro [Los Angeles County], California» (original citation). Lectotype (♂), designated by Erwin (1984a: 176), in USNM [# 46903]. Synonymy established by Fall (1922a: 84), confirmed by Erwin (1984a: 176).



**Distribution.** This species occurs on the seashore along the coast of California.

**Records. USA:** CA

***Bembidion nigropiceum* (Marsham, 1802)**

*Carabus nigropiceus* Marsham, 1802: 468. Type locality: Great Britain (inferred from title of the book). Syntype(s) probably in BMNH (collection Stephens).

*Bembidium sulcatulum* Chaudoir [in Chaudoir and Hochhuth], 1846: 233. Type locality: «Kertch [= Kerch, eastern Crimea, Ukraine]» (original citation). Syntype(s) probably in MHNP. Synonymy established by Chaudoir (1850b: 182).

*Bembidium puritanum* Hayward, 1897: 129. Type locality: «Massachusetts» (original citation). Syntype(s) [4 originally cited] in MCZ [# 16304] and ANSP. Synonymy established by Erwin and Kavanaugh (1980: 241).

**Distribution.** This adventive species was known on this continent until recently only from the four specimens upon which Hayward (1897: 129) described his *B. puritanum*. Erwin and Kavanaugh (1980: 241) stated that the species was probably “accidentally introduced into Massachusetts from England through shipping in the late 1800s, that a population was sustained for a short time, but that it is not likely to have persisted to the present.” However, more than 80 specimens were collected between 2007 and 2010 in Boston Harbor, Suffolk County, Massachusetts (Davidson and Rykken 2011: 491).

**Records. USA:** MA – Adventive

**Genus *PHRYPEUS* Casey, 1924**

*Phrypeus* Casey, 1924: 43. Type species: *Bembidium rickseckeri* Hayward, 1897 designated by Lindroth (1963b: 407). Etymology. Anagram of the generic name *Peryphus* [*q.v.*] [masculine].

**Diversity.** One species in western North America.

**Identification.** Lindroth (1963b: 407–408) covered the species in his monograph of the Canadian and Alaskan Carabidae.

**Taxonomic Note.** Molecular data analyses presented by Maddison and Ober (2011) and Maddison (2012) strongly suggest that this genus is not closely related to the other members of Bembidiina. However, its relationship is not established. Because there are no family-group name proposed for *Phrypeus*, the genus is left for lack of anything better in the subtribe Bembidiina.

***Phrypeus rickseckeri* (Hayward, 1897)**

*Bembidium rickseckeri* Hayward, 1897: 85. Type locality: «California, Oregon and Washington» (original citation), restricted to «Sylvania [= Camp Meeker, Sonoma County], Cal[ifornia]» by Lindroth (1963b: 408). Syntype(s) [8 originally cited] in MCZ [# 16291]. Etymology. The specific name honors Lucius Edgar Rickseck-

er [1841-1913], an enthusiastic naturalist and collector of natural history objects, especially beetles. Ricksecker collected mainly in southern California and particularly along the west coast. His collection and library, at the time in Santa Rosa, were totally destroyed by the earthquake of 18 April 1906.

*Phrypeus rutilinus* Casey, 1924: 44. Type locality: «Josephine Co[unty], Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 122), in USNM [# 36945]. Synonymy established by Hatch (1953: 92), confirmed by Lindroth (1963b: 408).

**Distribution.** This species ranges from Vancouver Island (Lindroth 1963b: 408) to western Montana (Russell 1968: 58), south to Nevada County in the Sierra Nevada (Dajoz 2007: 16) and to Sonoma County along the Pacific Coast (Lindroth 1963b: 408).

**Records.** CAN: BC (VCI) USA: CA, MT, OR, WA

### Subtribe XYSTOSOMINA Erwin, 1994

Xystosomina Erwin, 1994: 560. Type genus: *Xystosomus* Schaum, 1863.

**Diversity.** New World, with about 125 species arrayed in seven genera: *Erwiniana* Paulsen and Smith (about 55 Neotropical species), *Geballusa* Erwin (five Neotropical species), *Gouleta* Erwin (four Neotropical species), *Inpa* Erwin (one South American species), *Mioptachys* (13 species), *Philipis* Erwin (38 Australian species), and *Xystosomus* Schaum (nine Neotropical species). The North American fauna is represented by a single species.

### Genus MIOPTACHYS Bates, 1882

*Tachymenis* Motschulsky, 1862b: 27 [junior homonym of *Tachymenis* Weigmann, 1835]. Type species: *Bembidium flavicaudus* Say, 1823 designated by Casey (1918: 220). Etymology. From the generic name *Tachys* [*q.v.*] and the Greek *menis* (wrath) [masculine].

*Mioptachys* Bates, 1882a: 144. Type species: *Mioptachys trechoides* Bates, 1882 designated by Erwin (1974a: 145). Synonymy established by Erwin (1974a: 145). Etymology. Uncertain, possibly from the Greek prefix *mio-* (less) and the generic name *Tachys* [*q.v.*] [masculine].

**Diversity.** Western Hemisphere, with 13 species in temperate, subtropical, and tropical areas of the Nearctic (one species) and Neotropical (12 species) Regions.

**Identification.** The North American species is treated in Lindroth's (1966: 441) monograph under the genus *Tachys*.

### *Mioptachys flavicauda* (Say, 1823)

*Bembidium flavicaudus* Say, 1823a: 87. Type locality: «W[hite] S[ulphur] Springs [Greenbrier County], W[est] V[irgini]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 339), in MCZ [# 33055].

*Tachymenis reflexicollis* Motschulsky, 1862b: 31. Type locality: «environs de New-York» (original citation). Two syntypes in ZMMU (Keleinikova 1976: 214). Synonymy established by Lindroth (1966: 441).

*Tachymenis marginicollis* Motschulsky, 1862b: 32. Type locality: «environs de la Nouvelle Orléans [Orleans Parish], Louisiane» (original citation). Lectotype, designated by Erwin (1974a: 141), in ZMMU. Synonymy established by Casey (1918: 221), confirmed by Erwin (1974a: 145).

**Distribution.** This species ranges from the Nova Scotia Peninsula (Christopher G. Majka pers. comm. 2007) to western Washington (Hatch 1953: 104), north to southern British Columbia (Lindroth 1966: 441) and southern Alberta (CNC), south to southwestern California (Los Angeles County, CAS), southeastern Arizona (Dajoz 2007: 21), south-central Texas (Bastrop County, CNC), and southern Florida (Peck and Thomas 1998: 18).

**Records.** CAN: AB, BC, NB, NS, ON, QC USA: AL, AR, AZ, CA, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV

### Subtribe TACHYINA Motschulsky, 1862

Tachyaires Motschulsky, 1862b: 24. Type genus: *Tachys* Dejean, 1821. NOTE. The stem of *Tachys* is *Tachy-* (Madge 1989 : 468).

Micratopini Casey, 1914: 42. Type genus: *Micratopus* Casey, 1914.

Limnastini Jeannel, 1937a: 245. Type genus: *Limnastis* Ganglbauer, 1891 (unjustified emendation of *Lymnastis* Motschulsky, 1862, not in prevailing usage) (= *Lymnastis* Motschulsky, 1862).

**Diversity.** Worldwide, with about 790 species (Lorenz 2005: 207-215). The Northern Hemisphere is represented by about 230 species (roughly 29% of the world fauna) and North America by 73 species (9.2% of the world fauna). Two species are adventive (*Porotachys bisulcatus* and *Elaphropus parvulus*) in the Nearctic Region. No species are Holarctic.

**Note.** The genitive form of *tachys* is *tachéos* (see Alonso-Zarazaga 2007) and the family-group name based on the genus *Tachys* should be spelled Tacheina. However the spelling Tachyina being in prevailing usage, it is maintained (ICZN 1999: Article 29.5).

### Genus TACHYTA Kirby, 1837

*Tachyta* Kirby, 1837: 56. Type species: *Tachyta picipes* Kirby, 1837 (= *Bembidium inornatum* Say, 1823) by monotypy. Etymology. From the Greek *tachytes* (swiftness) [feminine].

**Diversity.** Worldwide, with 24 species in boreal, temperate, subtropical, and tropical areas. The species are arrayed in two subgenera: *Paratachyta* Erwin (five species in the Eastern Hemisphere) and *Tachyta s.str.* (19 species).

**Identification.** Erwin (1975) revised the species and provided a key for their identification.

**Subgenus *Tachyta* Kirby, 1837**

*Tachyta* Kirby, 1837: 56. Type species: *Tachyta picipes* Kirby, 1837 (= *Bembidium inornatum* Say, 1823) by monotypy.

**Diversity.** Worldwide, with 19 species in the Nearctic (five species), Neotropical (three species, only one of them endemic), Australian (five species), Oriental (four species), Palearctic (two species), and Afrotropical (four species) Regions.

**[falli group]**

***Tachyta angulata* Casey, 1918**

*Tachyta angulata* Casey, 1918: 216. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♂), designated by Erwin (1974a: 150), in USNM [# 46966].

**Distribution.** This species ranges from Cape Breton Island (Lindroth 1954c: 303) to west-central Yukon Territory, south to Veracruz in Mexico, northeastern Mississippi (Oktibbeha County, Drew A. Hildebrandt pers. comm. 2009), and northern Georgia [see Erwin 1975: Fig. 121]. The record from “Oregon” (Bousquet and Laroche 1993: 149) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NS (CBI), ON, QC, SK, YT USA: AZ, CT, DC, GA, IN, MA, MD, ME, MI, MN, MO, MS, MT, NC, NH, NJ, NM, NY, PA, RI, SC, VA, VT, WI, WV [OR] – Mexico

***Tachyta falli* (Hayward, 1900)**

*Tachys falli* Hayward, 1900: 199. Type locality: «Siskiyou Co[unty], Cal[ifornia]» (lectotype label). Lectotype (♂), designated by Erwin (1974a: 150), in MCZ [# 7048].

**Distribution.** This western species ranges from southwestern British Columbia, including Vancouver Island, to western Idaho, south to Fresno County in California along the Sierra Nevada and to the San Francisco Bay area along the Coast Ranges [see Erwin 1975: Fig. 111].

**Records.** CAN: BC (VCI) USA: CA, ID, OR, WA

**[inornata group]**

***Tachyta inornata* (Say, 1823)**

*Bembidium inornatum* Say, 1823a: 87. Type locality: «Asheville [Buncombe County], N[orth] C[arolina]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 339), in MCZ [# 33056].

*Tachyta picipes* Kirby, 1837: 56. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Lectotype (♀), designated by Erwin (1974a: 151), in BMNH. Synonymy established by LeConte (1848: 471), confirmed by Lindroth (1953b: 176).

*Tachys rivularis* Motschulsky, 1850a: 8. Type locality: «C[alifornia]» (lectotype label). Lectotype (♀), designated by Erwin (1974a: 151), in ZMMU. Synonymy established by Hayward (1900: 233), confirmed by Erwin (1975: 45).

*Tachyta collaris* Casey, 1918: 218. Type locality: «Washington State» (original citation). Lectotype (♂), designated by Erwin (1974a: 151), in USNM [# 46968]. Synonymy established by Hatch (1953: 103), confirmed by Erwin (1975: 45).

*Tachyta arizonica* Casey, 1918: 219. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Erwin (1974a: 151), in USNM [# 46969]. Synonymy established by Erwin (1975: 45).

*Tachyta debilicollis* Casey, 1918: 219. Type locality: «Catskill M[oun]t[ain]s [Greene County], New York» (original citation). Lectotype (♂), designated by Erwin (1974a: 151), in USNM [# 46971]. Synonymy established by Erwin (1975: 45).

*Tachyta californica* Casey, 1918: 219. Type locality: «Humboldt Co[unty], California» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1974a: 151), in USNM [# 46970]. Synonymy established by Hatch (1953: 103), confirmed by Erwin (1975: 45).

**Distribution.** This species ranges from Maine and southern Quebec to south-central British Columbia, south to southwestern California, Belize and Guatemala, and southern Florida, including the Keys; also known from Cuba [see Erwin 1975: Fig. 135].

**Records.** CAN: BC, ON, QC, SK USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, MT, NC, ND, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV – Belize, Cuba, Guatemala, Mexico

### *Tachyta kirbyi* Casey, 1918

*Tachyta kirbyi* Casey, 1918: 216. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation). Lectotype (♂), designated by Erwin (1974a: 151), in USNM [# 46967].

**Distribution.** The range of this species extends from the Gaspé Peninsula in eastern Quebec to west-central British Columbia, south to northwestern Oregon, south-central New Mexico through the Rocky Mountains, the Black Hills in southwestern South Dakota, east-central Minnesota, western New York near the Great Lakes, and Massachusetts (Erwin 1975: 65) along the east coast [see Erwin 1975: Fig. 135]. The record of *Tachys rivularis* from “Sitka” in the Alexander Archipelago (Motschulsky 1850a: 8) probably refers to this species.

**Records.** CAN: AB, BC, ON, QC, SK USA: CO, ID, MA, ME, MN, MT, ND, NH, NM, NY, OR, SD, VT, WA, WI [AK]



***Tachyta parvicornis* Notman, 1922**

*Tachyta parvicornis* Notman, 1922b: 100. Type locality: «S[ain]t Petersburg [Pinellas County], Fl[orid]a» (original citation). Holotype (♂) in FSCA.

**Distribution.** This species ranges from Massachusetts to the Black Hills in southwestern South Dakota, south to southern Arizona, southern Texas, southern Mississippi (Harrison and Lamar Counties, Drew A. Hildebrandt pers. comm. 2008), and southern Florida, including the Keys [see Erwin 1975: Fig. 156].

**Records. USA:** AL, AR, AZ, CO, DC, FL, GA, IN, LA, MA, MD, MS, NC, NJ, NM, NY, PA, RI, SC, SD, TN, TX, VA, WI, WV

**Genus *ELAPHROPUS* Motschulsky, 1839**

*Elaphropus* Motschulsky, 1839: 73. Type species: *Elaphropus caraboides* Motschulsky, 1839 by monotypy. Etymology. From the Greek *elaphros* (nimble) and *pous* (foot), probably alluding to the agility of the adults in the field [masculine].

**Diversity.** Worldwide, with about 340 species (Lorenz 2005: 207-211, as *Elaphropus* and *Nototachys*) arrayed in seven subgenera following Sciaky and Vigna Taglianti (2003, as phyletic line of *Elaphropus*): *Amaurotachys* Jeannel (Old World), *Barytachys*, *Elaphropus s.str.* (about 40 species in the Eastern Hemisphere), *Sphaerotachys* Müller (Eastern Hemisphere) with *Nototachys* Alluaud, *Tachyphanes* Jeannel, and *Trepanotachys* Alluaud as synonyms, *Tachylopha* Motschulsky (40 species in the Eastern Hemisphere), *Tachyura*, and *Tachyuroopsis* Shilenkov (one species in the Far East).

**Taxonomic Note.** Several authors have discussed the taxonomic status of *Elaphropus* and related taxa and most have different opinions as to the statuses they should be assigned. In view of this, I prefer to include all taxa of the phyletic line of *Elaphropus* (sensu Sciaky and Vigna Taglianti 2003) into a single genus, as done by Erwin (1974a) and Shilenkov (2002), and recognize several subgenera.

**Subgenus *Barytachys* Chaudoir, 1868**

*Barytachys* Chaudoir, 1868b: 213. Type species: *Bembidium incurvum* Say, 1830 designated by Jeannel (1941b: 434). Etymology. From the Greek *barys* (heavy) and the generic name *Tachys* [*q.v.*], probably alluding to the convex (and thus heavy compared to the other species of *Tachys*) body of adults of these species of *Tachys* [masculine].

**Diversity.** Western Hemisphere, with 37 species in North America (28 species), Middle America (ten species), and the West Indies (three species, two of them endemic).

**Identification.** Hayward (1900: 201-212, as *incurvus* group) reviewed the North American species then known (15 species). Lindroth (1966: 414-424, as *incurvus* group) treated 12 species (one in the key only) found in North America. A taxonomic revision of the subgenus is needed.

**Taxonomic Note.** Sciaky and Vigna Taglianti (2003) considered *Elaphropus s.str.* and *Barytachys* as two distinct genera, arguing that “*Barytachys* could possibly be considered a subgenus of *Elaphropus*, but from a biogeographical point of view, this classification seems highly implausible.” However, there seem to be no significant character states to differentiate the two taxa. In their key, members of *Elaphropus* are characterized by their “body almost always depigmented, nearly uniform in colour, almost round and convex” and those of *Barytachys* by their “body generally blackish, sometimes with lighter markings, oval and relatively flat.” *Elaphropus* is said to be represented only in the Eastern Hemisphere while *Barytachys* is represented in the Western Hemisphere. Based on the evidence presented I am not convince that these two taxa should be considered distinct. However, for the time being, *Barytachys* is retained as a valid subgenus pending further study.

### *Elaphropus anceps* (LeConte, 1848)

*Tachys anceps* LeConte, 1848: 470. Type locality: «Rocky Mountains» (original citation), restricted to «Nebraska» by Erwin (1974a: 133). Lectotype (♀), designated by Erwin (1974a: 133) in MCZ [# 5583].

**Distribution.** The range of this species extends from Cape Breton Island to southeastern Alberta, north to southern Northwest Territories (Lindroth 1966: 418–419), south to southeastern Arizona (Dajoz 2007: 21), northwestern Texas (Nolan County, CMNH), northwestern Louisiana (Caddo Parish, Igor M. Sokolov pers. comm. 2009), and Maryland (Clark et al. 2006: 1306). The records from “British Columbia,” “Washington,” “Oregon,” “Idaho,” “Utah” (Bousquet and Larochelle 1993: 150), based on specimens identified under this name in USNM, need confirmation.

**Records.** CAN: AB, MB, NB, NS (CBI), NT, ON, QC, SK USA: AR, AZ, CO, CT, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MT, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SD, TN, TX, VA, VT, WI, WV, WY [BC, ID, OR, UT, WA]

**Note.** Lindroth (1966: 417) considered *E. nebulosus* (Chaudoir), *E. vernicatus* (Casey), and *E. congener* (Casey) as synonyms of this species. Erwin (1974a) treated *E. nebulosus* and *E. congener* as valid species and *E. vernicatus* as a synonym of *E. unionis* (Csiki).

### *Elaphropus anthrax* (LeConte, 1852)

*Tachys anthrax* LeConte, 1852a: 192. Type locality: «San Diego [San Diego County, California]» (original citation). Holotype [by monotypy; designated lectotype by Erwin (1974a: 133)] (♂) in MCZ [# 5580].

**Distribution.** This species ranges from southern Vancouver Island (CNC) to northern Idaho (Hatch 1953: 103), south to southern California (LeConte 1852a: 192; Fall 1901a: 44).

**Records.** CAN: BC (VCI) USA: CA, ID, OR, WA

***Elaphropus brevis* (Casey, 1918)**

*Tachyura brevis* Casey, 1918: 182. Type locality: «Fortress Monroe [= Hampton], Virginia» (original citation). Lectotype (♀), designated by Erwin (1974a: 133), in USNM [# 46918].

**Distribution.** This species is known only from the type locality in southeastern Virginia.

**Records. USA:** VA

**Note.** This form was considered a synonym of *E. granarius* (Dejean) by Lindroth (1966: 414) but listed as a valid species by Erwin (1974a: 133).

***Elaphropus brunnicollis* (Motschulsky, 1862)**

*Tachyura brunnicollis* Motschulsky, 1862b: 28. Type locality: «environs de Mobile [Mobile County, Alabama]» (original citation). Lectotype, designated by Erwin (1974a: 133), in ZMMU.

*Barytachys gemellus* Casey, 1884c: 71. Type locality: «Cap May [Cape May County], New Jersey» (original citation). Lectotype (♀), designated by Erwin (1974a: 133), in USNM [# 46916]. Synonymy established by Erwin (1974a: 133). **NOTE.** Hayward (1900: 204) and Lindroth (1966: 411) treated *E. gemellus* (Casey) as a synonym of *E. fuscicornis* (Chaudoir).

*Tachys subpunctatus* Blatchley, 1924: 164. Type locality: «near Dunedin [Pinellas County, Florida]» (original citation). Holotype [by monotypy] (♂) in PURC. Synonymy established by Erwin (1974a: 133).

**Distribution.** This species is currently known only from the Coastal Plain ranging from New Jersey (Casey 1884c: 71, as *Barytachys gemellus*) to at least central Florida (Blatchley 1924: 164, as *Tachys subpunctatus*), west to southwestern Alabama (Motschulsky 1862b: 28).

**Records. USA:** AL, FL, GA, NJ, SC, VA

***Elaphropus capax* (LeConte, 1863)**

*Tachys capax* LeConte, 1863c: 20. Type locality: «Washington, District of Columbia» (original citation). Lectotype (♀), designated by Erwin (1974a: 137), in MCZ [# 5579].

**Distribution.** The range of this species extends from western Vermont (Addison and Chittenden Counties, CMNH) to eastern Iowa (Hayward 1900: 209), including southernmost Ontario (Bousquet 1987a: 122), south to southeastern Louisiana (East Baton Rouge and Saint Tammany Parishes, Igor M. Sokolov pers. comm. 2009), southern Mississippi (Peter W. Messer pers. comm. 2008), and southern Florida (Peck and Thomas 1998: 18).

**Records. CAN:** ON **USA:** DC, FL, GA, IA, IL, IN, LA, MA, MD, MO, MS, NJ, NY, OH, PA, TN, VA, VT

**Note.** This form was regarded as a valid species by Hayward (1900: 209), Casey (1918: 187), Lindroth (1966: 422), and Bousquet (1987a: 122) but listed as a synonymy of *E. vivax* (LeConte) by Erwin (1974a: 137).

***Elaphropus cockerelli* (Fall, 1907)**

*Tachys cockerelli* Fall, 1907: 218. Type locality: «Romeroville [San Miguel County], New Mexico» (original citation). Lectotype (♀), designated by Erwin (1974a: 133), in MCZ [# 23871]. Etymology. The specific name honors Theodore Dru Alison Cockerell [1866-1948], professor at the University of Colorado and accomplished naturalist. Cockerell wrote on many subjects including scale insects, fossil plants, fossil insects, biogeography, geology, and particularly wild bees, his special interest.

**Distribution.** This species is known from northeastern New Mexico (Fall 1907: 218) and southeastern Arizona (Cochise County, USNM).

**Records. USA:** AZ, NM

***Elaphropus congener* (Casey, 1918)**

*Tachyura congener* Casey, 1918: 181. Type locality: «Austin [Travis County], Texas» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1974a: 133), in USNM [# 46914].

**Distribution.** This species has been reported from localities in South Dakota (Kirk and Balsbaugh 1975: 21), west-central Mississippi, and eastern and central Texas (Casey 1918: 181).

**Records. USA:** MS, SD, TX

**Note.** This form was considered a synonym of *E. anceps* (LeConte) by Lindroth (1966: 417) but listed as a valid species by Erwin (1974a: 133).

***Elaphropus conjugens* (Notman, 1919)**

*Tachys trechiformis* Hayward, 1900: 216 [primary homonym of *Tachys trechiformis* Jordan, 1894]. Type locality: «Verde River [Maricopa County], Arizona» (original citation). Holotype [by monotypy] (♂) in MCZ [# 7051].

*Tachys conjugens* Notman, 1919b: 229. Type locality: «Rincon M[oun]t[ain]s [Pima County], Ariz[ona]» (original citation). One syntype [2 ♀ originally cited] in SIM (Hennessey 1990: 466). Synonymy established by Erwin (1974a: 133).

*Tachys trechoides* Csiki, 1928: 201. Replacement name for *Tachys trechiformis* Hayward, 1900.

**Distribution.** This species is known only from southern Arizona.

**Records. USA:** AZ

***Elaphropus dolosus* (LeConte, 1848)**

*Tachys dolosus* LeConte, 1848: 470. Type locality: «Rocky Mountains» (original citation). Lectotype (♀), designated by Erwin (1974a: 133), in MCZ [# 5584].

*Tachys audax* LeConte, 1852a: 193. Type locality: «ad Colorado et Gilae ripas» (original citation), restricted to «Colorado River, Arizona» by Erwin (1974a: 134).



Lectotype (♀), designated by Erwin (1974a: 134), in MCZ [# 5585]. Synonymy established by Erwin (1974a: 134). NOTE. This form has been considered a valid species by Hayward (1900: 206) and Casey (1918: 177).

*Tachyura apacheana* Casey, 1918: 184. Type locality: «Riverside [Pinal County], Arizona» (original citation). Lectotype (♂), designated by Erwin (1974a: 134), in USNM [# 46922]. Synonymy established by Erwin (1974a: 134).

**Distribution.** This species ranges from southern New Hampshire (Hillsborough County, CMNH) to south-central South Dakota (Kirk and Balsbaugh 1975: 21), including southern Ontario (Lindroth 1966: 419), south to southern Texas (Casey 1918: 177, as *Tachyura audax*; Hayward 1900: 205), southwestern Alabama (Baldwin County, CMNH), and the District of Columbia (Beutenmüller 1897: 40), west along southern United States to southern California (Fall 1901a: 44, as *Tachys audax*) and the Baja California Peninsula (Horn 1894: 308, as *Tachys audax*). The records from “Alberta,” “Idaho,” “Montana,” “Wyoming” (Bousquet and Larochelle 1993: 151) and northern California (Notman 1929b: 223) are probably in error.

**Records.** CAN: ON USA: AL, AR, AZ, CA, CO, DC, IA, IL, IN, KS, MA, MO, NE, NH, NM, NY, OH, OK, PA, SD, TN, TX, VT, WI, WV – Mexico

### *Elaphropus fatuus* (Casey, 1918)

*Tachyura fatua* Casey, 1918: 187. Type locality: «Lake Worth [Palm Beach County], Florida» (original citation). Lectotype (♂), designated by Erwin (1974a: 134), in USNM [# 46930].

**Distribution.** This species is known only from the type locality in southern Florida.

**Records.** USA: FL

### *Elaphropus ferrugineus* (Dejean, 1831)

*Bembidium ferrugineum* Dejean, 1831: 59. Type locality: «Amérique septentrionale» (original citation), restricted to «Iowa City [Johnson County], Iowa» by Lindroth (1966: 423). Holotype [by monotypy] apparently lost (Lindroth 1955b: 14). NOTE. The sole specimen of *E. ferrugineus* Dejean in Dejean’s collection is a specimen of *E. tripunctatus* (Lindroth 1966: 424) and does not agree with the original description of *Bembidium ferrugineum* as provided by Dejean.

*Tachys ovipennis* Chaudoir, 1868b: 215. Type locality: Amérique septentrionale (inferred from title of the paper). Lectotype, designated by Erwin (1974a: 134), in MHNP. Synonymy established by Hayward (1900: 234), confirmed by Lindroth (1966: 423). NOTE. It is possible that the lectotype of *Tachys ovipennis* Chaudoir is the holotype of *Bembidium ferrugineum* Dejean. Chaudoir (1868b: 215) wrote after the description of his *T. ovipennis* “Dejean, chose difficile à comprendre, l’avait confondu avec son *ferrugineus*, dont il est pourtant tellement distinct.”



**Distribution.** This species ranges from “Massachusetts” (Hayward 1900: 212) and Connecticut (Krinsky and Oliver 2001: 90) to northeastern Kansas (Popenoe 1878: 79), including eastern Iowa (Lindroth 1966: 423), south to northwestern and central Texas (Barr 1964: 3), southern Alabama (Conecuh County, CMN), and the Florida Panhandle (Washington County, CNC). The records from “Colorado” (Beutenmüller 1897: 39) and “New Hampshire” (Bousquet and Laroche 1993: 151) need confirmation.

**Records. USA:** AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, MA, MD, MO, NC, NJ, NY, OH, OK, PA, SC, TN, TX [CO, NH]

**Note.** Under this name, LeConte (1863b: 15) listed “*truncorum* Hald.” as synonym. I have not found any species described by that name in Haldeman’s publications.

### *Elaphropus fuscicornis* (Chaudoir, 1868)

*Tachys fuscicornis* Chaudoir, 1868b: 214. Type locality: «Louisiane» (original citation). Lectotype (♀), designated by Erwin (1974a: 134), in MHNP.

**Distribution.** This species seems restricted to the Coastal Plain ranging from New Jersey (Smith 1890: 79; Smith 1910: 203) to southern Florida (Leng 1915: 573), west to “Louisiana” (Chaudoir 1868b: 214) including southwestern Alabama (Löding 1945: 14).

**Records. USA:** AL, FL, GA, LA, NJ

### *Elaphropus granarius* (Dejean, 1831)

*Bembidium granarium* Dejean, 1831: 61. Type locality: «Amérique septentrionale» (original citation), restricted to «M[oun]t Washington [Coos County], N[ew] H[ampshire]» by Lindroth (1966: 414). Holotype [by monotypy] (♀) in MHNP.

*Tachys occultus* LeConte, 1848: 470. Type locality: «Georgia» (original citation). Lectotype (♂), designated by Erwin (1974a: 135), in MCZ [#5582]. Synonymy established by Horn (1875: 132), confirmed by Lindroth (1966: 414). NOTE. This form is listed as a valid species by Erwin (1974a: 135).

*Barytachys glossema* Casey, 1884c: 70. Type locality: «near Philadelphia [Philadelphia County], Pennsylvania» (original citation). Lectotype (♂), designated by Erwin (1974a: 134), in USNM [#46917]. Synonymy established by Horn (1885b: 108), confirmed by Lindroth (1966: 414).

**Distribution.** The range of this species extends from Nova Scotia (Lindroth 1966: 416) to “Nebraska” (Hayward 1900: 204), south to northern Oklahoma (French et al. 2001: 228), southeastern Louisiana (East Baton Rouge, Tangipahoa, and Saint Tammany Parishes, Igor M. Sokolov pers. comm. 2009), and northern Florida (Peck and Thomas 1998: 18). The records from southern Colorado (Elias 1987: 632) and “Minnesota” (Bousquet and Laroche 1993: 151) need confirmation.

**Records. CAN:** NB, NS, ON, QC **USA:** AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, LA, MA, MD, ME, MI, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, VA, VT, WI [CO, MN]

***Elaphropus incurvus* (Say, 1830)**

*Bembidium incurvum* Say, 1830c: 26. Type locality: «N[orth] Ill[inois]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 338), in MCZ [# 33060]. NOTE. «Indiana» was the area originally cited by Say (1830c: 26).

*Tachyura parallela* Casey, 1918: 182 [secondary homonym of *Tachys parallela* Motschulsky, 1850]. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♀), designated by Erwin (1974a: 134), in USNM [# 46915]. Synonymy established by Lindroth (1966: 416).

*Tachys rhodensis* Csiki, 1928: 195. Replacement name for *Tachys parallelus* (Casey, 1918).

**Distribution.** This species ranges from Cape Breton Island (Bousquet 1987a: 121) to the Okanagan Valley in south-central British Columbia (Lindroth 1966: 416), south to “Oregon” (Hayward 1900: 205; Hatch 1953: 104), central New Mexico (Fall and Cockerell 1907: 157), and southeastern Tennessee (Sequatchie and Bledsoe Counties, Robert L. Davidson pers. comm. 2009). Several state records listed in Bousquet and Larochelle (1993: 151) need confirmation.

**Records.** CAN: BC, MB, NB, NS (CBI), ON, PE, QC, SK USA: CO, CT, DC, DE, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, MT, ND, NE, NH, NJ, NM, NY, OH, OR, PA, RI, SD, TN, VT, WA, WI, WV [AR, FL, LA, NC, SC, TX]

***Elaphropus liebecki* (Hayward, 1900)**

*Tachys liebecki* Hayward, 1900: 207. Type locality: «Texas» (original citation). Lectotype (♂), designated by Erwin (1974a: 134), in MCZ [# 7049].

**Distribution.** This species is known only from the type series.

**Records.** USA: TX

***Elaphropus monticola* (Casey, 1918)**

*Tachyura monticola* Casey, 1918: 179. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype (♂), designated by Erwin (1974a: 135), in USNM [# 46910].

**Distribution.** This species is known only from the type locality in northwestern New Mexico.

**Records.** USA: NM

***Elaphropus nebulosus* (Chaudoir, 1868)**

*Tachys nebulosus* Chaudoir, 1868b: 214. Type locality: «Louisiane» (original citation). Lectotype (♀), designated by Erwin (1974a: 135), in MHNP.

*Tachyura solita* Casey, 1918: 178. Type locality: «Galveston [Galveston County], Texas» (original citation). Lectotype (♀), designated by Erwin (1974a: 135), in USNM [# 46908]. Synonymy established by Erwin (1974a: 135).

*Tachyura soror* Casey, 1918: 179. Type locality: «Austin [Travis County], Texas» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1974a: 135), in USNM [# 46909]. Synonymy established by Erwin (1974a: 135).

**Distribution.** This species is known from North Carolina (Brimley 1938: 118) to “Utah” (Hayward 1900: 207), south to southeastern Arizona (Cochise County, USNM), southeastern Texas (Casey 1918: 178, as *Tachyura solita*), southwestern Mississippi (Casey 1918: 179), and northern Georgia (Fattig 1949: 18); also recorded from the state of Veracruz in Mexico and Guatemala (Bates 1882a: 141). The records from eastern Washington, eastern Oregon, southwestern Idaho (Hatch 1953: 103), “Nevada” (Bousquet and Laroche 1993: 151), and Pennsylvania (Bates 1882a: 141) are probably in error.

**Records.** USA: AZ, CO, GA, KS, LA, MS, NC, NM, SC, TX, UT – Guatemala, Mexico

**Note.** This form was listed as a synonym of *E. anceps* (LeConte) by Lindroth (1966: 417) but regarded as a valid species by Hayward (1900: 207), Casey (1918: 179), and Erwin (1974a: 135).

### *Elaphropus obesulus* (LeConte, 1852)

*Tachys obesulus* LeConte, 1852a: 192. Type locality: «in vallem fluminis Gila [Arizona]» (original citation). Lectotype (♀), designated by Erwin (1974a: 135), in MCZ [# 5581].

**Distribution.** This species is known from Sonora in Mexico (USNM), southern Arizona (Pima and Santa Cruz Counties, CMNH, USNM), and “California” (Hayward 1900: 211). The record from southwestern Utah (Tanner 1928: 270) needs confirmation.

**Records.** USA: AZ, CA [UT] – Mexico

### *Elaphropus rapax* (LeConte, 1852)

*Tachys rapax* LeConte, 1852a: 192. Type locality: «ad fluminis Gilae ripas [Arizona]» (original citation). Lectotype (♂), designated by Erwin (1974a: 134), in MCZ [# 5586].

**Distribution.** This species is known from southeastern Washington (Walla Walla County, MCZ) and northern Idaho (Hatch 1953: 103) south to southern California (Fall 1901a: 43) and central Arizona (Griffith 1900: 565; Hayward 1900: 206; Casey 1918: 177), east along the south to western Texas (Casey 1918: 177; El Paso County, MCZ).

**Records.** USA: AZ, CA, ID, NM, NV, OR, TX, WA

**Note.** This form has been listed in synonymy with *E. dolosus* (LeConte) by Erwin (1974a: 134) but treated as a valid species by Hayward (1900: 205), Casey (1918: 177), and Lindroth (1966: 419). Upon examination of the type specimens of both taxa, I agree with the last-mentioned authors.

***Elaphropus renoicus* (Casey, 1918)**

*Tachyura renoica* Casey, 1918: 183. Type locality: «Reno [Washoe County], Nevada» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1974a: 135), in USNM [# 46920].

**Distribution.** This species is known from east-central Oregon (Grant County, James R. LaBonte pers. comm. 1992), Humboldt County in northwestern California, and Washoe County in northwestern Nevada (Casey 1918: 183).

**Records. USA:** CA, NV, OR

***Elaphropus rubricauda* (Casey, 1918)**

*Tachyura rubricauda* Casey, 1918: 186. Type locality: «Galveston [Galveston County], Texas» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1974a: 135), in USNM [# 46928].

*Tachyura gaudens* Casey, 1918: 188. Type locality: «Valley of the Rio Grande from Brownsville to El Paso» (original citation). Lectotype (♂), designated by Erwin (1974a: 136), in USNM [# 46933]. Synonymy established by Erwin (1974a: 135).

*Tachyura fracta* Casey, 1918: 188. Type locality: «Waco [McLennan County], Texas» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1974a: 136), in USNM [# 46932]. Synonymy established by Erwin (1974a: 135).

**Distribution.** This species is known from “Indiana” to southeastern Iowa (Casey 1918: 186), south to the Rio Grande in southern Texas (Casey 1918: 188, as *Tachyura gaudens*), central Louisiana, and west-central Mississippi (Casey 1918: 186).

**Records. USA:** IA, IN, LA, MO, MS, TX

***Elaphropus saturatus* (Casey, 1918)**

*Tachyura saturata* Casey, 1918: 187. Type locality: «Asheville [Buncombe County], North Carolina» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1974a: 136), in USNM [# 46931].

**Distribution.** The range of this species extends from Nova Scotia (Lindroth 1966: 422) to southwestern Wisconsin (Messer 2010: 37), south to central Louisiana (Grant Parish, CMNH), southwestern Alabama (Clarke County, CMNH), and northern Georgia (Fattig 1949: 19). The records from “Minnesota” and “Kansas” (Bousquet and Laroche 1993: 152) need confirmation.

**Records. CAN:** NB, NS, ON, QC **USA:** AL, AR, CT, GA, IA, LA, MD, ME, NC, NH, NY, OH, PA, TN, VA, VT, WI, WV [KS, MN]

***Elaphropus sectator* (Casey, 1918)**

*Tachyura sectator* Casey, 1918: 180. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♂), designated by Erwin (1974a: 136), in USNM [# 46911].

*Tachyura sectator sospes* Casey, 1918: 180. Type locality: «Arizona» (original citation). Lectotype (♀), designated by Erwin (1974a: 136), in USNM [# 46912]. Synonymy established by Erwin (1974a: 136).

**Distribution.** This species is known from “Arizona” and northern Utah (Casey 1918: 180).

**Records. USA:** AZ, UT

### *Elaphropus sedulus* (Casey, 1918)

*Tachyura sedula* Casey, 1918: 184. Type locality: «S[an]ta Cruz [Santa Cruz County], California» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1974a: 136), in USNM [# 46923].

*Tachyura profuga* Casey, 1918: 185. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♀), designated by Erwin (1974a: 136), in USNM [# 46924]. Synonymy established by Erwin (1974a: 136).

**Distribution.** This species has been reported from northwestern Nevada (Casey 1918: 185, as *Tachyura profuga*), Santa Cruz County in western California (Casey 1918: 184–185; Notman 1929b: 223; Dajoz 2007: 19), and southwestern Oregon (Westcott et al. 2006: 8).

**Records. USA:** CA, NV, OR

### *Elaphropus tahoensis* (Casey, 1918)

*Tachyura tahoensis* Casey, 1918: 183. Type locality: «Lake Tahoe [Placer County], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 46921].

**Distribution.** This species is known only from the type locality in the Sierra Nevada.

**Records. USA:** CA

### *Elaphropus tripunctatus* (Say, 1830)

*Bembidium tripunctatum* Say, 1830c: 26. Type locality: «N[ew] J[ersey]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 338), in MCZ [# 33059]. NOTE. «Indiana» was the area originally cited by Say (1830c: 26).

*Tachyura laredoana* Casey, 1918: 189. Type locality: «Laredo [Webb County], Texas» (original citation). Holotype [by monotypy] (♀) in USNM [# 46934]. Synonymy established by Erwin (1974a: 136).

*Tachyura serva* Casey, 1918: 189. Type locality: «Bluff Point, Lake Champlain, New York» (original citation). Holotype [by monotypy] (♀) in USNM [# 46935]. Synonymy established by Erwin (1974a: 136).

*Tachyura barnesi* Stehr, 1947: 284. Type locality: «along the Muskingum River in Muskingum Township, Washington County, Ohio» (original citation). Holotype (♀) probably in OSUO (Erwin 1974a: 136). Synonymy established by Erwin (1974a: 136).



**Distribution.** This species ranges from Cape Breton Island (Lindroth 1966: 423) to “Iowa” (Hayward 1900: 210), south to southern Texas (Casey 1918: 189, as *Tachyura laredoana*) and northern Georgia (Fattig 1949: 19). The records from “South Dakota” and “Wyoming” (Bousquet and Laroche 1993: 152) are probably in error.

**Records.** CAN: NB, NS (CBI), ON, QC USA: AL, AR, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, NC, NH, NJ, NY, OH, OK, PA, TN, TX, VA, VT, WV

### *Elaphropus vernicatus* (Casey, 1918)

*Tachyura vernicata* Casey, 1918: 181. Type locality: «probably Indiana» (original citation). Lectotype (♀), designated by Erwin (1974a: 136), in USNM [# 46913]. NOTE. This name was listed as synonym of *E. anceps* (LeConte) by Lindroth (1966: 417).

*Tachyura laetifica* Casey, 1918: 183 [secondary homonym of *Tachys laetificus* Bates, 1873]. Type locality: «S[ain]t Louis, Missouri» (original citation for the lectotype). Lectotype (♀), designated by Erwin (1974a: 136), in USNM [# 46919]. Synonymy established by Erwin (1974a: 136).

*Tachys unionis* Csiki, 1928: 202. Replacement name for *Tachys laetificus* (Casey, 1918).

**Distribution.** This species is known from Nova Scotia (Majka et al. 2007: 8) to southern Saskatchewan (Ronald R. Hooper pers. comm. 2008), south to Arkansas (Franklin County, CNC) and North Carolina (Casey 1918: 183, as *Tachyura laetifica*).

**Records.** CAN: MB, NB, NS, ON, QC, SK USA: AR, CT, DC, IA, IL, IN, KY, MA, MD, ME, MO, NC, NH, NJ, NY, OH, PA, RI, TN, VA, VT, WV

### *Elaphropus vivax* (LeConte, 1848)

*Tachys vivax* LeConte, 1848: 468. Type locality: «ubique usque ad Rocky Mountains» (original citation), restricted to «N[orth] Carol[ina]» by Lindroth (1966: 422). Lectotype (♂), designated by Erwin (1974a: 137), in MCZ [# 5578].

*Tachys mendax* LeConte, 1848: 469. Type locality: «NovEboraci [= New York] et ad Rocky Mountains» (original citation), restricted incorrectly to «New England» by Erwin (1974a: 137). Lectotype (♀), designated by Erwin (1974a: 137), in MCZ [# 5589]. Synonymy established by Erwin (1974a: 137). NOTE. Hayward (1900: 233) and Casey (1918: 185) listed this name in synonymy with *E. xanthopus* (Dejean).

**Distribution.** The range of this species extends from Nova Scotia (Majka and Vickery 2008) to “Wisconsin” (Rauterberg 1885: 23), including southern Quebec and southern Ontario (Lindroth 1966: 423), south to northwestern Texas (Nolan County, CMNH), southwestern Alabama (Clarke County, CMNH), and northern Florida (Suwanee County, CMNH). The record from southern Arizona (Snow 1907: 142) is probably in error.

**Records.** CAN: NS, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA, VT, WI, WV

### ***Elaphropus xanthopus* (Dejean, 1831)**

*Bembidium xanthopus* Dejean, 1831: 60. Type locality: «Amérique septentrionale» (original citation), restricted to «Long Isl[and], N[ew] Y[ork]» by Lindroth (1966: 420). Lectotype (♂), designated by Erwin (1974a: 137), in MHNP.

*Tachyura xanthopus laxipennis* Casey, 1918: 185. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Holotype [by monotypy] (♀) in USNM [# 46925]. Synonymy established by Erwin (1974a: 137).

*Tachyura xanthopus famelica* Casey, 1918: 185. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Holotype [by monotypy] (♂) in USNM [# 46926]. Synonymy established by Erwin (1974a: 137).

*Tachyura ancilla* Casey, 1918: 186. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♀), designated by Erwin (1974a: 137), in USNM [# 46929]. Synonymy established by Erwin (1974a: 137).

*Tachyura levipes* Casey, 1918: 186. Type locality: «Long Island, New York» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1974a: 134), in USNM [# 46927]. Synonymy established by Lindroth (1966: 420). NOTE. This taxon is listed as a valid species by Erwin (1974a: 134).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1966: 422) to western Kansas (Trego County, CNC), south to southeastern Texas (Wickham 1897: 104; Cameron County, CNC) and central Florida (Peck and Thomas 1998: 18). The species was also recorded from the Bahamas (Darlington 1953: 5) and Cuba (Darlington 1934: 78).

**Records.** CAN: NS, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WI, WV – Bahamas, Cuba

### **Subgenus *Tachyura* Motschulsky, 1862**

*Tachyura* Motschulsky, 1862b: 27. Type species: *Elaphrus quadrisignatus* Duftschmid, 1812 designated by Jeannel (1941b: 434). Etymology. Uncertain, possibly from the generic name *Tachys* [*q.v.*] and the Greek *oura* (tail) [feminine]. NOTE. The first valid type species designation for *Tachyura* Motschulsky, 1862 is that of Schatzmayr and Koch (1934: 21) who designated *Bembidion focki* Hummel, 1822 (= *Trechus bisulcatus* Nicolai, 1822). Acceptance of that species as type species would make *Tachyura* a senior subjective synonym of *Porotachys* Netolitzky, 1914. I suggest conserving the type species designation of Jeannel to preserve stability (see Bousquet 2002b: 49).

**Diversity.** According to Sciaky and Vigna Taglianti (2003: 90), members of *Tachyura* occur in the Old World though a few species extends into the Australian Region in New Guinea. The number of species is difficult to assess. Kopecký (2003: 278–280) listed 47 species for the Palearctic Region. One species is adventive in North America.

**Identification.** The species was included in Lindroth's (1966: 410) key to the species of *Tachys*.

***Elaphropus parvulus* (Dejean, 1831)**

*Bembidium parvulum* Dejean, 1831: 57. Type locality: «Espagne; midi de la France; Dalmatie» (original citation), restricted to «Spain» by Erwin (1974a: 135). Lectotype (♂), designated by Erwin (1974a: 135), in MHNP.

*Bembidium pulicarium* Dejean, 1831: 62. Type locality: «Saxe [= Saxony, Germany]» (original citation). Syntype(s) [4 originally cited] probably in MHNP. Synonymy established by Jacquelin du Val (1852: 201).

**Distribution.** This European species is adventive in North America where it is known from southwestern British Columbia, Washington, Oregon, and Idaho [see LaBonte and Nelson 1998: Fig. 1]. The first inventoried specimen reported from this continent was collected in Seattle in 1940 (Hatch 1950: 105).

**Records.** CAN: BC USA: ID, OR, WA – **Adventive**

**Genus *MICRATOPUS* Casey, 1914**

*Micratopus* Casey, 1914: 42. Type species: *Micratopus fusciceps* Casey, 1914 (= *Blemus aenescens* LeConte, 1848) by monotypy. Etymology. From the Greek *micros* (small, little) and *topos* (place), possibly alluding to the small size (“body very small”) of the adult [masculine].

**Diversity.** Western Hemisphere, with five species in the Nearctic (one species) and Neotropical (four species) Regions, including the West Indies. Erwin (1974a: 125) stated that he was aware of 35 undescribed species in this genus.

**Identification.** Barr (1971b) redescribed the North American species and illustrated its male genitalia.

**Taxonomic Note.** This taxon is possibly the sister-group to *Lymnastis* Motschulsky (Erwin 1974a: 125), a genus of about 40 species in the Eastern Hemisphere with one endemic species, *L. americanus* Darlington, in Cuba. According to Robert L. Davidson (pers. comm. 2008), there is at least two species of *Micratopus*, besides *M. aenescens*, that occur in southern United States. One of them, found in Florida, is probably the Cuban species.

***Micratopus aenescens* (LeConte, 1848)**

*Blemus aenescens* LeConte, 1848: 473. Type locality: «Georgia» (original citation). Holotype [by monotypy; designated lectotype by Erwin (1974a: 138)] (♀) in MCZ [# 5577].

*Micratopus fusciceps* Casey, 1914: 43. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). Lectotype, designated by Erwin (1974a: 138), in USNM [# 46973]. Synonymy established by Barr (1971b: 34).

**Distribution.** This species occurs from Connecticut (Krinsky and Oliver 2001: 96) to “Indiana” (Schrock 1985: 351), south to southeastern Texas (San Patricio County, UASM) and southern Florida including the Keys (Peck and Thomas 1998: 18), west along the southwest to southwestern California (Riverside County, CAS); one specimen, possibly mislabeled, was seen from western Oregon (Benton County, CNC). The record from “Illinois” (Bousquet and Laroche 1993: 152) needs confirmation.

**Records. USA:** AL, AR, AZ, CA, CT, FL, GA, IN, KY, LA, MD, MI, MS, NC, NM, OH, OK, PA, SC, TN, TX, VA [IL, OR]

### Genus *PERICOMPSUS* LeConte, 1852

*Pericompsus* LeConte, 1852a: 191. Type species: *Bembidium ephippiatum* Say, 1830 designated by LeConte (1859e: 553). Etymology. From the Greek *peri* (very) and *compos* (elegant), probably alluding to the nice color of the body of adults of the three species LeConte had before him [masculine].

**Diversity.** New World, with about 70 species arrayed in three subgenera: *Eidocompsus* Erwin (13 Neotropical species), *Pericompsus s.str.* (about 45 species), and *Upocompsus* Erwin (nine Australian species).

**Identification.** Erwin (1974b) revised the species and provided a key for their identification.

### Subgenus *Pericompsus* LeConte, 1852

*Pericompsus* LeConte, 1852a: 191. Type species: *Bembidium ephippiatum* Say, 1830 designated by LeConte (1859e: 553).

*Tachysops* Casey, 1918: 171. Type species: *Bembidium ephippiatum* Say, 1830 designated by Jeannel (1941b: 423). Etymology. From the generic name *Tachys* [*q.v.*] and the Greek suffix *-ops* (having the appearance of) [masculine].

*Tachysalia* Casey, 1918: 173. Type species: *Pericompsus laetulus* LeConte, 1852 by original designation. Synonymy established by Jeannel (1941b: 423).

*Leiotachys* Jeannel, 1962: 611, 614. Type species: *Bembidium circuliforme* Solier, 1849 by original designation. Synonymy established by Erwin (1974b: 5). Etymology. From the Greek *leios* (smooth) and the generic name *Tachys* [*q.v.*] [masculine].

*Leptotachys* Jeannel, 1962: 611, 615. Type species: *Leptotachys pallidus* Jeannel, 1962 (= *Tachys univittatus* Jensen-Haarup, 1910) by original designation. Synonymy established by Reichardt (1977: 399). Etymology. From the Greek *leptos* (thin, slender) and the generic name *Tachys* [*q.v.*] [masculine].

**Diversity.** Western Hemisphere, with about 45 species in the Nearctic (three species) and Neotropical (about 45 species) Regions.

[**ephippiatus group**]***Pericompsus ephippiatus* (Say, 1830)**

*Bembidium ephippiatum* Say, 1830c: 25. Type locality: «Ind[iana]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 338), in MCZ [# 33061].

NOTE. «Indiana» was the area originally cited by Say (1830c: 25).

**Distribution.** This species ranges from southwestern New Hampshire (Choate 1977: 115) to northern Kansas, south to Honduras and central Florida [see Erwin 1974b: Fig. 73]. The record from southern Wisconsin (Rauterberg 1885: 23) needs confirmation.

**Records. USA:** AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, SD, TN, TX, VA, VT, WV [WI] – Honduras, Mexico

***Pericompsus laetulus* LeConte, 1852**

*Pericompsus laetulus* LeConte, 1852a: 192. Type locality: «in valle fluminis Gila, circa Pimas [Arizona]» (original citation). Lectotype (♀), designated by Erwin (1974b: 50), in MCZ [# 5588].

**Distribution.** This species is known from central Oklahoma (Grady County, CMNH), southwestern New Mexico, and southeastern Arizona, south to Durango in Mexico. The species is apparently absent from the desert region of northern Mexico [see Erwin 1974b: Fig. 75].

**Records. USA:** AZ, NM, OK – Mexico

[**sellatus group**]***Pericompsus sellatus* LeConte, 1852**

*Pericompsus sellatus* LeConte, 1852a: 191. Type locality: «ad flumen Colorado» (original citation), herein restricted to Yuma, Yuma County, Arizona (see Erwin 1974b: 79). Lectotype (♀), designated by Erwin (1974b: 78), in MCZ [# 5587].

**Distribution.** This species is known only from “California” and southern Arizona [see Erwin 1974b: Fig. 134].

**Records. USA:** AZ, CA

**Genus *POROTACHYS* Netolitzky, 1914**

*Porotachys* Netolitzky, 1914: 174. Type species: *Trechus bisulcatus* Nicolai, 1822 by monotypy. Etymology. From the Greek *poros* (hole) and the generic name *Tachys* [*q.v.*], alluding to the presence of the pair of labial pits on the mentum (“*mentum biporosum*”) of the adult [masculine].



*Macrotachys* Uéno, 1953: 39, 42. Type species: *Tachys recurvicollis* Andrewes, 1925 by monotypy. Synonymy established by Shilenkov (2002: 35). Etymology. From the Greek *macros* (long) and the generic name *Tachys* [*q.v.*] [masculine].

**Diversity.** Five species in the Palaearctic (three species) and Oriental (two species) Regions. Among the Palaearctic species, one is endemic to Japan (*P. recurvicollis* Andrewes) and one to Turkey (*P. ottomanus* Schweiger). The three species from the Sinai (*P. efflatouani*, *P. shahinei*, and *P. zulficari*, all described by Schatzmayr and Koch) included in this genus by Kopecký (2003: 274–275) belong to *Sphaerotachys* (see Sciaky and Vigna Taglianti 2003: 93). One species is adventive in North America.

**Identification.** The species found in North America was covered in Lindroth's (1966: 424) monograph.

### *Porotachys bisulcatus* (Nicolai, 1822)

*Trechus bisulcatus* Nicolai, 1822 [10 September]: 26. Type locality: Halle, Germany (inferred from title of the book). Syntype(s) probably lost (Lindroth 1966: 424).

*Bembidion fockii* Hummel, 1822 [November]: 27. Type locality: «insula Pharmacopolarum» (original citation). Holotype [by monotypy] location unknown. Synonymy established by Gaubil (1849: 265). NOTE. Despite extensive search, I have been unable to find any precision about the type locality.

*Tachys frontalis* Hayward, 1900: 212. Type locality: «Peekskill [Westchester County], N[ew] Y[ork]» (lectotype label). Lectotype (♂), designated by Erwin (1974a: 144), in MCZ [# 7050]. Synonymy established by Lindroth (1966: 424).

**Distribution.** This Palaearctic species is adventive in North America where it ranges from Nova Scotia (Majka et al. 2006: 605) to eastern North Dakota (Cass County, Donald P. Schwert pers. comm. 1989), south along the east coast to New Jersey (Smith 1910: 203, as *T. frontalis*); also recorded from Missouri (Anonymous 2007). The species is also known from the Vancouver area in southwestern British Columbia (CNC), western Washington (Nelson 1987: 394), and northern Oregon (Westcott et al. 2006: 8). The first inventoried specimen collected on this continent was found in the east prior to 1900 (Hayward 1900: 212, as *Tachys frontalis*).

**Records.** CAN: BC, NB, NS, ON, QC USA: CT, MA, ME, MI, MN, MO, ND, NH, NJ, NY, OH, OR, PA, RI, VT, WA, WI – **Adventive**

### Genus *POLYDERIS* Motschulsky, 1862

*Polyderis* Motschulsky, 1862b: 27. Type species: *Tachys brevicornis* Chaudoir, 1846 designated by Jeannel (1941b: 424). Etymology. Possibly from the Greek *polys* (many) and *deris* (fight) [feminine].

*Microtachys* Casey, 1918: 210. Type species: *Bembidium laevum* Say, 1823 designated by Jeannel (1941b: 424). Synonymy established by Antoine (1955: 107). Etymology. From the Greek *micros* (small, little) and the generic name *Tachys* [*q.v.*] [masculine].

*Brachytachys* Basilewsky, 1953a: 51. Type species: *Brachytachys curtulus* Basilewsky, 1953 by original designation. Synonymy established by Bruneau de Miré (1964: 71). Etymology. From the Greek *brachys* (short) and the generic name *Tachys* [*q.v.*] [masculine].

*Neotachys* Kult, 1961: 2. Type species: *Bembidium algericum* Lucas, 1846 by original designation. Synonymy established by Lindroth (1966: 424). Etymology. From the Greek *neo* (new) and the generic name *Tachys* [*q.v.*] [masculine].

*Polyderidius* Jeannel, 1962: 611. Type species: *Polyderidius rapoportii* Jeannel, 1962 by original designation. Synonymy established by Erwin (1974a: 143).

**Diversity.** Worldwide, with about 40 species in the Nearctic (three species), Neotropical (ten species), Australian (nine species), Oriental (eight species), Palaearctic (nine species), and Afrotropical (ten species) Regions. One species is also known from the Hawaiian Islands.

**Identification.** Lindroth (1966: 424-427) treated two (*P. laeva* and *P. rufotestacea*) of the three species found in North America.

**Taxonomic Note.** This taxon is considered a subgenus of *Tachys* by some authors (e.g., Lorenz 2005: 211).

### *Polyderis diaphana* (Casey, 1918)

*Tachys diaphanus* Casey, 1918: 214. Type locality: «Austin [Travis County], Texas» (original citation). Lectotype (♂), designated by Erwin (1974a: 144), in USNM [# 46965].

**Distribution.** This species is known only from the type locality in central Texas.

**Records. USA:** TX

### *Polyderis laeva* (Say, 1823)

*Bembidium laevum* Say, 1823a: 88. Type locality: «Arlington [Middlesex County], Mass[achusetts]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 339), in MCZ [# 33057]. **NOTE.** Because Say (1823a: 88) used the epithet *laevum* with the generic name *Bembidium*, the specific name derives from the Latin adjective *laevus*, *-a*, *-um* (left, clumsy [figurative]), not from the Latin adjective *laevis*, *-e* (smooth). Therefore, used with the feminine generic name *Polyderis*, the specific name is *laeva*, not *laevis* as used by modern authors.

*Bembidium troglodytes* Dejean, 1831: 44. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] in MHNP (Lindroth 1955b: 14). Synonymy established by LeConte (1848: 472), confirmed by Lindroth (1955b: 14).

*Tachys congestus* Casey, 1918: 212. Type locality: «Norfolk, Virginia» (original citation). Lectotype (♀), designated by Erwin (1974a: 144), in USNM [# 46962]. Synonymy established by Erwin (1974a: 144).

*Tachys unistriatus* Casey, 1918: 212 [primary homonym of *Tachys unistriatus* Putzeys, 1876]. Type locality: «Pennsylvania» (original citation). Lectotype (♂), designated

by Erwin (1974a: 144), in USNM [# 46963]. Synonymy established by Erwin (1974a: 144).

*Tachys rectus* Casey, 1918: 213. Type locality: «Alexandria [Rapides Parish], Louisiana» (original citation). Lectotype (♀), designated by Erwin (1974a: 144), in USNM [# 46961]. Synonymy established by Erwin (1974a: 144).

*Tachys fluminalis* Casey, 1918: 213. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). Lectotype (♀), designated by Erwin (1974a: 144), in USNM [# 46964]. Synonymy established by Erwin (1974a: 144).

*Tachys unistriolatus* Csiki, 1928: 202. Replacement name for *Tachys unistriatus* Casey, 1918.

**Distribution.** This species ranges from Nova Scotia (Bousquet 1987a: 123) to southwestern North Dakota (Smith et al. 1979: 92), south to southeastern Texas (Casey 1918: 213) and southern Florida including the Keys (Peck and Thomas 1998: 18).

**Records.** **CAN:** NB, NS, ON, QC **USA:** AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI

### *Polyderis rufotestacea* (Hayward, 1900)

*Tachys rufotestaceus* Hayward, 1900: 217. Type locality: «Pom[ona] [Los Angeles County], Cal[ifornia]» (lectotype label). Lectotype (♂), designated by Erwin (1974a: 144), in MCZ [# 7052].

**Distribution.** This species is known from central Idaho (Custer County, Ken Karns pers. comm. 2009), southeastern Oregon (Malheur County, James R. LaBonte pers. comm. 1992), California, from Lake County (CAS) to Riverside County (CAS) east to Mono and Inyo Counties (CAS; Dajoz 2007: 18), southern Arizona (Cochise and Maricopa Counties, CMNH; Hayward 1900: 217), southern Texas (Zapata County, CMNH; Casey 1918: 211), northwestern Arkansas (Newton County, Peter W. Messer pers. comm. 2008), and eastern South Dakota (Kirk and Balsbaugh 1975: 21; French et al. 2004: 557). The record from Aklavik in northern Northwest Territories (Lindroth 1966: 427) is quite obviously based on a mislabeled specimen.

**Records.** **USA:** AR, AZ, CA, ID, OR, SD, TX

### Genus *TACHYS* Dejean, 1821

*Tachys* Dejean, 1821: 16. Type species: *Tachys scutellaris* Stephens, 1828 designated by Hope (1838: 61) (see ICZN 1990). Etymology. From the Greek *tachys* (swift, quick, fast), probably alluding to the quickness of the adults in the field [masculine]. The name was proposed by Franz Anton Ziegler and made available by Dejean.

**Diversity.** Worldwide, with about 180 species (Lorenz 2005: 212–214, as *Paratachys* and *Tachys*) arrayed in two subgenera, both represented in North America.

**Nomenclatural Note.** The first use of the name *Tachys* is by Schönherr (1806: 221) who included 23 species-group taxa under it. Ádám (1996: 11) selected *Carabus*

*quadriguttatus* Fabricius, 1775 (= *Cicindela quadrimaculata* Linnaeus, 1760), one of the species originally included, as type species of *Tachys* Schönherr, 1806. This action implies that *Tachys* Dejean, 1821 is a junior homonym of *Tachys* Schönherr, 1806 which is a junior objective synonym of *Bembidion* Latreille, 1802. Obviously, to preserve nomenclatural stability, the name *Tachys* Schönherr, 1806 should be rejected.

**Taxonomic Note.** Shilenkov (2002) treated *Tachys* and *Paratachys* as distinct genera, pointing out four major structural differences between the two taxa. Sciaky and Vigna Taglianti (2003) took the same approach. In view of the large concept used here for the genus *Elaphropus*, I believe it is more appropriate to retain the two taxa as subgenera of *Tachys*, following in this sense Kopecký (2003: 275-277) and Lorenz (2005: 212-214). Sciaky and Vigna Taglianti (2003: 82) suggested that *Polyderis* is closely related to *Tachys* and *Paratachys* based on the presence of labial pits.

### Subgenus *Tachys* Dejean, 1821

*Tachys* Dejean, 1821: 16. Type species: *Tachys scutellaris* Stephens, 1828 designated by Hope (1838: 61) (see ICZN 1990).

*Tachymantes* Gistel, 1856: 359. Type species: *Tachys scutellaris* Stephens, 1828 designated by Bousquet (2002b: 49).

*Isotachys* Casey, 1918: 204. Type species: *Tachys vittiger* LeConte, 1852 designated by Lindroth (1966: 427). Synonymy established by Ball (1960b: 119). Etymology. From the Greek *isos* (equal) and the generic name *Tachys* [*q.v.*] [masculine].

**Diversity.** About 35 species in the Nearctic (11 species), Neotropical (seven species), Australian (one non-endemic species), Oriental (five species), Palaearctic (12 species, none in the Far East), and Afrotropical (seven species, three shared with Eurasia) Regions. One species, *T. oahuensis* Blackburn, is endemic to the Hawaiian Islands.

**Identification.** Lindroth (1966: 427-431) treated five (one of them, *T. corax*, in the key only) of the species found in North America and Hayward (1900: 218-224) eight species. A taxonomic revision of the species of this subgenus is needed.

### *Tachys bradycellinus* Hayward, 1900

*Tachys bradycellinus* Hayward, 1900: 224. Type locality: «Louisiana» (original citation). Holotype [by monotypy] (♂) in MCZ [# 7053].

**Distribution.** This species has been reported from a few islands in the West Indies (Peck and Thomas 1998: 18; Steiner 2008: 131), «Louisiana» (Hayward 1900: 224), and southeastern Texas (Casey 1918: 208); it is also known from southern Mississippi (Hancock and Jackson Counties, Drew A. Hildebrandt pers. comm. 2009) and Grady County in central Oklahoma (Robert L. Davidson pers. comm. 2012). The record from «Florida» (Bousquet and Laroche 1993: 153) needs confirmation.

**Records. USA:** LA, MS, OK, TX [FL] – Cuba, Hispaniola, Jamaica, Navassa



***Tachys bryanti* Lindroth, 1966**

*Tachys bryanti* Lindroth, 1966: 430. Type locality: «Edmonton, Al[ber]ta» (original citation). Holotype (♂) in CAS [# 10007]. Etymology. The species was named after Owen Bryant [1882-1958], president of the Calgary-based Bryant Oil Company and insect collector in his spare time. Bryant left his entire estate, including his insect collection, to the California Academy of Sciences.

**Distribution.** This species is still known only from the holotype.

**Records.** CAN: AB

***Tachys corax* LeConte, 1852**

*Tachys corax* LeConte, 1852a: 194. Type locality: «ad flumen Novum [= New River, Imperial County], desertorum Colorado [California]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5572].

*Tachys funebris* Casey, 1918: 205. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♀), designated by Erwin (1974a: 147), in USNM [# 46954]. Synonymy established by Erwin (1974a: 147).

*Tachys esurialis* Casey, 1918: 209. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♀), designated by Erwin (1974a: 147), in USNM [# 46953]. Synonymy established by Erwin (1974a: 147).

**Distribution.** This species ranges from eastern Washington (Hatch 1953: 104) to “Montana” (Hayward 1900: 223), south to western Texas (Dajoz 2007: 23), southeastern New Mexico (Chaves County, CNC), and the Baja California Peninsula (Horn 1894: 308). The records from “Nebraska” and “Texas” (Hayward 1900: 223) probably refer to *T. halophilus* Lindroth.

**Records.** USA: AZ, CA, CO, MT, NM, NV, OR, TX, UT, WA – Mexico

***Tachys halophilus* Lindroth, 1966**

*Tachys halophilus* Lindroth, 1966: 428. Type locality: «Woodside, N[orth]W[est] Portage-la-Prairie, Manit[oba]» (original citation). Holotype (♂) in CNC [# 9233].

**Distribution.** This species is known from the southern parts of the Prairie Provinces (Lindroth 1966: 429; Bousquet 1987a: 123) and eastern North Dakota (Grand Forks County, UASM, USNM). The records of *T. corax* from “Nebraska” and “Texas” (Hayward 1900: 223) probably refer to this species.

**Records.** CAN: AB, MB, SK USA: ND [NE, TX]

***Tachys litoralis* Casey, 1884**

*Tachys litoralis* Casey, 1884b: 15. Type locality: «Atlantic City [Atlantic County], New Jersey» (original citation). Holotype [by monotypy] (♀) in USNM [# 46955]. NOTE. Hayward (1900: 234) listed this name in synonymy with *T. pallidus* Chaudoir.



*Tachys occultator* Casey, 1884c: 69. Type locality: «Cap May [Cape May County], New Jersey» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5576]. Synonymy established by Erwin (1974a: 148).

*Tachys omissus* Casey, 1918: 206. Type locality: «Fortress Monroe [= Hampton], Virginia» (original citation). Lectotype (♀), designated by Erwin (1974a: 148), in USNM [# 46956]. Synonymy established by Erwin (1974a: 148).

*Tachys luridicollis* Casey, 1918: 207. Type locality: «Galveston [Galveston County], Texas» (original citation). Lectotype (♂), designated by Erwin (1974a: 148), in USNM [# 46957]. Synonymy established by Erwin (1974a: 148).

*Tachys torrescans* Casey, 1918: 207. Type locality: «Pass Christian [Harrison County], Mississippi» (original citation). Lectotype (♀), designated by Erwin (1974a: 148), in USNM [# 46958]. Synonymy established by Erwin (1974a: 148).

**Distribution.** This species is found along the Coastal Plain from Long Island, New York (Cooper 1935: 144) to southern Florida, including the Keys (Peck and Thomas 1998: 18), west to southeastern Texas (Casey 1918: 207, as *T. luridicollis*); also known from some islands in the West Indies (Darlington 1934: 78; Darlington 1941a: 11, as *T. occultator* Casey).

**Records. USA:** AL, DE, FL, GA, LA, MS, NJ, NY, SC, TX, VA – Bahamas, Cuba, Jamaica

### *Tachys misellus* LaFerté-Sénéctère, 1841

*Tachys misellus* LaFerté-Sénéctère, 1841a: 48. Type locality: Texas (inferred from title of the paper). Lectotype (♂), designated by Erwin (1974a: 148), in MHNP.

*Tachys lymnaeoides* Bates, 1882a: 139. Type locality: «Champerico, Guatemala» (original citation). Lectotype (♂), designated by Erwin (1974a: 148), in BMNH. Synonymy established by Erwin (1974a: 148).

**Distribution.** This species has been reported from southwestern Alabama (Löding 1945: 14), “Texas” (LaFerté-Sénéctère 1841a: 48), and Guatemala (Bates 1882a: 139, as *T. lymnaeoides*). The record from “Arizona” (Bousquet and Larochelle 1993: 154) needs confirmation.

**Records. USA:** AL, TX [AZ] – Guatemala

### *Tachys mordax* LeConte, 1852

*Tachys mordax* LeConte, 1852a: 193. Type locality: «ad Colorado [River]» (original citation). Holotype [by monotypy; designated lectotype by Erwin (1974a: 148)] (♀) in MCZ [# 5564].

**Distribution.** This species has been recorded from “California,” “Arizona,” and Salt Lake Valley in Utah (Hayward 1900: 220). The record from “Colorado” (LeConte 1858a: 28) probably refers to the Colorado River.

**Records. USA:** AZ, CA, UT

***Tachys pallidus* Chaudoir, 1868**

*Tachys pallidus* Chaudoir, 1868b: 212. Type locality: «Texas» (original citation). Lectotype (♂), designated by Erwin (1974a: 149), in MHNP.

**Distribution.** This species is known from New Jersey (Beutenmüller 1897: 37; Hayward 1900: 221; Smith 1910: 203), the Florida Peninsula (Leng 1915: 574), Big Pine Key, one of the Florida Keys (Foster F. Purrington pers. comm. 2012), Claiborne County in southwestern Mississippi (Robert L. Davidson pers. comm. 2012), Cameron Parish in southwestern Louisiana (Hine 1906: 76), “several localities” in Texas (Hayward 1900: 221), and Chaves County in southeastern New Mexico (Robert L. Davidson pers. comm. 2012); it has been recorded also from Guana Island (Valentine and Ivie 2005: 275) in the British Virgin Islands.

**Records. USA:** FL, LA, MS, NJ, NM, TX – Guana Island

***Tachys pulchellus* LaFerté-Sénectère, 1841**

*Tachys pulchellus* LaFerté-Sénectère, 1841a: 45. Type locality: Texas (inferred from title of the paper). Lectotype, designated by Erwin (1974a: 149), in MHNP.

*Tachys pugnax* Casey, 1918: 207. Type locality: «Galveston [Galveston County], Texas» (original citation). Lectotype (♂), designated by Erwin (1974a: 149), in USNM [# 46959]. Synonymy established by Erwin (1974a: 149).

*Tachys subtropicus* Casey, 1918: 208. Type locality: «Brownsville [Cameron County], Texas» (original citation). Lectotype (♀), designated by Erwin (1974a: 149), in USNM [# 46960]. Synonymy established by Erwin (1974a: 149).

**Distribution.** This species is known from southeastern Georgia (Glynn County, CMNH) and the Florida Peninsula (Monroe and Pinellas Counties, CMNH; Hayward 1900: 221, as *T. occultator* Casey *sensu* Hayward) west to southeastern New Mexico (Chaves County, CNC). The records from the District of Columbia (Ulke 1902: 6), Missouri (Summers 1873: 147), and “Yucatan” (Chaudoir 1868: 212) need confirmation.

**Records. USA:** AL, FL, GA, LA, MS, NM, TX [DC, MO]

***Tachys translucens* Darlington, 1937**

*Tachys translucens* Darlington, 1937: 123. Type locality: «Boquerón (mouth of Guanánamo Bay), Oriente Prov[ince] [=Santiago de Cuba], Cuba» (original citation). Holotype (♂) in MCZ [# 22484].

**Distribution.** This species is known from Cuba and from Big Pine Key, Monroe County, in southern Florida (Foster F. Purrington and Robert L. Davidson pers. comm. 2009). This is a **new record** for America north of Mexico.

**Records. USA:** FL – Cuba

***Tachys virgo* LeConte, 1852**

*Tachys virgo* LeConte, 1852a: 194. Type locality: «San Diego [San Diego County, California]» (original citation). Holotype [by monotypy; designated lectotype by Erwin (1974a: 150)] (♀) in MCZ [# 5567].

**Distribution.** This species is found along the seacoast from Santa Barbara County (Fall 1901a: 43) to San Diego County (LeConte 1852a: 194; Moore 1937: 8) in southwestern California.

**Records. USA:** CA

***Tachys vittiger* LeConte, 1852**

*Tachys vittiger* LeConte, 1852a: 193. Type locality: «San Diego [San Diego County, California]» (original citation). Lectotype (♀), designated by Erwin (1974a: 150), in MCZ [# 5565].

*Tachys marginellus* LeConte, 1852a: 193. Type locality: «ad flumen Colorado, circa millia xxx a mare» (original citation), according to Hayward (1900: 222) taken at the «Valley of the Colorado River». Lectotype (♀), designated by Erwin (1974a: 150), in MCZ [# 5566]. Synonymy established by Hayward (1900: 234), confirmed by Erwin (1974a: 150).

*Tachys picturatus* Putzeys, 1874: 119. Type locality: «Guana Island, au nord-est d'Antigua» (original citation, see page 120). Lectotype (♂), designated by Erwin (1974a: 150), in IRSN. Synonymy established by Erwin (1974a: 150).

*Tachys beebei* Mutchler, 1925: 223. Type locality: «South Seymour [Galapagos Islands, Ecuador]» (original citation). Holotype (♂) in AMNH [# 258]. Synonymy established by Erwin (1973a: 125). Etymology. The specific name honors the American naturalist, explorer, and author Charles William Beebe [1877-1962] who worked as curator of ornithology for the New York Zoological Society from 1899 to 1952.

*Tachys ensenadae* Mutchler, 1934: 3. Type locality: «Ensenada, Puerto Rico» (original citation). Holotype (♂) in AMNH [# 1054]. Synonymy established by Erwin (1973a: 125).

**Distribution.** This species is known from Vancouver Island (Lindroth 1966: 428, listed as “doubtful”), along the seacoast in southern California, including Santa Catalina Island (LeConte 1852a: 193; Fall 1901a: 43), Baja California Norte (Moore and Legner 1974: 289), Guatemala (Bates 1882a: 139), the Galápagos Islands (Mutchler 1925: 223, as *T. beebei*), Antigua (Putzeys 1874: 119, as *T. picturatus*), Montserrat (Ivie et al. 2008: 238, as *T. ensenada*), Guana Island (Valentine and Ivie 2005: 275, as *T. ensenada*), and Puerto Rico (Mutchler 1934: 3, as *T. ensenadae*). The records from Colorado (Wickham 1902: 235; LeConte 1858a: 28, as *T. marginellus*) must be in error.

**Records. CAN:** BC (VCI) **USA:** CA (CHI) – Antigua and Barbuda, British Virgin Islands, Dominican Republic, Ecuador, Guana Island, Guatemala, Mexico, Montserrat, Puerto Rico

### Subgenus *Paratachys* Casey, 1918

*Paratachys* Casey, 1918: 174. Type species: *Paratachys austini* Casey, 1918 by original designation. Etymology. From the Greek *para* (near, next to) and the generic name *Tachys* [*q.v.*] [masculine].

*Eotachys* Jeannel, 1941b: 424, 426. Type species: *Elaphrus bistriatus* Duftschmid, 1812 by original designation. Synonymy established by Erwin (1971: 236). Etymology. From the Greek *eos* (dawn, east) and the generic name *Tachys* [*q.v.*] [masculine].

*Macrotachys* Kult, 1961: 2 [junior homonym of *Macrotachys* Uéno, 1953]. Type species: *Bembidium fulvicolle* Dejean, 1831 by original designation. Synonymy established, under the name *Eotachys* Jeannel, by Lindroth (1966: 431). Etymology. From the Greek *macro* (long) and the generic name *Tachys* [*q.v.*] [masculine].

**Diversity.** Worldwide, with about 145 species in the Nearctic (20 species), Neotropical (about 35 species), Australian (about 15 species), Oriental, Palearctic (about 30 species), and Afrotropical Regions. Erwin (1974a: 126) stated that the number of New World species known to him is over 300.

**Identification.** Lindroth (1966: 431–436) treated six and Hayward (1900: 224–232) 11 (ten in the key) of the 20 species found in North America. A revision of the group is needed.

### *Tachys aeneipennis* Motschulsky, 1862

*Tachys aeneipennis* Motschulsky, 1862b: 29. Type locality: «environs de Mobile [Mobile County, Alabama]» (original citation). Lectotype (♂), designated by Erwin (1974a: 139), in ZMMU.

**Distribution.** This species has been reported from southern Alabama (Motschulsky 1862b: 29) and western Mississippi (Casey 1918: 201).

**Records. USA:** AL, MS

### *Tachys albipes* LeConte, 1863

*Tachys albipes* LeConte, 1863c: 20. Type locality: «Louisiana» (original citation). Lectotype (♂), designated by Erwin (1974a: 137), in MCZ [# 5575].

*Tachys putzeysi* Fleutiaux and Sallé, 1890: 368. Type locality: «Camp-Jacob [Guadeloupe]» (original citation). Lectotype (♀), designated by Erwin (1974a: 137), in MHNP. Synonymy established by Erwin (1974a: 139).

**Distribution.** This species is known from the Coastal Plain ranging from North Carolina (Brimley 1938: 118) to southern Florida (Peck and Thomas 1998: 18), west to “Louisiana” (LeConte 1863c: 20), and from Cuba (Darlington 1934: 80) and Guadeloupe (Fleutiaux and Sallé, 1890: 368, as *Tachys putzeysi*) in the West Indies.

**Records. USA:** FL, GA, LA, NC, SC – Cuba, Guadeloupe



***Tachys austinicus* (Casey, 1918)**

*Paratachys austinicus* Casey, 1918: 174. Type locality: «Austin [Travis County], Texas» (original citation). Lectotype (♀), designated by Erwin (1974a: 139), in USNM [# 46905].

**Distribution.** This species is known from southwestern Pennsylvania (Allegheny County, CMNH), Virginia (Hoffman et al. 2006: 21), South Carolina (Ciegler 2000: 54), east-central Georgia (Emanuel County, Robert L. Davidson pers. comm. 2012), central Florida (Pinellas County, CMNH), southwestern Alabama (Baldwin County, Robert L. Davidson pers. comm. 2012), northeastern Mississippi (Oktibbeha County, Drew A. Hildebrandt pers. comm. 2009), Texas (Cameron, Nolan, Travis, and Zapata Counties, CMNH; Riley 2011), and central Arkansas (Pulaski County, CMNH). The record from South Dakota (Kirk and Balsbaugh 1975: 21) needs confirmation.

**Records. USA:** AL, AR, FL, GA, MS, PA, SC, TX, VA [SD]

***Tachys columbiensis* Hayward, 1900**

*Tachys columbiensis* Hayward, 1900: 231. Type locality: «Charlotte H. [= Charlotte Harbour, an inlet in the Gulf of Mexico, in Charlotte and Lee Counties], Fl[orid]a» (lectotype label). Lectotype (♀), designated by Erwin (1974a: 140), in MCZ [# 7054].

**Distribution.** This species seems confined to the Coastal Plain and Piedmont Plateau ranging from southeastern Pennsylvania (Lebanon and Dauphin Counties, CMNH) to southern Florida, including the Keys (Peck and Thomas 1998: 18), west to Arkansas (Pulaski and Garland Counties, CMNH) and eastern Texas (Sabine County, Robert L. Davidson pers. comm. 2012), including Alabama (Löding 1945: 14) and Winston County in east-central Mississippi (Drew A. Hildebrandt pers. comm. 2009).

**Records. USA:** AL, AR, FL, GA, MS, NC, PA, SC, TX, VA

***Tachys edax* LeConte, 1852**

*Tachys edax* LeConte, 1852a: 194. Type locality: California (inferred from title of the paper), restricted to «Gilroy Hot Springs, Santa Clara Co[unty]» by Erwin (1974a: 140). Lectotype (♂), designated by Erwin (1974a: 140), in MCZ [# 5573].

**Distribution.** This species ranges from south-central British Columbia (Lindroth 1966: 436) south to “Utah” (Hayward 1900: 231) and at least Santa Clara in west-central California (Erwin 1974a: 140).

**Records. CAN:** BC **USA:** CA, ID, NV, OR, UT, WA

***Tachys hyalinus* Casey, 1918**

*Tachys hyalinus* Casey, 1918: 200. Type locality: «Austin [Travis County], Texas» (original citation). Lectotype (♀), designated by Erwin (1974a: 141), in USNM [# 46946].



*Tachys temporalis* Casey, 1918: 200. Type locality: «near the city [of New York], New York» (original citation). Lectotype (♀), designated by Erwin (1974a: 141), in USNM [# 46947]. Synonymy established by Erwin (1974a: 141).

**Distribution.** This species has been reported only from central Texas (Casey 1918: 200) and southeastern New York (Casey 1918: 200, as *T. temporalis*).

**Records. USA:** NY, TX

### *Tachys oblitus* Casey, 1918

*Tachys oblitus* Casey, 1918: 195. Type locality: «New Jersey» (original citation). Lectotype (♀), designated by Erwin (1974a: 141), in USNM [# 46937].

*Tachys cuneatus* Casey, 1918: 195. Type locality: «near the city [of New York], New York» (original citation). Lectotype (♂), designated by Erwin (1974a: 141), in USNM [# 46938]. Synonymy established by Erwin (1974a: 141).

*Tachys cuneatus appalachius* Casey, 1918: 195. Type locality: «Asheville [Buncombe County], North Carolina» (original citation). Lectotype (♀), designated by Erwin (1974a: 141), in USNM [# 46939]. Synonymy established by Erwin (1974a: 141).

*Tachys iowensis* Casey, 1918: 195. Type locality: «Cedar Rapids [Linn County], Iowa» (original citation). Lectotype (♂), designated by Erwin (1974a: 141), in USNM [# 46940]. Synonymy established by Erwin (1974a: 141).

*Tachys gentilis* Casey, 1918: 197. Type locality: «probably Indiana» (original citation). Lectotype (♂), designated by Erwin (1974a: 141), in USNM [# 46943]. Synonymy established by Erwin (1974a: 141).

*Tachys obliquus* Casey, 1918: 201. Type locality: «Willeys Point [Queens County], Long Island, New York» (original citation). Lectotype (♀), designated by Erwin (1974a: 141), in USNM [# 46949]. Synonymy established by Erwin (1974a: 141).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 111, as *T. obliquus*) to eastern Iowa (Casey 1918: 195, as *T. iowensis*), south to eastern Texas (Polk County, CMNH), central Louisiana (Grant Parish, CMNH), northern Alabama (De Kalb and Madison Counties, CMNH), and central Georgia (Butts County, CMNH). The record from central Florida (Frost 1975: 37, as *T. obliquus*) needs confirmation.

**Records. CAN:** ON, QC **USA:** AL, AR, CT, GA, IA, IL, IN, KY, LA, MA, MD, NC, NH, NJ, NY, OH, PA, RI, SC, TN, TX, VA, VT, WV [FL]

### *Tachys potomaca* (Erwin, 1981)

*Paratachys potomaca* Erwin, 1981b: 152. Type locality: «Plummers Island, Montgomery County, Maryland» (original citation). Holotype (♂) in USNM [# 76906].

**Distribution.** This species is known from south-central Ohio (Fairfield County, CMNH) to “Massachusetts,” south to “North Carolina” (Erwin 1981b: 152).

**Records. USA:** MA, MD, NC, OH, PA, VA



**Figure 27.** *Psydrus piceus* LeConte. This species is widely distributed west of the Rocky Mountains where it is usually found under the bark of relatively large coniferous trees. It is also found within the boreal regions east of the Rockies but is very rarely collected there. This species belongs to the same tribe as *Nomius pygmaeus* but unlike that species, the adults do not emit an unpleasant smell.

***Tachys proximus* (Say, 1823)**

*Bembidium proximus* Say, 1823a: 88. Type locality: «Brookline [Norfolk County], Mass[achusetts]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 335), in MCZ [# 33058].

*Tachys nubifer* Casey, 1918: 200. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). Lectotype (♀), designated by Erwin (1974a: 142), in USNM [# 46948]. Synonymy established by Erwin (1974a: 142).

**Distribution.** This species ranges from southeastern Maine (Majka et al. 2011: 46) and the Saint Lawrence Plain in southern Quebec (Larochelle 1975: 111) to eastern South Dakota (Kirk and Balsbaugh 1975: 21), south to southeastern New Mexico, northern Coahuila in Mexico (Barr and Reddell 1967: 269), and central Florida (Seminole County, CMNH). The record from Jamaica (Darlington 1941a: 11) needs confirmation.

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MO, MS, NC, NE, NJ, NM, NY, OH, OK, PA, SC, SD, TN, TX, VA, VT, WI, WV – Mexico

***Tachys pumilus* (Dejean, 1831)**

*Bembidium pumilum* Dejean, 1831: 43. Type locality: «Amérique septentrionale» (original citation), restricted to «New York» by Erwin (1974a: 142). Lectotype (♀), designated by Erwin (1974a: 142), in MHNP.

*Tachys corruscus* LeConte, 1848: 472. Type locality: «NovEboraci [= New York] et ad Rocky Mountains» (original citation), restricted to «New York» by Lindroth (1966: 435). Lectotype (♀), designated by Erwin (1974a: 142), in MCZ [# 5571]. Synonymy established by Erwin (1974a: 142).

*Tachys coruscus* Bates, 1882a: 139. Unjustified emendation of *Tachys corruscus* LeConte, 1848.

**Distribution.** The range of this species extends from southwestern Quebec (LeSage 1996: 23) to southern Wisconsin (Messer 2010: 37), south to southeastern Texas (Kleberg County, CMNH; Hayward 1900: 230) and southern Florida (Peck and Thomas 1998: 18); also recorded from the Bahamas (Darlington 1953: 6, as *T. corruscus*), Cuba (Darlington 1934: 83), Jamaica (Darlington 1941a: 11), Puerto Rico (Wolcott 1941: 81), Mexico, and Guatemala (Bates 1882a: 139). The records from Yuma, California (Hayward 1900: 230), Sacramento Mountains in New Mexico (Fall and Cockerell 1907: 158), and “Colorado” (Leng 1920: 54) probably refer to other species.

**Records.** CAN: QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI – Bahamas, Cuba, Guatemala, Jamaica, Mexico, Puerto Rico

***Tachys rectangulus* Notman, 1919**

*Tachys rectangulus* Notman, 1919b: 229. Type locality: «North America» (original citation). Holotype [by monotypy] (♂) location unknown (originally in collection C.W. Leng).

**Distribution.** This species is known only from the holotype.

**Records.** None.

***Tachys rhodeanus* Casey, 1918**

*Tachys rhodeanus* Casey, 1918: 198. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♀), designated by Erwin (1974a: 142), in USNM [# 46944].

**Distribution.** This species is known from scattered localities from New Brunswick (Webster and Bousquet 2008: 17) to northern Ohio (Cuyahoga County, Harry J. Lee, Jr. pers. comm. 2008), south to southern South Carolina (Ciegler 2003: [2]) and southwestern Alabama (Baldwin County, CMNH).

**Records.** CAN: NB, ON, QC USA: AL, CT, DC, MA, NH, OH, PA, RI, SC, VA, VT, WV

***Tachys sagax* Casey, 1918**

*Tachys sagax* Casey, 1918: 197. Type locality: «Highland Park [Lake County], Illinois» (original citation). Lectotype (♂), designated by Erwin (1974a: 142), in USNM [# 46942].

**Distribution.** Besides the type locality, this species is known from several counties in Virginia (Hoffman et al. 2006: 21), Maryland (Lepping 2009: 65), Montgomery County in northern Tennessee (Foster F. Purrington pers. comm. 2011), Oktibbeha County in northeastern Mississippi (Drew A. Hildebrandt pers. comm. 2009), and Desha County in southeastern Arkansas (Foster F. Purrington pers. comm. 2010).

**Records.** USA: AR, IL, MD, MS, TN, VA

***Tachys scitulus* LeConte, 1848**

*Tachys scitulus* LeConte, 1848: 471. Type locality: «Columbiam [= Columbia, Lancaster County] Pennsylvaniae» (original citation). Lectotype (♀), designated by Erwin (1974a: 142), in MCZ [# 5568].

*Tachys pallescens* Casey, 1918: 199 [primary homonym of *Tachys pallescens* Bates, 1873]. Type locality: «Keokuk [Lee County], Iowa» (original citation for the lectotype). Lectotype (♂), designated by Erwin (1974a: 142), in USNM [# 46945]. Synonymy established by Erwin (1974a: 142).

*Tachys pallidiusculus* Csiki, 1928: 191. Replacement name for *Tachys pallescens* Casey, 1918.



**Distribution.** This species ranges from New Brunswick (Bousquet 1987a: 124) to central South Dakota (Kirk and Balsbaugh 1975: 21), south to central Texas (Blanco and Travis Counties, CMNH; Hayward 1900: 229; Riley 2011) and southern Florida (Peck and Thomas 1998: 18); also recorded from Cuba (Darlington 1934: 81) and Jamaica (Darlington 1941a: 12).

**Records.** CAN: NB, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, SD, TN, TX, VA, VT, WI, WV – Cuba, Jamaica

### *Tachys sequax* LeConte, 1848

*Tachys sequax* LeConte, 1848: 472. Type locality: «ad Rocky Mountains» (original citation). Lectotype (♀), designated by Erwin (1974a: 142), in MCZ [# 5570].

**Distribution.** This species is known only from the lectotype. The record from “Colorado” (Leng 1920: 54) needs confirmation.

**Records.** USA: [CO]

### *Tachys spadix* Casey, 1918

*Tachys spadix* Casey, 1918: 202. Type locality: «El Paso [El Paso County], Texas» (original citation). Holotype [by monotypy] (♂) in USNM [# 46950].

*Tachys laticollis* Casey, 1918: 202. Type locality: «Houston [Harris County], Texas» (original citation). Holotype [by monotypy] (♀) in USNM [# 46951]. Synonymy established by Erwin (1974a: 142).

**Distribution.** This species is known only from east-central and westernmost Texas (Casey 1918: 202).

**Records.** USA: TX

### *Tachys umbripennis* Chaudoir, 1868

*Tachys umbripennis* Chaudoir, 1868b: 213. Type locality: «Louisiane» (lectotype label). Lectotype (♀), designated by Erwin (1974a: 143), in MHNP.

**Distribution.** This species has been reported from “Arkansas” (Casey 1918: 193), “Louisiana” (Chaudoir 1868b: 213), and southeastern Texas along the Gulf Coast (Casey 1918: 193).

**Records.** USA: AR, LA, TX

**Note.** This form has been listed as a synonym of *T. pumilus* (Dejean) by Hayward (1900: 235) but regarded as a valid species by Casey (1918: 193) and Erwin (1974a: 143).

### *Tachys ventricosus* LeConte, 1863

*Tachys ventricosus* LeConte, 1863c: 20. Type locality: «Louisiana» (original citation). Lectotype (♂), designated by Erwin (1974a: 143), in MCZ [# 5574].



*Tachys oopterus* Chaudoir, 1868b: 212. Type locality: «Louisiane» (original citation). Lectotype (♂), designated by Erwin (1974a: 143), in MHNP. Synonymy established by Horn (1875: 132), confirmed by Erwin (1974a: 143).

**Distribution.** This species is known along the Coastal Plain from southwestern Georgia (Fattig 1949: 19) to southern Florida (Peck and Thomas 1998: 18), west to southeastern Texas (Casey 1918: 197).

**Records. USA:** AL, FL, GA, LA, TX

### *Tachys vernilis* Casey, 1918

*Tachys vernilis* Casey, 1918: 202. Type locality: «Brownsville [Cameron County], Texas» (original citation). Lectotype (♂), designated by Erwin (1974a: 143), in USNM [# 46952].

**Distribution.** This species is known only from the type locality in southeastern Texas.

**Records. USA:** TX

### *Tachys vorax* LeConte, 1852

*Tachys vorax* LeConte, 1852a: 194. Type locality: «ad fluminis Gilae et Colorado ripas» (original citation), restricted to «Gila River, Arizona» by Erwin (1974a: 143). Lectotype (♀), designated by Erwin (1974a: 143), in MCZ [# 5569].

**Distribution.** This species is found from southeastern Texas (Wickham 1897: 104) to southwestern California (Fall 1901a: 43; Moore 1937: 8) and the Baja California Peninsula (Horn 1894: 308), north to southwestern Utah (Tanner 1928: 270). The records from the Bahamas (Darlington 1953: 6), Cuba (Darlington 1934: 82; Mateu 1977: 378), Jamaica (Darlington 1941a: 11), and Puerto Rico (Wolcott 1936: 188) need confirmation; that from eastern Washington (Hatch 1953: 105) is probably in error; that from “Colorado” (LeConte 1858a: 28) probably refers to the Colorado River.

**Records. USA:** AZ, CA, NM, TX, UT – Mexico

### Subtribe ANILLINA Jeannel, 1937

Anillini Jeannel, 1937a: 241, 243. Type genus: *Anillus* Jacquelin du Val, 1851.

Scotodipnina Jeannel, 1937a: 241, 265. Type genus: *Scotodipnus* Schaum, 1860.

Typhlocharina Jeanne, 1973: 95, 98. Type genus: *Typhlocharis* Dieck, 1869. NOTE. The stem of *Typhlocharis* is *Typhlocharit-* (Madge 1989: 469).

**Diversity.** Worldwide, with about 375 species in the Nearctic (50 species), Neotropical (24 species), Australian (about 45 species), Oriental (about 22 species), Palearctic (about 175 species), and Afrotropical (about 60 species) Regions. There is no genus-group taxa shared between the Western Hemisphere and the Eastern Hemisphere.

### Genus *ANILLODES* Jeannel, 1963

*Anillodes* Jeannel, 1963a: 54. Type species: *Anillus debilis* LeConte, 1853 by original designation. Etymology. From the generic name *Anillus* and the Greek suffix *-odes* (likeness), alluding to the resemblance of the adults to those of *Anillus* [masculine].

**Diversity.** The genus contains three species found in California.

**Identification.** Jeannel (1963a: 54–58) revised the species. Soon after, Jeannel (1963b) published a supplement to his monograph and pointed out that his *A. debilis* consisted of two very similar species, one of which being undescribed (*A. minutus*). A revision of the genus is needed.

**Taxonomic Note.** A study of the type specimens of *Anillodes affabilis* (Brues), *A. sinuatus* Jeannel, and *A. debilis* (LeConte) showed that the first two species, described from Texas, are morphologically more similar to members of *Anillinus* Casey than to *A. debilis*, the type species of *Anillodes* described from California. In fact, *A. affabilis* and *A. sinuatus* are externally indistinguishable from many *Anillinus* species and examination of the male genitalia is required for positive identifications. Based on this fact, the Texas species of *Anillodes* are transferred to *Anillinus* and the California species are retained in the genus *Anillodes*.

#### *Anillodes debilis* (LeConte, 1853)

*Anillus debilis* LeConte, 1853c: 397. Type locality: «San Jose [Santa Clara County], California» (original citation). Two syntypes [3 originally cited] in MCZ [# 5563].

**Distribution.** This species is known from a few specimens collected in Tulare and Santa Clara Counties in California (Jeannel 1963a: 56).

**Records. USA:** CA

#### *Anillodes minutus* Jeannel, 1963

*Anillodes minutus* Jeannel, 1963b: 147. Type locality: «Bulkaap camp ground, aux environs de Springville [Tulare County], Californie» (original citation). Holotype in MHNP.

**Distribution.** This species is known only from the two original specimens collected at the type locality in south-central California.

**Records. USA:** CA

#### *Anillodes walkeri* Jeannel, 1963

*Anillodes walkeri* Jeannel, 1963a: 56. Type locality: «Deer Creek Grove [Tulare County, California]» (original citation). Holotype in MHNP.

**Distribution.** This species is known from a few specimens collected near Springville in south-central California.

**Records. USA:** CA

**Genus ANILLINUS Casey, 1918**

*Anillinus* Casey, 1918: 167. Type species: *Anillinus carolinae* Casey, 1918 by original designation. Etymology. From the generic name *Anillus* and the Latin suffix *-inus* (pertaining to), alluding to the close affinity of the species of this genus to those of *Anillus* [masculine].

*Micranillodes* Jeannel, 1963a: 57. Type species: *Micranillodes depressus* Jeannel, 1963 by original designation. Etymology. From the Greek *micros* (small, little) and the generic name *Anillodes* [*q.v.*] [masculine]. **New synonymy.** NOTE. A study of the holotype of *M. depressus* Jeannel revealed that the species is externally similar to members of *Anillinus*.

*Troglanillus* Jeannel, 1963b: 147. Type species: *Troglanillus valentinei* Jeannel, 1963 by original designation. Synonymy established by Barr (1995: 240). Etymology. From the Greek *trogle* (hole) and the generic name *Anillus* [masculine].

**Diversity.** Western Hemisphere, with 44 species in eastern North America (42 species), most of them in the Appalachian region, and the state of Santa Catarina in Brazil (two species).

**Identification.** Sokolov et al. (2004) reviewed the North American species and provided a key for the identification of all but four species (*A. daggyi*, *A. dohrni*, *A. longiceps*, and *A. valentinei*). Subsequently 16 new species were described by Dajoz (2005), Sokolov et al. (2007), Sokolov and Watrous (2008), Sokolov and Carlton (2008, 2010), Sokolov (2011), and Giachino (2011) and three species are transferred to the genus in this work.

***Anillinus affabilis* (Brues, 1902), new combination**

*Anillus affabilis* Brues, 1902: 366. Type locality: «Austin [Travis County], Texas» (original citation). Lectotype (♂), designated by Erwin and House (1978: 233), in USNM [# 75691].

**Distribution.** This species is known only from the three original specimens collected at the type locality in central Texas.

**Records. USA:** TX

***Anillinus aleyae* Sokolov and Watrous, 2008**

*Anillinus aleyae* Sokolov and Watrous, 2008: 538. Type locality: «Ozark Underground Lab[oratory] (800 m), 36.5585°N, 92.8134°W, Taney Co[unty], M[iss]o[uri]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from Taney and Barry Counties in southwestern Missouri (Sokolov and Watrous 2008: 541).

**Records. USA:** MO

***Anillinus balli* Sokolov and Carlton, 2004**

*Anillinus balli* Sokolov and Carlton [in Sokolov et al.], 2004: 208. Type locality: «Bald Rock Picnic Area, Laurel Co[unty], K[entuck]y» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from the original two specimens collected at the type locality in southeastern Kentucky (Sokolov et al. 2004: 208).

**Records. USA:** KY

***Anillinus barberi* Jeannel, 1963**

*Anillinus barberi* Jeannel, 1963b: 150. Type locality: «Plummers island [Montgomery County, Maryland]» (original citation). Holotype (♀) in USNM [# 69545].

**Distribution.** This species is known from a few specimens collected at the type locality on the Potomac River in Maryland and northern Virginia (Sokolov et al. 2004: 198).

**Records. USA:** MD, VA

***Anillinus barri* Sokolov and Carlton, 2004**

*Anillinus barri* Sokolov and Carlton [in Sokolov et al.], 2004: 208. Type locality: «Indian Bound[a]ry Campground, Monroe Co[unty], T[en]n[essee]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from Monroe County (Sokolov et al. 2004: 209) and Polk County (Giachino 2011: 113) in southeastern Tennessee.

**Records. USA:** TN

***Anillinus campbelli* Giachino, 2011**

*Anillinus campbelli* Giachino, 2011: 111. Type locality: «Van Hook Glade, 4 mi[les] W[est] Highlands (3500 f) [Macon County], N[orth] Car[olina]» (original citation). Holotype (♂) in CNC [# 23998].

**Distribution.** This species is known only from the type locality in southwestern North Carolina.

**Records. USA:** NC

***Anillinus carltoni* Sokolov, 2011**

*Anillinus carltoni* Sokolov, 2011: 6. Type locality: «ca. 0.5 km E[ast] Thunderhead Mountain at 35°34'3"N 83°42'4"W (1,510m), Great Smoky Mountain[s] National Park, Blount County, Tennessee» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from the type locality along the state line between Tennessee and North Carolina.

**Records. USA:** TN

***Anillinus chandleri* Sokolov, 2011**

*Anillinus chandleri* Sokolov, 2011: 11. Type locality: «Sumter National Forest, 33°37.20'N 82°5.55'W, Edgefield County, South Carolina» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from the holotype collected in western South Carolina near the Georgia border.

**Records. USA:** SC

***Anillinus cherokee* Sokolov and Carlton, 2008**

*Anillinus cherokee* Sokolov and Carlton, 2008: 40. Type locality: «Joyce Kilmer Memorial, Spirit Ridge, Nantahala National Forest, Graham Co[unty], N[orth] C[arolina]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from the southeastern parts of Blount County in Tennessee and adjacent parts of Nantahala National Forest in Graham County, North Carolina (Sokolov and Carlton 2008: 42).

**Records. USA:** NC, TN

***Anillinus chilhowee* Sokolov, 2011**

*Anillinus chilhowee* Sokolov, 2011: 8. Type locality: «Chilhowee Mountain at 35°7.0'N 84°37.44'W (715 m), Cherokee National Forest, Polk County, Tennessee» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from the holotype.

**Records. USA:** TN

***Anillinus cieglerae* Sokolov and Carlton, 2007**

*Anillinus cieglerae* Sokolov and Carlton [in Sokolov et al.], 2007: 5. Type locality: «West Prong Campground, Great Smoky Mountain[s] National Park, Blount Co[unty], T[en]n[essee]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from central and northeastern Blount County in Tennessee and adjacent parts of Swain County in North Carolina (Sokolov et al. 2007: 7).

**Records. USA:** NC, TN

***Anillinus cornelli* Sokolov and Carlton, 2004**

*Anillinus cornelli* Sokolov and Carlton [in Sokolov et al.], 2004: 209. Type locality: «Crowders M[oun]t[ain] St[ate] P[ar]k, Gaston Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in USNM.



**Distribution.** This species is known only from two nearby localities in Gaston County, North Carolina, and York County, South Carolina (Sokolov et al. 2004: 210).

**Records. USA:** NC, SC

***Anillinus daggyi* Sokolov and Carlton, 2004**

*Anillinus daggyi* Sokolov and Carlton [in Sokolov et al.], 2004: 210. Type locality: «Glen Alpine Springs, Burke Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in NCSU.

**Distribution.** This species is known from two nearby localities in Burke County, western North Carolina (Sokolov et al. 2004: 211).

**Records. USA:** NC

***Anillinus depressus* (Jeannel, 1963), new combination**

*Micranillodes depressus* Jeannel, 1963a: 58. Type locality: «Travis Co[unty], Texas» (original citation). Holotype (♀) in USNM [# 69551].

**Distribution.** This species is known only from the holotype collected in central Texas.

**Records. USA:** TX

***Anillinus docwatsoni* Sokolov and Carlton, 2004**

*Anillinus docwatsoni* Sokolov and Carlton [in Sokolov et al.], 2004: 212. Type locality: «Chimney Rock, Rutherford Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in NCSU. Etymology. The specific name was proposed for Arthel Lane “Doc” Watson [1923-2012], American guitar player and singer of bluegrass, folk, country, blues, and gospel music.

**Distribution.** This species is known only from the type locality in southwestern North Carolina (Sokolov et al. 2004: 212).

**Records. USA:** NC

***Anillinus dohrni* (Ehlers, 1884)**

*Anillus dohrni* Ehlers, 1884: 36. Type locality: «Florida» (original citation). Holotype [by monotypy] (♀) in ANSP [# 8165]. Etymology. The species was proposed in honor of the German entomologist Carl August Dohrn [1806-1892]. Wealthy by inheritance, Dohrn specialized in Coleoptera.

**Distribution.** This species is known only from the holotype.

**Records. USA:** FL

**Note.** Jeannel (1963a: 76-77) reported that “Horn (1888: 27)” doubted the state provenance of the holotype and that the specimens in the USNM from Clayton, Georgia belong to *A. dohrni*. I have not found any statement of that sort made by Horn. On the other hand, Schwarz (1891: 24) had “some doubt regarding the correctness of the [type] locality.”

***Anillinus elongatus* Jeannel, 1963**

*Anillinus elongatus* Jeannel, 1963b: 151. Type locality: «Morgan Cr[ee]k, Chapel Hill, Orange Co[unty], N[orth] C[arolina]» (original citation for the neotype). Neotype (♂), designated by Sokolov et al. (2004: 199), in NCSU. NOTE. Remnants of the holotype are in the USNM [# 69544] (Sokolov et al. 2004: 199).

**Distribution.** This species is known from several localities in Orange, Mecklenburg, and Cabarrus Counties in North Carolina (Sokolov et al. 2004: 200).

**Records. USA:** NC

***Anillinus erwini* Sokolov and Carlton, 2004**

*Anillinus erwini* Sokolov and Carlton [in Sokolov et al.], 2004: 213. Type locality: «Rough Ridge Trailhead, 8 mi[les] S[outh]W[est] Blowing Rock (4,200'), Watauga Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from southwestern Virginia and North Carolina, north of the French Broad River (Sokolov et al. 2004: 213).

**Records. USA:** NC, VA

***Anillinus folkertsii* Sokolov and Carlton, 2004**

*Anillinus folkertsii* Sokolov and Carlton [in Sokolov et al.], 2004: 214. Type locality: «1 mi[le] S[outh] Claiborne Dam, Monroe County, Ala[bama]» (original citation). Holotype (♂) in USNM. Etymology. The specific name was proposed in honor of the naturalist and conservationist George W. Folkerts [1938-2007], professor in the Department of Biological Sciences at Auburn University for 38 years. Folkerts was a well-known expert on the ecology of disappearing habitat types and declining species.

**Distribution.** This species is known only from the type locality in southwestern Alabama (Sokolov et al. 2004: 214).

**Records. USA:** AL

***Anillinus fortis* (Horn, 1869)**

*Anillus fortis* G.H. Horn, 1869a: 127. Type locality: «mountainous regions of eastern Tennessee» (original citation). Holotype [by monotypy] (♀) in MCZ [# 35575].

*Anillinus carolinae* Casey, 1918: 168. Type locality: «Blacks M[oun]t[ain]s, North Carolina» (original citation). Four syntypes [4 originally cited] in USNM [# 46902]. Synonymy established by Jeannel (1937a: 352), confirmed by Barr (1995: 241).

**Distribution.** This species is known from North Carolina, north of the French Broad River (Sokolov et al. 2004: 201), and presumably eastern Tennessee (Horn 1869a: 127). The records from the District of Columbia (Ulke 1902: 6), Virginia (Schwarz 1891: 24), South Carolina (Ciegler 2000: 55), and northeastern Georgia (Leng 1910: 73; Fattig 1949: 18) are probably in error.

**Records. USA:** NC, TN

***Anillinus gimmeli* Sokolov and Carlton, 2010**

*Anillinus gimmeli* Sokolov and Carlton, 2010: 11. Type locality: «White Oak Sink, 35°38.1'N 83°45.3'W, Great Smoky Mountain[s] National Park, Blount Co[unty], T[en]n[essee]» (original citation). Holotype in USNM.

**Distribution.** This species is known only from the eastern part of Rich Mountain ridge, Blount County, eastern Tennessee (Sokolov and Carlton 2010: 12).

**Records. USA:** TN

***Anillinus indianae* Jeannel, 1963**

*Anillinus indianae* Jeannel, 1963b: 152. Type locality: «Mitchell, Lawrence Co[unty], Indiana» (original citation). Holotype in USNM [# 69548].

**Distribution.** This species is known only from the original four specimens collected in Lawrence and Crawford Counties in southern Indiana (Sokolov et al. 2004: 202).

**Records. USA:** IN

***Anillinus juliae* Sokolov and Carlton, 2010**

*Anillinus juliae* Sokolov and Carlton, 2010: 7. Type locality: «north-eastern part of Starr Mountain, 35°20.067'N 84°24.514'W, McMinn Co[unty], T[en]n[essee]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from the type locality in southeastern Tennessee.

**Records. USA:** TN

***Anillinus kovariki* Sokolov and Carlton, 2004**

*Anillinus kovariki* Sokolov and Carlton [in Sokolov et al.], 2004: 214. Type locality: «Mays Pond, 3.5 mi[les] N[orth]W[est] Monticello, Jefferson Co[unty], Florida» (original citation). Holotype (♂) in FSCA.

**Distribution.** This species is known only from the type locality in northern Florida (Sokolov et al. 2004: 215).

**Records. USA:** FL

***Anillinus langdoni* Sokolov and Carlton, 2004**

*Anillinus langdoni* Sokolov and Carlton [in Sokolov et al.], 2004: 215. Type locality: «Laurel Falls Trail (747 m), G[reat]S[moky]M[ountains]N[ational]P[ark], Sevier Co[unty], T[en]n[essee]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from the Great Smoky Mountains in Cocke, Monroe, and Sevier Counties, Tennessee (Sokolov et al. 2004: 216; Giachino 2011: 111).

**Records. USA:** TN

***Anillinus lescheni* Sokolov and Carlton, 2004**

*Anillinus lescheni* Sokolov and Carlton [in Sokolov et al.], 2004: 217. Type locality: «Latimer Co[unty], Oklahoma» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from Latimer County in eastern Oklahoma (Sokolov et al. 2004: 217).

**Records. USA:** OK

***Anillinus longiceps* Jeannel, 1963**

*Anillinus longiceps* Jeannel, 1963b: 149. Type locality: «Crystal Cave, Monteagle [Grundy County], Tennessee» (original citation). Holotype (♂) in USNM [# 69547].

**Distribution.** This species is known only from the holotype collected in southern Tennessee.

**Records. USA:** TN

***Anillinus loweae* Sokolov and Carlton, 2004**

*Anillinus loweae* Sokolov and Carlton [in Sokolov et al.], 2004: 218. Type locality: «Cataloochee Divide Trail near Purchase, G[reat]S[moky]M[ountains]N[ational]P[ark], Haywood Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known in the Appalachians from western North Carolina, eastern Tennessee, and northwestern South Carolina (Sokolov et al. 2004: 219; Giachino 2011: 110).

**Records. USA:** NC, SC, TN

***Anillinus magazinensis* Sokolov and Carlton, 2004**

*Anillinus magazinensis* Sokolov and Carlton [in Sokolov et al.], 2004: 220. Type locality: «M[oun]t Magazine, 0.5 mi[le] S[outh] Greenfield Picnic Area, Logan Co[unty], Ar[kansas]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from Mount Magazine in western Arkansas (Sokolov et al. 2004: 221).

**Records. USA:** AR

***Anillinus merritti* Sokolov and Carlton, 2010**

*Anillinus merritti* Sokolov and Carlton, 2010: 9. Type locality: «Twentymile Creek valley, 35°28.8'N 83°50.7'W, Great Smoky Mountains National Park, Swain Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from two localities in Swain and Macon Counties in western North Carolina (Sokolov and Carlton 2010: 11).

**Records. USA:** NC

***Anillinus moseleyae* Sokolov and Carlton, 2004**

*Anillinus moseleyae* Sokolov and Carlton [in Sokolov et al.], 2004: 221. Type locality: «Appalachian Trail, 1.5 mi[les] N[orth]E[ast] Newfound Gap, G[reat]S[moky]M[ountains]N[ational]P[ark], Swain Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from high elevations in central Great Smoky Mountains National Park in eastern Tennessee and western North Carolina (Sokolov et al. 2004: 222).

**Records. USA:** NC, TN

***Anillinus murrayae* Sokolov and Carlton, 2004**

*Anillinus murrayae* Sokolov and Carlton [in Sokolov et al.], 2004: 222. Type locality: «Collins Picnic Area, G[reat]S[moky]M[ountains]N[ational]P[ark], Swain Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from Swain and Jackson Counties in North Carolina (Sokolov et al. 2004: 223).

**Records. USA:** NC

***Anillinus nantahala* Dajoz, 2005**

*Anillinus nantahala* Dajoz, 2005: 210. Type locality: «Wayah Bald [Nantahala National Forest, Macon County, North Carolina]» (original citation). Holotype in Dajoz's collection (Paris, France).

**Distribution.** This species is known only from the type locality in southwestern North Carolina.

**Records. USA:** NC

***Anillinus pecki* Giachino, 2011**

*Anillinus pecki* Giachino, 2011: 114. Type locality: «Linville Falls (3500 f), Avery Co[unty], N[orth] Car[olina]» (original citation). Holotype (♂) in CNC [# 23999].

**Distribution.** This species is known from Avery and Wilkes Counties along the Blue Ridge Parkway in western North Carolina (Giachino 2011: 115).

**Records. USA:** NC

***Anillinus pusillus* Sokolov and Carlton, 2007**

*Anillinus pusillus* Sokolov and Carlton [in Sokolov et al.], 2007: 8. Type locality: «Twentymile Trail, Great Smoky Mountains National Park, Swain Co[unty], N[orth]C[arolina]» (original citation). Holotype (♂) in USNM.



**Distribution.** This species is known from southwestern Blount County in Tennessee and Swain County in North Carolina in the Great Smoky Mountains National Park (Sokolov et al. 2007: 10).

**Records. USA:** NC, TN

***Anillinus robisoni* Sokolov and Carlton, 2004**

*Anillinus robisoni* Sokolov and Carlton [in Sokolov et al.], 2004: 223. Type locality: «5.0 mi[les] S[outh]W[est] Big Fork, Polk Co[unty], Ar[kansas]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from the southern parts of the Ouachita National Forest in western Arkansas (Sokolov et al. 2004: 224).

**Records. USA:** AR

***Anillinus sinuaticollis* Jeannel, 1963**

*Anillinus sinuaticollis* Jeannel, 1963b: 152. Type locality: «Roane Co[unty], Tennessee» (original citation). Holotype (♀) in USNM [# 69541].

**Distribution.** This species is known only from the holotype collected in eastern Tennessee (Sokolov et al. 2004: 204).

**Records. USA:** TN

***Anillinus sinuatus* (Jeannel, 1963), new combination**

*Anillodes sinuatus* Jeannel, 1963a: 57. Type locality: «Bexar Co[unty], Texas» (original citation). Holotype (♀) in USNM [# 69549].

**Distribution.** This species is known only from the holotype collected in south-central Texas.

**Records. USA:** TX

***Anillinus smokiensis* Sokolov, 2011**

*Anillinus smokiensis* Sokolov, 2011: 9. Type locality: «Gregory Cave at 35°36.59'N 83°48.35'W (605 m), southern slope of Rich Mountain ridge, Great Smoky Mountain[s] National Park, Blount County, Tennessee» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from eight specimens collected at the type-locality cave.

**Records. USA:** TN

***Anillinus steevesi* Barr, 1995**

*Anillinus steevesi* Barr, 1995: 243. Type locality: «Cloudland Canyon State Park, Dade County, Georgia» (original citation). Holotype (♂) in CMNH.

**Distribution.** This species is known from Tishomingo County in northeastern Mississippi, northern Alabama (Sokolov and Carlton 2010: 13; Giachino 2011: 111), Blount County in eastern Tennessee, Swain County in western North Carolina, and Dade County in northwestern Georgia (Sokolov et al. 2004: 205).

**Records. USA:** AL, GA, MS, NC, TN

***Anillinus stephani* Sokolov and Carlton, 2004**

*Anillinus stephani* Sokolov and Carlton [in Sokolov et al.], 2004: 224. Type locality: «Latimer Co[unty], Oklahoma» (original citation). Holotype (♂) in FSCA.

**Distribution.** This species is known only from Latimer County in eastern Oklahoma (Sokolov et al. 2004: 225).

**Records. USA:** OK

***Anillinus tishechkini* Sokolov and Carlton, 2004**

*Anillinus tishechkini* Sokolov and Carlton [in Sokolov et al.], 2004: 226. Type locality: «Winona Forest Dr., 10 mi[les] W[est] L[ake] Sylvia, Perry Co[unty], Ar[kansas]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from the type locality in central Arkansas (Sokolov et al. 2004: 226).

**Records. USA:** AR

***Anillinus turneri* Jeannel, 1963**

*Anillinus turneri* Jeannel, 1963a: 77. Type locality: «Peach Co[unty], Georgia» (original citation). Holotype (♀) in USNM [# 69543].

**Distribution.** This species is known for sure only from the two original specimens collected in central Georgia. The records from York and Lancaster Counties in northern South Carolina (Ciegler 2000: 55) need confirmation.

**Records. USA:** GA [SC]

***Anillinus unicoi* Sokolov, 2011**

*Anillinus unicoi* Sokolov, 2011: 3. Type locality: «Stratton Meadows at 35°20.229'N 84°1.862'W (1300m), Unicoi Mountains, Graham County, North Carolina» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from the holotype collected in the central part of the Unicoi Mountains in North Carolina.

**Records. USA:** NC

***Anillinus valentinei* (Jeannel, 1963)**

*Troglanillus valentinei* Jeannel, 1963b: 148. Type locality: «Fort-Payne Cave [DeKalb County], Alabama» (original citation). Holotype (♂) in USNM [# 69550].

**Distribution.** This true troglobite species is confined to caves in northeastern Alabama east of the Wills Creek anticline (Barr 1995: 243).

**Records. USA:** AL

***Anillinus virginiae* Jeannel, 1963**

*Anillinus virginiae* Jeannel, 1963a: 76. Type locality: «Skyland [Page County], Virginia» (original citation). Holotype (♀) in USNM [# 69546].

**Distribution.** This species is known for sure only from the type locality in northern Virginia (Sokolov et al. 2004: 207). The record from “West Virginia” (Bousquet and Laroche 1993: 157) needs confirmation.

**Records. USA:** VA [WV]

**Genus *SERRANILLUS* Barr, 1995**

*Serranillus* Barr, 1995: 246. Type species: *Serranillus jeanneli* Barr, 1995 by original designation. Etymology. From the Latin noun *serra* (saw) and the generic name *Anillus*, alluding to the serrulate lateral margins of the elytra (“subhumeral margin strongly crenelate”) [masculine].

**Diversity.** Three species in eastern North America.

**Identification.** Sokolov and Carlton (2008: 40) provided a key for the identification of all species.

***Serranillus dunavani* (Jeannel, 1963)**

*Anillinus dunavani* Jeannel, 1963a: 76. Type locality: «Rocky Bottom (1500 m), Sasfras mountains, Pickens Co[unty], South Carolina» (original citation). Holotype (♂) in USNM [# 69542].

**Distribution.** This species is known only from the holotype collected in northwestern South Carolina. The records from North Carolina and northeastern Georgia (Barr 1995: 245) refer to *Anillinus loweae* Sokolov and Carlton (Sokolov et al. 2004: 189).

**Records. USA:** SC

***Serranillus jeanneli* Barr, 1995**

*Serranillus jeanneli* Barr, 1995: 247. Type locality: «along Ball Creek (approximately 950 m), Coweeta Hydrologic Laboratory, Macon Co[unty], North Carolina» (original citation). Holotype (♂) in CMNH.

**Distribution.** This species is known only from the type locality in southwestern North Carolina.

**Records. USA:** NC

### ***Serranillus septentrionis* Sokolov and Carlton, 2008**

*Serranillus septentrionis* Sokolov and Carlton, 2008: 38. Type locality: «Black Horse Gap, Blue Ridge P[ark]w[a]y, Botetourt Co[unty], V[irgini]a» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from Giles and Botetourt Counties in Virginia (Sokolov and Carlton 2008: 40).

**Records. USA:** VA

### **Genus *ANILLASPIS* Casey, 1918**

*Anillaspis* Casey, 1918: 168. Type species: *Anillus explanatus* Horn, 1888 by original designation. Etymology. Uncertain, possibly from the generic name *Anillus* and the Greek *aspis* (shield) [feminine].

**Diversity.** Two species in the Sierra Nevada of California.

**Identification.** Jeannel (1963a: 79) provided a key for the identification of the two species.

### ***Anillaspis caseyi* Jeannel, 1963**

*Anillaspis caseyi* Jeannel, 1963a: 80. Type locality: «Placer Co[unty], California» (original citation). Holotype (♀) location unknown (not in USNM). Etymology. The species name was proposed in honor of Thomas Lincoln Casey [1857-1925], American military officer, engineer, coleopterist, conchologist, and astronomer. Casey is well known for his controversial concept of species where little room was left for variation. His taxonomic approach was heavily criticized by his peers but nevertheless he always believed he was right. He once replied to a friend about these criticisms “I am just a generation ahead of the rest of you.” NOTE. Jeannel (1963a: 80) reported that the holotype of this species, which came from Casey’s collection, is labeled “Alabaster Cave, Cal.” but since Casey (1918: 168) noted that the sole specimen of *Anillinus explanatus* he had, upon which *A. caseyi* was described, came from Placer County, the label is apocryphal.

**Distribution.** This species is known only from the holotype collected in eastern California.

**Records. USA:** CA

### ***Anillaspis explanata* (Horn, 1888)**

*Anillus explanatus* G.H. Horn, 1888: 26. Type locality: «Alabaster Cave [Eldorado County], California» (original citation). Holotype [by monotypy] (♀) in MCZ [# 35574].

**Distribution.** This species is known only from the holotype collected in eastern California.

**Records. USA:** CA

### **Subtribe HOROLOGIONINA Jeannel, 1949**

Horologionidae Jeannel, 1949b: 91. Type genus: *Horologion* Valentine, 1932.

**Diversity.** One troglobitic species in eastern North America.

### **Genus *HOROLOGION* Valentine, 1932**

*Horologion* Valentine, 1932b: 2. Type species: *Horologion speokoites* Valentine, 1932 by monotypy. Etymology (original). From the Greek *horologion* (hourglass), probably alluding to the shape of the body of the adult which, because of the markedly constricted pronotum posteriorly, resembles an hourglass [neuter].

**Diversity.** One species in eastern United States.

**Identification.** Valentine (1932b) published a detailed description of the species enhanced by several accurate drawings.

### ***Horologion speokoites* Valentine, 1932**

*Horologion speokoites* Valentine, 1932b: 3. Type locality: «Arbuckle's Cave, Maxwelton [Greenbrier County], W[est] V[irgini]a» (original citation). Holotype (♂) in USNM [# 44255].

**Distribution.** This species is known only from the holotype collected in a cave three miles north of Lewisburg, near Maxwelton, in southeastern West Virginia. The cave has two rather small rooms connected by a narrow, descending, and tortuous passage. The specimen was found in the lower room, which was wet, muddy, and quite dark (Valentine 1932b: 1-2).

**Records. USA:** WV

### **Tribe POGONINI Laporte, 1834**

Pogonidae Laporte, 1834: 70. Type genus: *Pogonus* Dejean, 1821.

Pogonopsini Bedel, 1900a: 20. Type genus: *Pogonopsis* Bedel, 1898.

**Diversity.** About 85 species (Lorenz 2005: 237-238) in the Nearctic (six species), Neotropical (five species), Australian (about 15 species), Palaearctic (about 50 species), and Afrotropical (five species) Regions arrayed in 12 genera: *Bedeliolus* Semenov (three Palaearctic species), *Cardiaderus* Dejean (one Palaearctic species), *Diodercarus* Lutshnik (one Palaearctic species), *Diplochaetus* (four species), *Ochtozetus* Chaudoir (two South American species), *Olegius* Komarov (one species from Turkmenistan), *Pogonistes* Chaudoir (eight Palaearctic species), *Pogonopsis* Bedel (one north African species), *Pogonus* (about 55 species), *Sirdenus* Dejean (five Palaearctic species, one of them



extending into the Afrotropical Region), *Syrdenoidius* Baehr and Hudson (one species from south Australia), and *Thalassotrechus* (one species).

**Identification.** Bousquet and Laplante (1997) revised the Western Hemisphere species and provided a key for their identification.

### Genus *THALASSOTRECHUS* Van Dyke, 1918

*Thalassotrechus* Van Dyke, 1918 [4 October]: 303. Type species: *Trechus barbarae* Horn, 1892 by original designation. Etymology. From the Greek *thalassa* (sea) and the generic name *Trechus* [*q.v.*], alluding to the habitat (“in crevices of those rocks situated just below the high tide mark”) where adults of these *Trechus*-like species (“it superficially resembles ... the typical genus *Trechus*”) are found [masculine].

*Anatrechus* Casey, 1918 [12 November]: 411. Type species: *Trechus barbarae* Horn, 1892 by original designation. Etymology. From the Greek *ana* (up, back) and the generic name *Trechus* [*q.v.*] [masculine].

**Diversity.** One species confined to the Pacific Coast of California and Baja California.

#### *Thalassotrechus barbarae* (Horn, 1892)

*Trechus barbarae* G.H. Horn, 1892c: 41. Type locality: «Santa Barbara [Santa Barbara County], Cal[ifornia]» (original citation). Lectotype (♂), designated by Bousquet and Laplante (1997: 705), in MCZ [# 34324].

*Thalassotrechus nigripennis* Van Dyke, 1918: 304. Type locality: «Moss Beach, San Mateo County, California» (original citation). Holotype (♂) in CAS [# 3286]. Synonymy established by Evans (1977b: 86).

**Distribution.** This species is found along the Pacific Coast from northern California to southern Baja California [see Bousquet and Laplante 1997: map 1].

**Records. USA:** CA – Mexico

### Genus *DIPLOCHAETUS* Chaudoir, 1872

*Diplochaetus* Chaudoir, 1872a: 36. Type species: *Pogonus rutilus* Chevrolat, 1863 by monotypy. Etymology (original). From the Greek *diplos* (double) and *chaete* (hair), alluding to the presence of two setae at the apex of the glossal sclerite (“*ligula medio apice setis binis approximatis instructa*”) of the adult [masculine].

**Diversity.** Western Hemisphere, with four species in the Nearctic (four species, two of them endemic) and Neotropical (two species) Regions, including the West Indies.

#### *Diplochaetus emaciatus* (Bates, 1891)

*Pogonus emaciatus* Bates, 1891a: 260. Type locality: «Mazatlan [Sinaloa, Mexico]» (original citation). Lectotype (♀), designated by Bousquet and Laplante (1997: 712), in BMNH.

*Diplochaetus desertus* Van Dyke, 1953a: 98. Type locality: «on the margins of Salton Sea, Riverside Co[unty], California» (original citation). Holotype (♂) in CAS [# 8160]. Synonymy established by Bousquet and Laplante (1997: 712).

**Distribution.** This species is known from a few localities around Salton Sea in southern California, from the northern part of the Baja California Peninsula, and from the state of Sinaloa along the Pacific Coast in Mexico [see Bousquet and Laplante 1997: map 2].

**Records. USA:** CA – Mexico

***Diplochaetus megacephalus* Bousquet and Laplante, 1997**

*Diplochaetus megacephalus* Bousquet and Laplante, 1997: 711. Type locality: «Bottomless Lakes S[tate] P[ark], Chaves Co[unty], N[ew]M[exico]» (original citation). Holotype (♂) in CNC [# 22161].

**Distribution.** This species is presently known from numerous specimens collected in two localities in Chaves County, New Mexico [see Bousquet and Laplante 1997: map 2].

**Records. USA:** NM

***Diplochaetus planatus* (Horn, 1876)**

*Pogonus depressus* LeConte, 1874b: 44 [primary homonym of *Pogonus depressus* Motschulsky, 1844]. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype, designated by Bousquet and Laplante (1997: 713), in MCZ [# 5595].

*Pogonus planatus* G.H. Horn, 1876c: 250. Replacement name for *Pogonus depressus* LeConte, 1874.

**Distribution.** This species ranges from south-central Oregon to south-central Kansas, south to western Texas near the Rio Grande, southeastern Arizona [see Bousquet and Laplante 1997: map 3], and southwestern California (LeConte 1874b: 44). One specimen without specific locality is known from Nebraska (Bousquet and Laplante 1997: 714).

**Records. USA:** AZ, CA, KS, NM, NV, OK, OR, TX, UT [NE]

***Diplochaetus rutilus* (Chevrolat, 1863)**

*Pogonus rutilus* Chevrolat, 1863: 197. Type locality: «Cuba» (original citation). Syntype(s) location unknown (possibly in UMO in collection Chevrolat and MHNP in collection Chaudoir).

*Pogonus parallelus* LeConte, 1874b: 44 [primary homonym of *Pogonus parallelus* Chaudoir, 1872]. Type locality: «Texas» (original citation). Holotype [by monotypy] (♂) in MCZ [# 34824]. Synonymy established by Bousquet and Laplante (1997: 708). NOTE. LeConte (1874b: 44) noted that the sole specimen he had was a female.

*Pogonus lecontei* G.H. Horn, 1876c: 250. Replacement name for *Pogonus parallelus* LeConte, 1874.

**Distribution.** This species is known from New Jersey, southern South Carolina (Cieglar 2000: 56), the Florida Peninsula including the Keys, some islands in the Greater Antilles, southeastern Texas, Chiapas in Mexico, southern New Mexico (Otero County, CMNH), and southeastern Arizona [see Bousquet and Laplante 1997: map 2]. The species is also found in Colombia (Bousquet and Laplante 1997: 710) and Venezuela (Chaudoir 1872a: 36).

**Records. USA:** AZ, FL, NJ, NM, SC, TX – Colombia, Cuba, Cayman Islands, Dominican Republic, Mexico, Venezuela

### Genus *POGONUS* Dejean, 1821

*Pogonus* Dejean, 1821: 2, 9. Type species: *Carabus littoralis* Duftschmid, 1812 by monotypy. Etymology. Uncertain, possibly from the Greek *pogonos* (beard) [masculine]. The name was proposed by Franz Anton Ziegler and made available by Dejean.

**Diversity.** About 55 species in two subgenera: *Pogonoidius* Carret (six Palaearctic species) and *Pogonus s.str.* (about 50 species).

### Subgenus *Pogonus* Dejean, 1821

*Pogonus* Dejean, 1821: 2, 9. Type species: *Carabus littoralis* Duftschmid, 1812 by monotypy.

**Diversity.** About 50 species in the Nearctic (one species), Australian (17 species), Palaearctic (about 30 species), and Afrotropical (four species) Regions.

### *Pogonus texanus* Chaudoir, 1868

*Pogonus texanus* Chaudoir, 1868b: 344. Type locality: «Texas» (original citation), herein restricted to Goose Island State Park, Aransas County (see Bousquet and Laplante 1997: 716). One syntype [2 ♀ originally cited] in MHNP and one in MCZ (collection LeConte, see LeConte 1874b: 45).

**Distribution.** This species is known only from a few localities in southwestern Louisiana and eastern Texas south to the Rio Grande [see Bousquet and Laplante 1997: map 1]; it was also collected at least twice at Atlantic City, New Jersey (G.E. Horn in Smith 1890: 79) in the XIX Century.

**Records. USA:** LA, NJ, TX

### Subfamily PATROBINAЕ Kirby, 1837

Patrobidae Kirby, 1837: 50. Type genus: *Patrobus* Dejean, 1821.

**Diversity.** About 220 species in the Nearctic, Oriental, and Palaearctic Regions arrayed in two tribes: Lissopogonini (six species in the Oriental and Palaearctic Regions) and Patrobini (about 215 species).

### Tribe PATROBINI Kirby, 1837

Patrobidae Kirby, 1837: 50. Type genus: *Patrobus* Dejean, 1821.

**Diversity.** Northern Hemisphere, with about 215 species arrayed in four subtribes following Zamotajlov (2002): Deltomerina (about 115 species), Deltomerodina (13 species in the genus *Deltomerodes* Deuve), Patrobina (about 80 species), and Platidiolina (five species). The North American fauna is represented by 13 species (roughly 6.2 % of the world fauna).

**Identification.** Darlington (1938) and Lindroth (1961a) reviewed the North American species and provided keys for their identification. Subsequently to Lindroth's work, one species (*Patrobus septentrionis*) was shown to consist of two distinct forms by Zamotajlov (2003c).

### Subtribe DELTOMERINA Chaudoir, 1872

Deltomeridae Chaudoir, 1872a: 51. Type genus: *Deltomerus* Motschulsky, 1850.

**Diversity.** Northern Hemisphere, with about 115 species in the Nearctic (four species) and Palaearctic (about 105 species) Regions arrayed in nine genera: *Deltomerus* (about 70 species in eastern Europe, northern Africa, and the Middle East), *Diplous* (23 species), *Himalopenetretus* Zamotajlov (one species in Uttar Pradesh), *Ledouxius* Zamotajlov (seven species in Kashmir and Pakistan), *Minipenetetrus* Zamotajlov (one Chinese species), *Naxipenetetrus* Zamotajlov (two Chinese species), *Patanitretus* Zamotajlov (one species in Pakistan), *Penetretus* Motschulsky (five south European species), and *Qiangopatrobis* Zamotajlov (three Chinese species).

### Genus DIPLOUS Motschulsky, 1850

*Diplous* Motschulsky, 1850a: x. Type species: *Patrobus sibiricus* Motschulsky, 1844 by monotypy. Etymology. From the Greek *diploous* (double), possibly alluding to the emarginate mentum tooth ("*mentum dente medio bicuspi*") of the adult [masculine].

**Distribution.** Twenty-three species (Lorenz 2005: 241-242) in the Nearctic (four species) and Palaearctic (19 species in Asia only) Regions arrayed in two subgenera: *Diplous s.str.* (17 species) and *Platidius* (six species).

### Subgenus Platidius Chaudoir, 1872

*Platidius* Chaudoir, 1872a: 51. Type species: *Patrobus aterrimus* Dejean, 1828 designated by Darlington (1938: 147). Etymology. Probably from the Greek *platys* (flat), referring to the flat body ("*forme aplatie*") of the adult [masculine].

**Diversity.** Six species in the Nearctic (four species) and Palearctic (*D. depressus* Gebler and *D. dolini* Zamotajlov in eastern Asia) Regions.

**Identification.** Marek and Kavanaugh (2005) revised the North American species and provided a key for their identification.

### ***Diplous aterrimus* (Dejean, 1828)**

*Patrobis aterrimus* Dejean, 1828: 32. Type locality: «détroit de Norfolk [= Sitka Sound, Baranof Island, Alaska], sur la côte nord-ouest de l'Amérique septentrionale» (original citation). Syntype(s) in MHNP and possibly also in MCZ (collection LeConte).

*Patrobis fulcratus* LeConte, 1869c: 374. Type locality: Vancouver Island, British Columbia (inferred from title of the paper). Syntype(s) [2 originally cited] in MCZ [# 5594]. Synonymy established by Horn (1875: 130), confirmed by Darlington (1938: 150).

*Platidius breviceps* Casey, 1918: 402. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46074]. Synonymy established by Darlington (1938: 150).

*Platidius tenuitarsis* Casey, 1918: 403. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46071]. Synonymy established (as aberration) by Csiki (1928: 342), confirmed by Darlington (1938: 150).

*Platidius coloradensis* Casey, 1918: 403. Type locality: «Red Cliff [Eagle County], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46072]. Synonymy established (as aberration) by Csiki (1928: 342), confirmed by Darlington (1938: 150).

*Platidius reflexus* Casey, 1918: 403. Type locality: «Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 114), in USNM [# 46073]. Synonymy established (as aberration) by Csiki (1928: 341), confirmed by Darlington (1938: 150).

**Distribution.** The range of this species extends from northern Northwest Territories and northern Yukon Territory south to central Oregon (Darlington 1938: 150), north-central Utah, and southern Colorado [see Marek and Kavanaugh 2005: Fig. 10].

**Records.** CAN: AB, BC (QCI, VCI), NT, YT USA: AK, CO, ID, MT, OR, UT, WA, WY

### ***Diplous californicus* (Motschulsky, 1844)**

*Patrobis californicus* Motschulsky, 1844: 131. Type locality: «Californie» (original citation), cited from «environs de St. Francisco [San Francisco County]» by Motschulsky (1859a: 123). Lectotype, designated by Marek and Kavanaugh (2005: 159), in MCZ [# 8232].

*Patrobis trochantericus* LeConte, 1869c: 375. Type locality: «Fort Crook [Shasta County], northern California» (original citation). Two syntypes in MCZ [# 5593]. Synonymy established by Horn (1875: 131), confirmed by Darlington (1938: 149).



*Platidius latipennis* Casey, 1918: 399. Type locality: Gualala, Mendocino County, California (lectotype label according to Lindroth 1975: 114). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46067]. Synonymy established (as aberration) by Csiki (1928: 342), confirmed by Darlington (1938: 149).

*Platidius incisus* Casey, 1918: 399. Type locality: «south of San Francisco, California» (original citation). Lectotype (♀), designated by Lindroth (1975: 114), in USNM [# 46065]. Synonymy established (as aberration) by Csiki (1928: 342), confirmed by Darlington (1938: 149).

*Platidius strenuus* Casey, 1918: 400. Type locality: «Washington State» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46069]. Synonymy established (as aberration) by Csiki (1928: 342), confirmed by Darlington (1938: 149).

*Platidius rectus* Casey, 1918: 400. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46066]. Synonymy established (as aberration) by Csiki (1928: 342), confirmed by Darlington (1938: 149).

*Platidius sierranus* Casey, 1918: 401. Type locality: «Mokelumne Hill, Calaveras Co[unty], California» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46068]. Synonymy established (as aberration) by Csiki (1928: 342), confirmed by Darlington (1938: 149).

*Platidius brevisculus* Casey, 1918: 401. Type locality: «Reno [Washoe County], Nevada» (original citation). Holotype [by monotypy] (♂) in USNM [# 46070]. Synonymy established by Darlington (1938: 149).

**Distribution.** This species ranges from western Montana (Russell 1968: 47) to Vancouver Island (Lindroth 1961a: 188), south to the northern part of the Coast Ranges in California and the Sierra Nevada (Darlington 1938: 149; Marek and Kavanaugh 2005: 160).

**Records.** CAN: BC (VCI) USA: CA, ID, MT, NV, OR, WA

### *Diplous flicornis* (Casey, 1918)

*Platidius flicornis* Casey, 1918: 404. Type locality: «Redwood Creek, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 114), in USNM [# 46075].

**Distribution.** This species ranges from the Skeena River drainage in central British Columbia (Lindroth 1961a: 189) south to the Coast Ranges and the Sierra Nevada in central California (Darlington 1938: 151; Marek and Kavanaugh 2005: 164).

**Records.** CAN: BC USA: CA, OR, WA

### *Diplous rugicollis* (Randall, 1838)

*Patrobis rugicollis* Randall, 1838a: 1 (as *angicollis*). Type locality: «Grafton Notch, [near] Bethel [Oxford County], M[ain]e» (neotype label). Neotype (♂), designat-

ed by Darlington (1938: 152), in MCZ [# 23357]. NOTE. «Hallowell» in Maine was the place originally cited by Randall (1838a: 2). The spelling *angicollis* was an error for *rugicollis* as indicated in the “Errata” inserted in the *Boston Journal of Natural History* (volume 2, page 560). The spelling *rugicollis* is in prevailing usage and attributed to the publication of the original spelling; therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Patrobis longipalpus* Notman, 1919b: 231. Type locality: «Keene Heights, Essex Co[unty], N[ew] Y[ork]» (original citation). Holotype [by monotypy] (♀) in SIM (Hennessey 1990: 466). Synonymy established by Darlington (1938: 152).

**Distribution.** This eastern species is found from Cape Breton Island (Lindroth 1961a: 189) to the Saint Lawrence Valley in southern Quebec (Laroche 1975: 81), south to northeastern West Virginia (Randolph County, CMNH). Fossil remnants from the Early Wisconsinan have been unearthed in southern Ontario (Morgan and Morgan 1981: 1107).

**Records.** CAN: NB, NS (CBI), QC USA: MA, ME, NH, NY, PA, VT, WV

### Subtribe PATROBINA Kirby, 1837

Patrobidae Kirby, 1837: 50. Type genus: *Patrobis* Dejean, 1821.

**Diversity.** Northern Hemisphere, with about 80 species in the Nearctic (eight species) and Palaearctic (about 75 species, only six of them occurring in Europe) Regions arrayed in ten genera: *Apatrobis* Habu and Baba (28 species), *Archipatrobis* Zamotajlov (three species), *Chaetapatrobis* Lafer (one species), *Chinapenetetrus* Kurnakov (11 species), *Dimorphopatrobis* Casale and Sciaky (one species), *Minypatrobis* Uéno (four species), *Parapenetretus* Kurnakov (14 species), *Patrobis* (16 species), *Platypatrobis* (one species), and *Quasipenetretus* Zamotajlov (one species).

### Genus PATROBUS Dejean, 1821

*Patrobis* Dejean, 1821: 10. Type species: *Carabus rufipes* Fabricius *sensu* Duftschmid, 1812 (= *Carabus atrorufus* Ström, 1768) designated by Curtis (1827: plate 192). Etymology. Uncertain, possibly from the Greek *patros* (father, by extension homeland) and the Latin suffix *-bus* (having the quality of) rather than the Greek *bos* (ox, cow, cattle) [masculine]. According to Desmarest (1851: 132), the name derived from the Greek *petros* (stone) and *bios* (life). The name was proposed by Johann Karl Megerle von Mühlfeld and made available by Dejean.

*Neopatrobis* Darlington, 1938: 155. Type species: *Feronia longicornis* Say, 1823 by original designation. Synonymy established by Lorenz (1998: 226). Etymology. From the Greek prefix *neo-* (new) and the generic name *Patrobis* [*q.v.*] [masculine].

*Geopatrobis* Darlington, 1938: 157. Type species: *Platysma foveocollis* Eschscholtz, 1823 by original designation. Synonymy established by Bousquet and Laroche (1993: 159). Etymology. From the Greek prefix *geo-* (earth) and the generic name *Patrobis* [*q.v.*] [masculine].

**Diversity.** Sixteen species in the arctic, subarctic, boreal, and temperate areas of the Nearctic (seven species) and Palaearctic (13 species) Regions. Four species are Holarctic.

[**fossifrons group**]

***Patrobis fossifrons* (Eschscholtz, 1823)**

*Platysma fossifrons* Eschscholtz, 1823: 104. Type locality: «Kamtschatka [Russia] et Unalaschka [Alaska]» (original citation), restricted to «Unalaska» by Darlington (1938: 162). Syntype(s) in ZMH (Silfverberg 1987: 16) and probably also in ZMMU (Lindroth 1961a: 181). NOTE. This species was also made available the same year by an illustration in Fischer von Waldheim (1823: plate 19, figure 4).

*Patrobis longiventris* Mannerheim, 1853: 145. Type locality: «in ora orientali insulae Kadjak [Alaska]» (original citation). Lectotype (♀), designated by Lindroth (1961a: 181), in ZMH. Synonymy established by Darlington (1938: 161), confirmed by Lindroth (1961a: 181).

*Patrobis fulvus* Mannerheim, 1853: 145. Type locality: «insula Kadjak [Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1961a: 181), in ZMH. Synonymy established, under the name *P. latiusculus* Chaudoir, by Chaudoir (1872a: 46), confirmed by Lindroth (1961a: 181).

*Patrobis latiusculus* Chaudoir, 1872a: 46. Type locality: «côte orientale de l'île Kadjak près de la côte nord-ouest de l'Amérique [Alaska]; Orégon» (original citation), restricted to «Kodiak Island [Alaska]» by Darlington (1938: 162). Syntype(s) in MHNP. Synonymy established by Darlington (1938: 161).

*Patrobis fossifrons dimorphicus* Darlington, 1938: 161. Type locality: «near Victoria, Vancouver Island, British Columbia» (original citation). Holotype (♂) in MCZ [# 22983]. Synonymy established by Lindroth (1961a: 181).

**Distribution.** This western species ranges from southeastern Alberta to Vancouver Island, north to the Gulf Coast of Alaska, including the Aleutian Islands (Lindroth 1961a: 181), south to Mono County in the Sierra Nevada (CAS) and mountains in southwestern Colorado (Darlington 1938: 162-163). The record from Kamchatka (Eschscholtz 1823: 104) is probably in error since the species is not listed from the Palaearctic Region by Zamotajlov (2003b: 284-285).

**Records.** CAN: AB, BC (VCI) USA: AK, CA, CO, ID, MT, OR, UT, WA, WY

**Note.** Pohl (1998) reported that members of this species can be segregated into a “coastal” and “inland” morphs and that hybridization occurs between the coastal form of *P. fossifrons* and *P. stygicus*.

***Patrobis lecontei* Chaudoir, 1872**

*Patrobis rufipes* LeConte, 1863c: 18 [secondary homonym of *Patrobis rufipes* (Duftschmid, 1812)]. Type locality: «North Red River [in southern Manitoba or on Minnesota-Dakota line]» (original citation). Syntype(s) in MCZ [# 5592].

*Patrobis lecontei* Chaudoir, 1872a: 47. Replacement name for *Patrobis rufipes* LeConte, 1863.

*Patrobis canadensis* Casey, 1924: 67. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♂), designated by Lindroth (1975: 113), in USNM [# 46064]. Synonymy established by Darlington (1938: 159).

*Patrobis lecontei gravidus* Darlington, 1938: 160. Type locality: «Little River, southwest Newfoundland» (original citation). Holotype (♂) in MCZ [# 21782]. Synonymy established by Lindroth (1955a: 82).

**Distribution.** This species is found from Newfoundland (Lindroth 1955a: 83) to the Okanagan River in south-central British Columbia, north to the Peace River in north-eastern British Columbia (Lindroth 1961a: 181), south to eastern South Dakota (Kirk and Balsbaugh 1975: 21), northern Minnesota (Lindroth 1963a: Fig. 61), and the Pontiac region in southwestern Quebec (Lindroth 1961a: 181); isolated in high mountains in Colorado (Darlington 1938: 160).

**Records.** FRA: PM CAN: AB, BC, MB, NB, NF, QC, SK USA: CO, MN, ND, SD

### *Patrobis stygicus* Chaudoir, 1872

*Patrobis stygicus* Chaudoir, 1872a: 46. Type locality: «côte méridionale de Terre-Neuve» (original citation). Holotype [by monotypy] (♂) in MHNP.

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 83) to the Chukchi Sea coast in northwestern Alaska (Lindroth 1961a: 183), south to north-central Washington (Pohl 1998: 690), northern Minnesota (Clearwater and Lake Counties, CNC), the upper peninsula of Michigan (Escanaba, MCZ), and north-central Maine (Laroche and Larivière 1990a: 28; Piscataquis County, CNC). The species is also known from the Far East (Zamotajlov 2003b: 285). Fossil remnants, dated between 10,400 and 15,400 years B.P., have been unearthed in Cape Breton Island in Nova Scotia (Miller 1997: 250) and central Iowa (Schwert 1992: 76); others from a Plio-Pleistocene sequence have been found in northwestern Greenland (Böcher 1995: 23).

**Records.** CAN: AB, BC, LB, MB, NF, NT, ON, QC, SK, YT USA: AK, ME, MI, MN, WA – **Holarctic**

### [foveocollis group]

### *Patrobis foveocollis* (Eschscholtz, 1823)

*Platysma foveocollis* Eschscholtz, 1823: 105. Type locality: «Unalaschka [Aleutian Islands, Alaska]» (original citation). Syntype(s) in ZMH (Silfverberg 1987: 16) and possibly also in ZMMU (Lindroth 1961a: 185). NOTE. This species was also made available the same year by an illustration in Fischer von Waldheim (1823: plate 19, figure 5).

*Pterostichus tenuis* LeConte, 1850: 207. Type locality: Lake Superior (inferred from title of the paper). Syntype(s) in MCZ [# 5590]. Synonymy established by Lindroth (1955a: 85).

*Patrobis angusticollis* Mannerheim, 1853: 146. Type locality: «ad sinum Woskresensk [= Resurrection Bay] peninsulae Kenai [Alaska]» (original citation). Syntype(s) in MHNP (collection Chaudoir, see Chaudoir 1872a: 45). Synonymy established, under the name *P. foveocollis tenuis* (LeConte), by Darlington (1938: 167).

*Patrobis obtusiusculus* Chaudoir, 1872a: 43. Type locality: «Terre de Rupert près de la baie d'Hudson» (original citation). Holotype [by monotypy] (♀) probably in MHNP. Synonymy established with doubt, under the name *Patrobis foveocollis tenuis* (LeConte), by Darlington (1938: 167).

*Patrobis laeviceps* Casey, 1918: 397. Type locality: «W[est] S[ain]t Modest[e], Labrador» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46060]. Synonymy established, under the name *P. foveocollis tenuis* (LeConte), by Darlington (1938: 167), confirmed by Lindroth (1961a: 185).

*Patrobis insularis* Casey, 1918: 397. Type locality: «S[ain]t Paul Island, Alaska» (original citation), which is doubtful (Lindroth 1961a: 24, 185-186). Lectotype (♀), designated by Lindroth (1975: 114), in USNM [# 46059]. Synonymy established, under the name *P. foveocollis tenuis* (LeConte), by Darlington (1938: 167), confirmed by Lindroth (1961a: 185).

**Distribution.** This Holarctic species is found in easternmost Siberia (Zamotajlov 2003b: 285) and on this continent from Alaska, south of the Arctic Circle and including the Aleutian and Kodiak Islands (Lindroth 1961a: 186), to Newfoundland (Lindroth 1955a: 85), south to Mont Katahdin in Maine, the White Mountains in New Hampshire (Darlington 1938: 169), the Adirondack Mountains in northeastern New York (Notman 1928: 221, as *P. septentrionis* var. *tenuis*), the upper peninsula of Michigan along Lake Superior (Hubbard and Schwarz 1878: 629, as *P. tenuis*), northeastern Minnesota (Gandhi et al. 2005: 925), northern Wyoming (Johnson County, CMNH), and northern British Columbia (Lindroth 1961a: 186); isolated in high mountains in Colorado (Darlington 1938: 169; Armin 1963: 191).

**Records.** CAN: AB, BC, LB, MB, NB, NF, NT, ON, QC, SK, YT USA: AK, CO, ME, MI, MN, NH, NY, VT, WY – **Holarctic**

#### [*longicornis* group]

##### *Patrobis longicornis* (Say, 1823)

*Feronia longicornis* Say, 1823a: 40. Type locality: «Arlington [Middlesex County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Darlington (1938: 158), in MCZ [# 22982].

*Patrobis americanus* Dejean, 1828: 34. Type locality: «Amérique septentrionale» (original citation). Syntype(s) probably in MHNP. Synonymy established by Dejean (1828: 34).

**Distribution.** This widely distributed species ranges from Newfoundland (Lindroth 1955a: 82) to at least the Okanagan Valley in British Columbia, north to southern Northwest Territories (Lindroth 1961a: 180), south to southern Arizona (Darlington



1938: 158), the Sacramento Mountains in New Mexico (Fall and Cockerell 1907: 158), northern Oklahoma (Tulsa and Cimarron Counties, CNC), and northeastern Florida (Darlington 1938: 158). The record from “Texas” (Wickham 1896c: 132) needs confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK **USA:** AL, AR, AZ, CO, CT, DC, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY [TX]

### [septentrionis group]

#### *Patrobis cinctus* Motschulsky, 1860

*Patrobis cinctus* Motschulsky, 1860: 91. Type locality: «îles Kourilles» (original citation for the lectotype). Lectotype (♂), designated by Zamotajlov (2003c: 241), in ZMMU.

*Patrobis fuscipennis* Motschulsky, 1860: 91. Type locality: «Kamtschatka [Russia]» (original citation). Lectotype (♀), designated by Zamotajlov (2003c: 241), in ZMMU. Synonymy established by Zamotajlov (2003a: 22).

*Patrobis tritus* Casey, 1920: 186. Type locality: «Marquette [Marquette County], Michigan» (original citation for *P. tenuis* LeConte *sensu* Casey, 1918). Lectotype (♀), designated by Lindroth (1975: 114), in USNM [# 46063]. Synonymy established by Zamotajlov (2003a: 22). **NOTE.** This name was proposed for *Patrobis tenuis* (LeConte, 1850) *sensu* Casey (1918: 396).

**Distribution.** The range of this species remains largely undocumented. It was reported by Zamotajlov (2003c: 242) from eastern Siberia, including the Kurils and Commander Islands, southern Alaska, including the Aleutian Islands, the upper peninsula of Michigan along Lake Superior (Casey 1920: 186, as *P. tritus*), southern Quebec, and “Newfoundland.”

**Records.** **CAN:** NF, QC **USA:** AK, MI – **Holarctic**

#### *Patrobis septentrionis septentrionis* Dejean, 1828

*Patrobis alpinus* Curtis, 1827: plate 192 [*nomen oblitum*, see Zamotajlov (2003c: 240)]. Type locality: «near the summit of Craig-calloch, one of the Dochart Hills [Scotland, United Kingdom]» (original citation). Syntype(s) location unknown (possibly in MVM).

*Patrobis septentrionis* Dejean, 1828 [29 November]: 29 [*nomen protectum*]. Type locality: «Laponie et dans les parties septentrionales de la Suède et de la Finlande» (original citation), restricted to «Lapland» by Darlington (1938: 166). Lectotype (♂), designated by Zamotajlov (2003c: 240), in MHNP. Synonymy established by Dawson (1854: 72).

*Patrobis hyperboreus* Dejean, 1828 [29 November]: 30. Type locality: «Groenland» (original citation). Lectotype (♀), designated by Zamotajlov (2003c: 240), in

MHNP. Synonymy established by Schaum (1858: 377), confirmed by Zamotajlov (2003c: 240).

*Harpalus picicornis* Zetterstedt, 1828 ["31 December"]: 32. Type locality: «Tornensi [Torne Lappmark, Sweden]; Wittangi, Juckasjervi et Karesuando [Sweden]; Norvegia» (original citation). Twenty-one syntypes in ZMLS (Lindroth 1938: 19). Synonymy established by Zetterstedt (1837: 40). NOTE. According to Lindroth (1938: 19), of the 21 syntypes in ZMLS 19 are conspecific with this species and two with *P. atrorufus*.

*Patrobis lapponicus* Chaudoir, 1844: 440. Type locality not stated. Holotype [by monotypy] (♂) probably in MHNP. Synonymy established by Schaum (1861: 202).

*Patrobis lacustris* Motschulsky, 1844: 130. Type locality: «[nearby] fleuve Ichim dans les Steppes des Kirguises [Siberia, Russia]» (original citation). Two syntypes in ZMMU (Keleinikova 1976: 202). Synonymy established, under the name *P. lapponicus* Chaudoir, by Mäklin (1855: 32).

*Patrobis rubripennis* C.G. Thomson, 1857: 26. Type locality: «Lappland; Dovre [Norway]» (original citation). Syntype(s) in ZMLS (Charpentier 1972: 291). Synonymy established by Chaudoir (1872a: 44).

*Patrobis labradorinus* Casey, 1918: 395. Type locality: «W[est] S[ain]t Modest[e], Labrador» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46062]. Synonymy established (as aberration) by Csiki (1928: 341), confirmed by Darlington (1938: 165).

*Patrobis minuens* Casey, 1918: 396. Type locality: «W[est] S[ain]t Modest[e], Labrador» (original citation). Lectotype (♂), designated by Lindroth (1975: 114), in USNM [# 46061]. Synonymy established (as aberration) by Csiki (1928: 341), confirmed by Darlington (1938: 165).

**Distribution.** This circumpolar species ranges from Greenland (Böcher 1988: 8) west to Iceland (Zamotajlov 2003c: 241), south on this continent to northern Maine (Darlington 1938: 166; Dearborn and Donahue 1993: 5), northern New Hampshire (Coos County, Ross T. Bell pers. comm. 2008; Leng and Beutenmüller 1895: 75), northern Michigan (Lindroth 1961a: 184), northern Minnesota (Petrice et al. 2002: 9; Gandhi et al. 2005: 926), and southern Montana (Hatch 1933a: 7); isolated on high mountains in Colorado (Wickham 1902: 235; Zamotajlov 2003c: 241). Three specimens labeled "W[ashington]T[erritory]" are known (MCZ). Some of the records listed here may in fact refer to *P. cinctus*.

**Records.** DEN: GL CAN: AB, BC, LB, MB, NB, NF, NT, ON, QC, SK, YT USA: AK, CO, ME, MI, MN, MT, NH, WA – **Holarctic**

**Note.** According to Zamotajlov and Isaev (2006), this species is represented by four subspecies in the Palaearctic Region: the nominotypical subspecies, *P. septentrionis australis* Sahlberg, *P. septentrionis volgensis* Zamotajlov and Isaev, and *P. septentrionis sajanus* Zamotajlov.

### Genus *PLATYPATROBUS* Darlington, 1938

*Platypatrobus* Darlington, 1938: 146. Type species: *Platypatrobus lacustris* Darlington, 1938 by original designation. Etymology. From the Greek *platys* (broad, wide, flat) and the generic name *Patrobus* [*q.v.*], alluding to the body shape of adults (“form ... rather broad, depressed”) of the *Patrobus*-like species [masculine].

**Diversity.** One species in boreal and northern temperate regions of North America.

**Identification.** Bousquet and Grebennikov (1999) redescribed the species and illustrated the male and female genitalia.

**Taxonomic Note.** With the exception of accessory setae on the pronotum, elytra, and mesosternum, this species is structurally very similar to those of *Patrobus* and possibly simply represents an offspring of *Patrobus*. The larva does not differ significantly from those of *Patrobus* (Bousquet and Grebennikov 1999).

### *Platypatrobus lacustris* Darlington, 1938

*Platypatrobus lacustris* Darlington, 1938: 146. Type locality: «Ba[t]ch[a]w[a]n[a](g) B[ay] [north of Sault Sainte Marie, Ontario], Lake Superior» (original citation). Holotype (♀) in MCZ [# 21781].

**Distribution.** This species ranges from New Brunswick to Great Slave Lake in Northwest Territories, south to the foothills of the Rocky Mountains in southern Alberta, northeastern Minnesota (Gandhi et al. 2005: 926), northeastern Ohio (Ashtabula and Trumbull Counties, Harry J. Lee, Jr. pers. comm. 2008), northeastern Pennsylvania (Pike County, CMNH), and Connecticut (Krinsky and Oliver 2004: 396) [see Bousquet 1987a: map 2].

**Records.** CAN: AB, MB, NB, NT, ON, QC, SK USA: CT, ME, MN, NH, OH, PA, VT

### Subtribe PLATIDIOLINA Zamotajlov and Lafer, 2001

Platidiolina Zamotajlov and Lafer, 2001: 411. Type genus: *Platidiolus* Chaudoir, 1878.

**Diversity.** Five species placed in one genus.

### Genus *PLATIDIOLUS* Chaudoir, 1878

*Platidiolus* Chaudoir, 1878: 77 (as *Piatidiolus*). Type species: *Platidiolus rufus* Chaudoir, 1878 by monotypy. Etymology. From the generic name *Platidius* and the Latin suffix *-olus* (little, small), alluding to the smaller size of adults of the *Platidius*-like species (“*infiniment plus petit que le Platidius depressus*”) [masculine]. NOTE. *Platidiolus* is an incorrect subsequent spelling of *Piatidiolus* in prevailing usage and attributed to the publication of the original spelling; therefore, it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Patroboidea* Van Dyke, 1926a: 67. Type species: *Patroboidea rufa* Van Dyke, 1925 (= *Platidiolus vandykei* Kurnakov, 1960) by monotypy. Synonymy established by Kurnakov (1960: 275). Etymology. From the generic name *Patrobus* [*q.v.*] and the Greek suffix *-oidea* (like, resembling), alluding to the resemblance of the adults to those of some species of *Patrobus* (“it belongs near the genus *Patrobus*, and in general has much the appearance of the flatter members of that genus”) [feminine].

**Diversity.** Five species in Siberia (four species) and western North America (one species).

### ***Platidiolus vandykei* Kurnakov, 1960**

*Patroboidea rufa* Van Dyke, 1926a: 69 [secondary homonym of *Platidiolus rufus* Chaudoir, 1878]. Type locality: «along the Snohomish River near Monroe [Snohomish County], Washington» (original citation). Holotype (♂) in CAS [# 1820].

*Platydiolus van dykei* Kurnakov, 1960: 276. Replacement name for *Platidiolus rufus* (Van Dyke, 1926).

**Distribution.** This rarely collected species is known from Yukon Territory (CNC), northeastern Alaska (Lindroth 1961a: 191), and the Kodiak Island (Dave H. Kavanaugh pers. comm. 2009) south to northwestern Oregon (Westcott et al. 2006: 8) and northwestern Montana (Edwards 1975: 50).

**Records.** CAN: AB, BC, YT USA: AK, MT, OR, WA

## **Subfamily PSYDRINAE LeConte, 1853**

Psydrini LeConte, 1853c: 371, 393. Type genus: *Psydrus* LeConte, 1846.

**Diversity.** This subfamily includes a single tribe.

## **Tribe PSYDRINI LeConte, 1853**

Psydrini LeConte, 1853c: 371, 393. Type genus: *Psydrus* LeConte, 1846.

Nomiidae des Gozis, 1875: 3. Type genus: *Nomius* Laporte, 1835. NOTE. The spelling of the family-group name based on *Nomius* was emended to Nomiidae by the International Commission on Zoological Nomenclature (ICZN 2011) to remove the homonymy with the hymenopteran family-group name Nomiidae Robertson, 1904.

**Diversity.** Six species arrayed in three genera: *Laccocenus* Sloane (two species in southeastern Australia), *Nomius* (three species), and *Psydrus* (one species).

## **Genus NOMIUS Laporte, 1835**

*Nomius* Laporte, 1835: 144. Type species: *Nomius graecus* Laporte, 1835 (= *Morio pygmaeus* Dejean, 1831) by monotypy. Etymology. From the Greek *nomas* (roving), alluding to the presence in Greece of a species which Laporte believed was

closely related to members of the tropical genus *Ozaena* (“*cet insecte est très-voisin des Ozaena et ... la découverte en Europe d’un insecte qui rentre dans un groupe naturel d’insectes jusqu’ici propres aux parties les plus chaudes du globe*”) [masculine].

*Aplochile* LeConte, 1846b: 208. Type species: *Morio pygmaeus* Dejean, 1831 by monotypy. Etymology (original). From the Greek *haplos* (simple) and *cheilos* (lip, by extension labrum) [feminine].

*Haplochile* LeConte, 1850: 204. Unjustified emendation of *Aplochile* LeConte, 1846.

**Diversity.** Three species, two in tropical Africa and one in North America, Mexico, southern Europe, and the Middle East.

**Identification.** The species found in North America was treated in Lindroth’s (1961a: 175) monograph.

### *Nomius pygmaeus* (Dejean, 1831)

*Morio pygmaeus* Dejean, 1831: 512. Type locality: «Amérique septentrionale» (original citation), restricted to «Minaki, n[orth]w[est] of Kenora, Ont[ario]» by Lindroth (1961a: 175). Holotype [by monotypy] in MHNP (Lindroth 1955b: 13).

*Nomius graecus* Laporte, 1835: 145. Type locality: «Grèce» (original citation). Syntype(s) in MHNP (collection Oberthür *via* James Thomson). Synonymy established by Schaum (1857b: lxxviii).

**Distribution.** The range of this species, also known as the “stinking beetle,” extends from southern Quebec, as far north as Mistassini (Laroche 1975: 95), to the Queen Charlotte and Vancouver Islands (Lindroth 1961a: 175), south at least to central California (Sequoia National Park, CAS), southern Arizona (Ober and Maddison 2008: 24; Cochise County, CNC), “Oklahoma” (David R. Maddison pers. comm. 2008), Alabama (LeConte 1846b: 209), northern Georgia (Fattig 1949: 16), and southern South Carolina (Ciegler 2000: 56); one specimen was collected in the highlands of Chiapas in Mexico (Reichardt 1977: 394). In the Old World, this species has been found in southern Europe, Cyprus (Fauvel 1889b: 96), Morocco, and Iran (Talysh) (Hůrka 2003: 346).

**Records.** **CAN:** AB, BC (QCI, VCI), MB, ON, QC, SK **USA:** AL, AR, AZ, CA, CO, DE, GA, ID, IL, IN, ME, MI, MN, MT, NC, NJ, NY, OH, OK, OR, PA, SC, TN, UT, WA, WI, WV – Mexico

### Genus *PSYDRUS* LeConte, 1846

*Psydrus* LeConte, 1846a: 153. Type species: *Psydrus piceus* LeConte, 1846 by monotypy. Etymology. From the Greek *psydros* (lying) [masculine].

*Monillipatrobus* Hatch, 1933c: 118. Type species: *Monillipatrobus punctatus* Hatch, 1933 (= *Psydrus piceus* LeConte, 1846) by original designation. Synonymy established by Hatch (1935: 118). Etymology. From the Latin *monile* (necklace, string of beads, by extension moniliform) and the generic name *Patrobus* [*q.v.*], alluding



to the shape of the antennae (“antenna ... with the segments ... submoniliform”) of adults of the species which Hatch placed in the tribe Patrobini [masculine].

**Diversity.** One North American species.

**Identification.** The species was treated in Lindroth’s (1961a: 175-176) monograph.

### *Psydrus piceus* LeConte, 1846

*Psydrus piceus* LeConte, 1846a: 154. Type locality: «Eagle River [Keweenaw County, Michigan], lacus Superioris» (original citation). One syntype in MCZ [# 5489].

*Monillipatrobus punctatus* Hatch, 1933c: 118. Type locality: «Seattle [King County], Wash[ington]» (original citation). Holotype (♂) in USNM. Synonymy established by Hatch (1935: 118).

**Distribution.** This species is known from scattered localities from the Lac Saint-Jean area in Quebec (Laroche 1975: 99) to Vancouver Island, north to the Skeena River in northwestern British Columbia (Lindroth 1961a: 176), south to the San Gabriel and San Bernardino Mountains in southern California (Noonan 1967: 92), southern Arizona (McCleve 1975: 176), southwestern New Mexico (Grant County, USNM), and the upper peninsula of Michigan along Lake Superior (LeConte 1846a: 154). The record from “Illinois” and “South Dakota” (Bousquet and Laroche 1993: 158) need confirmation.

**Records.** CAN: AB, BC (VCI), MB, ON, QC, SK USA: AZ, CA, CO, ID, MI, MT, NM, NV, OR, WA [IL, SD]

### Subfamily PAUSSINAE Latreille, 1806

Paussili Latreille, 1806: 234. Type genus: *Paussus* Linnaeus, 1775.

**Diversity.** Worldwide, with about 735 species in 47 genera. These genera are placed in five tribes: Metriini (three species), Mystropomini (two species in the genus *Mystropomus*), Ozaenini (about 180 species), Paussini (about 560 species), and Protopaussini (eight species in the genus *Protopaussus* Gestro). The Northern Hemisphere fauna is represented by about 70 species (roughly 9.5% of the world fauna) and North America by only seven species (less than 1% of the world fauna).

### Tribe METRIINI LeConte, 1853

Metrii LeConte, 1853c: 371, 394. Type genus: *Metrius* Eschscholtz, 1829.

**Diversity.** Three species in the genera *Metrius* (two species) and *Sinometrius* Wrase and Schmidt (one Chinese species).

### Genus *METRIUS* Eschscholtz, 1829

*Metrius* Eschscholtz, 1829: 7. Type species: *Metrius contractus* Eschscholtz, 1829 by monotypy. Etymology. From the Greek *metrios* (moderate, modest) [masculine].

**Diversity.** Two species in western North America.

**Identification.** Bousquet and Goulet (1990) commented on the structural differences between the two species and on the three subspecies of *M. contractus*.

***Metrius contractus contractus* Eschscholtz, 1829**

*Metrius contractus* Eschscholtz, 1829: 7. Type locality: «Californien» (original citation), restricted to «San Francisco [San Francisco County]» by Lindroth (1961a: 6). One syntype probably in MHNP (collection Dejean), others possibly in ZMMU.

**Distribution.** This subspecies ranges from southwestern British Columbia (Lindroth 1961a: 8) to San Luis Obispo County in California along the Coast Ranges and, usually at low elevation, to Tulare County in the Sierra Nevada (Bousquet and Goulet 1990: 17, Fig. 6).

**Records.** CAN: BC USA: CA, OR, WA

***Metrius contractus planatus* Van Dyke, 1925**

*Metrius contractus planatus* Van Dyke, 1925: 122. Type locality: «above Fallen Leaf Lake, Lake Tahoe region [Placer County], California» (original citation). Holotype (♂) in CAS [# 1629].

**Distribution.** This subspecies is found in the Sierra Nevada near Lake Tahoe and in Yosemite National Park (Bousquet and Goulet 1990: 17, Fig. 6).

**Records.** USA: CA

***Metrius contractus sericeus* Rivers, 1900**

*Metrius sericeus* Rivers, 1900: 389. Type locality: «slopes of Mount Whitney (7,000 feet) [California]» (original citation). One syntype [2 originally cited] in LACM and ETHZ.

**Distribution.** This subspecies occurs in the southern part of the Sierra Nevada from Kings Canyon and Sequoia National Park to northern Kern County (Bousquet and Goulet 1990: 17, Fig. 6).

**Records.** USA: CA

***Metrius explodens* Bousquet and Goulet, 1990**

*Metrius explodens* Bousquet and Goulet, 1990: 13. Type locality: «39 mi[les] N[orth] E[ast] Lowell (2860'), Idaho Co[unty], Idaho» (original citation). Holotype (♂) in CAS [# 16494].

**Distribution.** This species is known from three localities in Idaho County in north-central Idaho (James C. Bergdahl pers. comm. 2008) and in Ravalli County in western Montana (Moore 2008: 81).

**Records.** USA: ID, MT



**Figure 28.** *Pterostichus punctatissimus* Randall. This species is one of the most attractive *Pterostichus* in North America. The sculpture of the elytra is irregular giving the impression to the naked eye that the striae bear large punctures. For that reason Randall named the species *punctatissimus* meaning the most punctured. Although not as common as *Pterostichus adstrictus*, this species is also a characteristic element of boreal forests in the Nearctic Region.

### Tribe OZAENINI Hope, 1838

Ozaenidae Hope, 1838: 107. Type genus: *Ozaena* Olivier, 1811.

Pseudozaenini Sloane, 1905a: 705. Type genus: *Pseudozaena* Laporte, 1834.

Physeitae Jeannel, 1946: 47. Type genus: *Physeia* Brullé, 1835.

Pachytelini Jeannel, 1946: 47, 48. Type genus: *Pachyteles* Perty, 1830.

Eustrini Jeannel, 1946: 47, 48. Type genus: *Eustra* Schmidt-Göbel, 1846.

**Diversity.** About 180 species arrayed in 21 genera in the Neotropical Region (about 120 species of which five extend into southwestern United States), Asia (about 40 species in five endemic genera, most species in the Oriental Region, a few in New Guinea, Japan, Taiwan, and Nepal), and Afrotropical Region (about 20 species in two endemic genera).

**Identification.** All North American species have been covered in the revision of the ozaenine species of southwestern United States and of selected ones from Mexico by Ball and McCleve (1990). The work includes a key for the identification of ten species.

### Genus *PACHYTELES* Perty, 1830

*Pachyteles* Perty, 1830: 3. Type species: *Pachyteles striola* Perty, 1830 designated by Hope (1838: 99). Etymology. From the Greek *pachys* (thick) and *telos* (end), alluding to the incrassate last antennomere of the adult (“*nomen datum ob antennis versus apicem incrassatas*”) [masculine].

**Diversity.** About 50 species ranging from southwestern North America to Chile and Uruguay.

**Taxonomic Note.** Recent molecular data analyses (Moore 2008) suggest that *Pachyteles s.str.*, *Goniotropis*, and *Tropopsis* Solier (two South American species), which have been treated as subgenera of *Pachyteles* (Ball and McCleve 1990: 90), are not so closely related as suspected from the morphological data. These groups are recognized here as distinct genera.

### *Pachyteles gyllenhalii* (Dejean, 1825)

*Ozaena gyllenhalii* Dejean, 1825: 436. Type locality: «îles de l'Amérique» (original citation), herein restricted to Cayamas, Cuba (see Ball and McCleve 1990: 95). Lectotype [as holotype] (♀), designated by Ball and McCleve (1990: 94), in MHNP. Etymology. The specific name honors Leonhard Gyllenhal [1752-1840], Swedish military officer and entomologist. His main publication, *Insecta Suecica*, for which he was awarded the gold medal of the Swedish Academy of Sciences, took him about 30 years to complete. Gyllenhal left his collection to the Royal Swedish Society of Sciences in Uppsala; it was eventually transferred to the Uppsala University Museum of Zoology.

*Ozaena verticalis* Chaudoir, 1848: 104. Type locality: «Colombie» (original citation). Lectotype (♀), designated by Ball and McCleve (1990: 94), in MHNP. Synonymy established by Ball and McCleve (1990: 94).

*Goniotropis pallida* Chevrolat, 1863: 190. Type locality: «Havana, Cuba» (original citation). Holotype [by monotypy] location unknown (possibly in UMO). Synonymy established by Darlington (1934: 67).

*Pachyteles testaceus* G.H. Horn, 1869b: 129. Type locality: «Fort Grant [= Camp Grant, Pinal County], Arizona» (original citation). Lectotype (♀), designated by Ball and McCleve (1990: 94), in MCZ [# 34891]. Synonymy established by Ball and McCleve (1990: 94).

**Distribution.** This species ranges from southeastern California (San Bernardino County, CMNH) to southern Texas (Cameron County, CMNH), south to Brazil; it is also known from Cuba and from the Tres Marias Islands off the Pacific Coast of Mexico (Ball and McCleve 1990: 95).

**Records. USA:** AZ, CA, TX – Brazil, Colombia, Costa Rica, Cuba, Mexico, Surinam

### Genus *GONIOTROPIS* Gray, 1831

*Goniotropis* Gray, 1831: 273. Type species: *Goniotropis brasiliensis* Gray, 1831 by monotypy. Etymology. From the Greek *gonia* (angle, corner) and *tropis* (keel, ridge), probably alluding to the flange of Coanda of the adult which is keel-like and located on the posterolateral angle of the elytron (Ball and McCleve 1990: 90) [feminine].

*Scythropasus* Chaudoir, 1854: 293. Type species: *Scythropasus elongatus* Chaudoir, 1854 by monotypy. Synonymy established by Bänninger (1927: 207). Etymology (original). From the Greek *scythropazo* (to look sullen) [masculine]. NOTE. Chaudoir (1854: 295-296) originally included four species in this genus-group name but stated that, besides *S. elongatus*, the three other species were placed in the genus for the time being (“*provisoirement*”). This statement is interpreted here as if the three species were conditionally included in the genus and thus are deemed not to be originally included (ICZN 1999: Article 67.2.5).

**Diversity.** About 40 species extending collectively from southwestern United States to Brazil and Paraguay.

### *Goniotropis kuntzeni kuntzeni* Bänninger, 1927

*Goniotropis kuntzeni* Bänninger, 1927: 204. Type locality: «Canelas Durango, Mexico» (original citation). Holotype (♀) in ETHZ.

**Distribution.** This subspecies is known from Arizona and the states of Durango and Sonora in northwestern Mexico (Ball and McCleve 1990: 92).

**Records. USA:** AZ – Mexico

**Note.** *Pachyteles kuntzeni maracayensis* (Deuve) is known from Venezuela.



***Goniotropis parca* (LeConte, 1884)**

*Pacheteles parca* LeConte, 1884: 2. Type locality: «Arizona» (original citation), herein restricted to Molino Basin, Santa Catalina Mountains, Pima County (CNC). Holotype [by monotypy] (♀) in MCZ [# 5487].

*Pachyteles beyeri* Notman, 1919b: 225. Type locality: «San Felipe, Low[er] Cal[ifornia]» (original citation). Holotype [by monotypy] (♂) in SIM (Hennessey 1990: 466). Synonymy established by Ball and McCleve (1990: 91).

**Distribution.** This species is known from southern Arizona, western Durango, northern Sonora, and Baja California (Ball and McCleve 1990: 91).

**Records. USA:** AZ – Mexico

**Genus *PHYSEA* Brullé, 1835**

*Trachelizus* Solier [in Brullé], 1835a: 258 [junior homonym of *Trachelizus* Dejean, 1834]. Type species: *Trachelizus rufus* Brullé, 1835 (= *Ozaena testudinea* Klug, 1834) by monotypy. Etymology. From the Greek verb *trachelizo* (bent back the neck, to lay bare or expose or uncover) [masculine]. NOTE. This name has been credited to Brullé since he was the author of the book. However, the remark made by Brullé (1835a: 258) “Les trachélizes. - *Trachelizus*. Solier. Qui ont été formés tout récemment dans un mémoire manuscrit que M. Solier a confié à M. Audouin afin qu’il fût inséré dans notre travail” leaves little doubt that the name should be credited to Solier.

*Physea* Brullé, 1835a: 473. Replacement name for *Trachelizus* Solier, 1835. Etymology (original). From the Greek *physeo* (to blow, inflate), probably alluding to the bulging elytra (“*les élytres sont renflées*” see page 259) of the adults [feminine].

**Diversity.** Six species in the Neotropical Region, of which one extends into southern United States.

***Physea hirta* LeConte, 1853**

*Physea hirta* LeConte, 1853c: 393. Type locality: «Mexico ... a few miles south of our boundary» (original citation). Lectotype [as holotype] (♂), designated by Ball and McCleve (1990: 87), in MCZ [# 5488]. NOTE. The lectotype is labeled “*Physea hirta* Lec. Tampico Hald.” Whether or not the specimen is really a syntype is open to question. Tampico, located in the southern part of the Tamaulipas state, is not “a few miles south of” the US boundary.

**Distribution.** This species ranges from southeastern Texas (Ball and McCleve 1990: 87) to Guatemala (Bates 1881: 27).

**Records. USA:** TX – Guatemala, Mexico

**Genus *OZAENA* Olivier, 1811**

*Ozaena* Olivier, 1811: 617. Type species: *Ozaena dentipes* Olivier, 1811 by monotypy. Etymology. From the Latin *ozaena* (a fetid polyp in the nose), alluding to the dis-

tasteful odor produced by the liquid expelled from the mouth of the carabid adults when disturbed or from their body in general (“*exprime la puanteur de la liqueur que la plupart des Carabes font sortir de leur bouche lorsqu’on les inquiète, ou celle de leur corps en général*”) [feminine].

*Ictinus* Laporte, 1834: 53. Type species: *Ictinus tenebrioides* Laporte, 1834 (= *Ozaena dentipes* Olivier, 1811) by monotypy. Synonymy established by Laporte (1835: 144). Etymology. Uncertain, possibly from the Greek *ictinos* (kite) or *Ictinos* (the name of the Greek architect who built the Parthenon between 444-439) [masculine].

**Diversity.** Twelve Neotropical species, of which one extends into southwestern United States.

### ***Ozaena lemoulti* Bänninger, 1932**

*Ozaena lemoulti* Bänninger, 1932: 184. Type locality: «Saint Jean du Maroni, Franz[ösisch] Guayana» (original citation). Holotype (♂) in ETHZ. Etymology. The specific name was proposed for Eugène Henri Le Moult [1882-1965], collector of insects in Guyana and later insect dealer in Paris. His father was the director of the penitentiary at Cayenne and Le Moult used convicts to collect *Morpho* in large number. In 1913 he published his first sale catalogue of insects and a pair of the large cerambycid *Titanus giganteus* was offered for 500 francs (Moret 1995: 404).

*Ozaena halfffteri* Ogueta, 1965: 83. Type locality: «Tlapacoyan, Veracruz, México» (original citation). Holotype (♀) location unknown. Synonymy established by Ball and McCleve (1990: 100).

**Distribution.** This species ranges from southern Arizona to northern Argentina, including the Cayman Islands in the West Indies (Ball and Shpeley 1990: 814-815).

**Records.** USA: AZ – Argentina, Belize, Bolivia, Brazil, Costa Rica, Cayman Islands, Colombia, Ecuador, Guatemala, Guyana, Mexico, Paraguay, Panama, Venezuela.

### **Subfamily BRACHININAE Bonelli, 1810**

Brachinii Bonelli, 1810: Tabula Synoptica. Type genus: *Brachinus* Weber, 1801.

**Diversity.** About 650 species arrayed in two tribes: Brachinini (about 535 species) and Crepidogastrini (about 115 species, most from the Afrotropical Region, a few from the Oriental Region). The Northern Hemisphere is represented by about 230 species (roughly 35% of the world fauna) and North America by 48 species (roughly 7.3% of the world fauna).

### **Tribe BRACHININI Bonelli, 1810**

Brachinii Bonelli, 1810: Tabula Synoptica. Type genus: *Brachinus* Weber, 1801.

**Diversity.** About 535 species arrayed in nine genera. The genera are classified in four subtribes following Erwin (1970a: 27-38): Aptinina (about 55 Old World species in

three genera), Brachinina (about 305 species), Mastacina (about 50 Old World species in the genus *Mastax* Fischer von Waldheim), and Pheropsophina Jeannel (about 125 species in the Eastern Hemisphere genus *Pheropsophus* Dejean and the Western Hemisphere genus *Pheropsophidius* Hubenthal).

### **Subtribe BRACHININA Bonelli, 1810**

Brachinii Bonelli, 1810: Tabula Synoptica. Type genus: *Brachinus* Weber, 1801.

**Diversity.** About 305 species arrayed in three genera: *Aptinoderus* Hubenthal (five species in southern Africa), *Brachinus* (about 300 species), and *Brachinulus* Basilewsky (one species on Príncipe Island in the Gulf of Guinea).

### **Genus BRACHINUS Weber, 1801**

*Brachinus* Weber, 1801: 22. Type species: *Carabus crepitans* Linnaeus, 1758 designated by Latreille (1810: 426). Etymology (original). From the Greek *brachyno* (shorten), probably alluding to the short elytra (“*elytra rigida abbreviata truncata*”) of the adult [masculine].

*Brachynus* Agassiz, 1846: 50, 51. Unjustified emendation of *Brachinus* Weber, 1801.

**Distribution.** About 300 species (Lorenz 2005: 17–20) in the Nearctic (50 species), Neotropical (about 50 species, several shared with North America), Australian (one species in New Guinea), Oriental, Palearctic (about 120 species), and Afrotropical Regions. These species are arrayed in nine subgenera: *Brachinus s.str.* (ten species), *Brachynolomus* Reitter (43 species), *Metabrachinus* Jeannel (38 Afrotropical species), *Aploa* Hope (three species), *Brachinoaptinus* Lutshnik (17 species), *Aptinomimus* Alluaud (seven Madagascan species), *Dysbrachinus* Schuler (two species), *Cnecostolus* Reitter (11 species), and *Neobrachinus* (about 85 species), with 89 species not assigned to subgenera.

**Identification.** Erwin (1970a) revised the North and Middle American species. No new species from the region have been described subsequently.

### **Subgenus Neobrachinus Erwin, 1970**

*Neobrachinus* Erwin, 1970a: 47. Type species: *Carabus fumans* Fabricius, 1781 by original designation. Etymology. From the Greek prefix *neo-* (new) and the generic name *Brachinus* [*q.v.*], probably alluding to the fact that all but one of these *Brachinus* species inhabit the New World [masculine].

**Distribution.** Eighty-three species in the temperate, subtropical, and tropical regions of the Western Hemisphere and one species (*B. dryas* Andrewes) in the Himalayas. Forty-eight species inhabit North America.

**Taxonomic Note.** In a cladistic analysis based on adult characters carried out by Erwin (1970a: 170), *Neobrachinus* was positioned as the sister-group to *Cnecostolus* whose members inhabit Eurasia.

**Faunistic Note.** The records of *Brachinus cinctipennis* Chevrolat from Albuquerque in New Mexico and Nogales in Arizona (Schaeffer 1910: 401) are probably in error since the species is recorded only from Mexico, as far north as San Luis Potosí, by Erwin (1970a: 98).

[aabaaba group]

***Brachinus aabaaba* Erwin, 1970**

*Brachinus aabaaba* Erwin, 1970a: 161. Type locality: «Presa de Guadalupe, 53.3 miles west of Ciudad del Maiz, San Luis Potosi, Mexico» (original citation). Holotype (♂) in MCZ [# 34679].

**Distribution.** This species is found from northeastern Kansas south to southeastern New Mexico and San Luis Potosí in Mexico [see Erwin 1970a: Fig. 450].

**Records. USA:** KS, NM, TX – Mexico

[alternans group]

***Brachinus alternans* Dejean, 1825**

*Brachinus alternans* Dejean, 1825: 316. Type locality: «Géorgie» (original citation), herein restricted to Thomasville, Thomas County (see Erwin 1970a: 90). Lectotype (♀), designated by Erwin (1970a: 88), in MHNP.

*Brachinus librator* Dejean, 1831: 425. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy; designated lectotype by Erwin (1970a: 88)] (♂) in MHNP. Synonymy established by Lindroth (1969a: 1099) based on Erwin's (1969c) thesis.

*Brachinus deyrollii* LaFerté-Sénectère, 1841a: 42. Type locality: «Missouri» (lectotype label). Lectotype (♂), designated by Erwin (1970a: 88), in MHNP. Synonymy established by Lindroth (1969a: 1099) based on Erwin's (1969c) thesis. Etymology. The specific name was proposed for the French amateur coleopterist Achille Deyrolle [1818-1865], a dealer of natural history specimens in Paris.

*Brachinus strenuus* LeConte, 1844: 48. Type locality: «Georgia» (original citation). Lectotype (♀), designated by Erwin (1970a: 88), in MCZ [# 5844]. Synonymy established with doubt, under the name *B. deyrollii* LaFerté-Sénectère, by LeConte (1858a: 28), confirmed by Erwin (1970a: 88).

*Brachinus tormentarius* LeConte, 1846b: 200. Type locality: «provinciis occidentalibus» (original citation). Lectotype (♀), designated by Erwin (1970a: 88), in MCZ [# 5845]. Synonymy established by Lindroth (1969a: 1099) based on Erwin's (1969c) thesis.

*Brachinus distinguendus* Chaudoir, 1868b: 287. Type locality: Amérique septentrionale (inferred from title of the paper). Lectotype (♂), designated by Erwin (1970a: 88), in MHNP. Synonymy established by Lindroth (1969a: 1099) based on Erwin's (1969c) thesis.

**Distribution.** This species extends from Connecticut and “Rhode Island” (Sikes 2003: 8) to southern Minnesota and northeastern Nebraska, south to the Rio Grande in

south-central New Mexico and southeastern Texas, and the Florida Keys [see Erwin 1970a: Fig. 201].

**Records. USA:** AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, NE, NJ, NM, NY, OH, OK, PA, RI, SC, TN, TX, VA, WV

***Brachinus rugipennis* Chaudoir, 1868**

*Brachinus rugipennis* Chaudoir, 1868b: 297. Type locality: Amérique septentrionale (inferred from title of the paper), restricted to «Texas» by Erwin (1970a: 91), herein to Elkhart, Anderson County (see Erwin 1970a: 92). Holotype [by monotypy; designated lectotype by Erwin (1970a: 91)] (♀) in MHNP.

**Distribution.** This species ranges from Massachusetts to western Wyoming and western Colorado, south to central New Mexico, southeastern Texas, southeastern Mississippi (George County, Drew A. Hildebrandt pers. comm. 2008), and the Florida Keys [see Erwin 1970a: Fig. 200]. The populations in the northeast are isolated from the remaining ones but this is probably the result of inadequate collecting.

**Records. USA:** AL, AR, CO, FL, GA, KS, MA, MS, NE, NJ, NM, OK, PA, TN, TX, VA, WY

***Brachinus viridipennis* Dejean, 1831**

*Brachinus viridipennis* Dejean, 1831: 426. Type locality: «Amérique septentrionale» (original citation), restricted to «Mobile [Mobile County], Alabama» by Erwin (1970a: 90). Holotype [by monotypy; designated lectotype by Erwin (1970a: 90)] (♀) in MHNP.

*Brachinus viridis* LeConte, 1844: 49. Type locality: «Georgia» (original citation). Lectotype (♂), designated by Erwin (1970a: 90), in MCZ [# 5840]. Synonymy established by Chaudoir (1868b: 289), confirmed by Erwin (1970a: 144).

**Distribution.** This species is found only in the southern parts of the United States from southern South Carolina to southern Florida, west to southern Arkansas and eastern Texas [see Erwin 1970a: Fig. 199]. The record from New Jersey (Smith 1910: 212) needs confirmation.

**Records. USA:** AL, AR, FL, GA, SC, TX [NJ]

**[americanus group]**

***Brachinus alexiguus* Erwin, 1970**

*Brachinus alexiguus* Erwin, 1970a: 57. Type locality: «College Station [Brazos County], Texas» (original citation). Holotype (♂) in MCZ [# 34684].

**Distribution.** This species is known from east-central Texas, Latimer County in Oklahoma [see Erwin 1970a: Fig. 89], and from southwestern Mississippi (Adams County, Drew A. Hildebrandt pers. comm. 2008).

**Records. USA:** MS, OK, TX



***Brachinus americanus* (LeConte, 1844)**

*Aptinus americanus* LeConte, 1844: 48. Type locality: «Georgia» (original citation). Lectotype (♀), designated by Erwin (1970a: 55), in MCZ [# 5839].

**Distribution.** This species ranges from western New York to southeastern Minnesota, south to southeastern Texas, east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009), and northern Florida [see Erwin 1970a: Fig. 88].

**Records. USA:** AL, AR, FL, GA, IA, IL, IN, KS, KY, LA, MI, MN, MO, MS, NC, NY, OH, OK, PA, TN, TX, WI, WV

***Brachinus capnicus* Erwin, 1970**

*Brachinus capnicus* Erwin, 1970a: 60. Type locality: «Smokemont [Swain County], Great Smoky Mountains National Park, North Carolina» (original citation). Holotype (♀) in CUIC [# 4566].

**Distribution.** This species is known only from the holotype.

**Records. USA:** NC

***Brachinus microamericanus* Erwin, 1969**

*Brachinus microamericanus* Erwin, 1969b: 287. Type locality: «Dundee [Tunica County], Mississippi» (original citation). Holotype (♂) in UMAA.

**Distribution.** This species is known only from a few specimens collected in eastern Michigan, Missouri, northwestern Louisiana (Bossier Parish, Igor M. Sokolov pers. comm. 2009), and northwestern Mississippi [see Erwin 1970a: Fig. 90].

**Records. USA:** LA, MI, MO, MS

**[cordicollis group]*****Brachinus cordicollis* Dejean, 1826**

*Brachinus cordicollis* Dejean, 1826: 466. Type locality: «Amérique septentrionale» (original citation), restricted to «Fairfax Co[unty], V[irgini]a» by Lindroth (1969a: 1105). Lectotype (♂), designated by Erwin (1970a: 144), in MHNP.

*Brachinus velox* LeConte, 1846b: 206. Type locality: «NovEboraci [= New York]» (original citation). Lectotype (♂), designated by Erwin (1970a: 144), in MCZ [# 5850]. Synonymy established by LeConte (1863a: 524), confirmed by Erwin (1970a: 144).

*Brachinus leptocerus* Chaudoir, 1868b: 296. Type locality: Amérique septentrionale (inferred from title of the paper), restricted to «New York» by Lindroth (1969a: 1105). Lectotype (♀), designated by Erwin (1970a: 144), in MHNP. Synonymy established with doubt, under the name *B. velox* LeConte, by Chaudoir (1868b: 296), confirmed by Erwin (1970a: 144).

*Brachynus gracilis* Blatchley, 1910: 160. Type locality: «Marshall County [Indiana]» (original citation). Lectotype (♂), designated by Blatchley (1930: 33), in PURC. Synonymy established by Lindroth (1969a: 1105) based on Erwin's (1969c) thesis.

**Distribution.** The range of this species extends from New Brunswick to east-central South Dakota (Kirk and Balsbaugh 1975: 40), south to northwestern Arkansas, northwestern Tennessee (Cheatham County, CMNH), and Virginia. The species is also known from a number of localities in the southern part of the Rocky Mountains, in Colorado and New Mexico [see Erwin 1970a: Fig. 391]. The records from Georgia (J.E. LeConte 1849: 25; Fattig 1949: 42), southwestern Alabama (Löding 1945: 23), and “Utah” (Horn 1872c: 384; Erwin 1970a: 147) need confirmation.

**Records.** CAN: NB, ON, QC USA: AR, CO, CT, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NE, NH, NJ, NM, NY, OH, PA, RI, SD, TN, VA, VT, WI, WV [AL, GA, UT]

### *Brachinus cyanochroaticus* Erwin, 1969

*Brachinus cyanochroaticus* Erwin, 1969a: 283. Type locality: «Eleven miles west of York, Benson County, North Dakota» (original citation). Holotype (♂) in MCZ [# 34687].

**Distribution.** This species ranges from southwestern New Brunswick (Webster and Bousquet 2008: 23) to south-central British Columbia, south to southwestern Idaho, central Colorado, Missouri, and New Jersey along the Atlantic Coast [see Erwin 1970a: Fig. 392].

**Records.** CAN: BC, MB, NB, ON, QC, SK USA: CO, CT, IA, ID, IL, IN, KS, MA, ME, MI, MN, MO, MT, ND, NE, NH, NJ, NY, OH, PA, SD, VT, WI, WY

### *Brachinus fulminatus* Erwin, 1969

*Brachinus fulminatus* Erwin, 1969b: 288. Type locality: «Wayland, Middlesex County, Massachusetts» (original citation). Holotype (♂) in MCZ [# 34690].

**Distribution.** This species is known from western New York and southern New Hampshire (Hillsborough, Rockingham, and Strafford Counties, Ross T. Bell pers. comm. 2008) south to North Carolina, from several localities in southern Indiana [see Erwin 1970a: Fig. 414], and from Waukesha County in southeastern Wisconsin (Messer 2010: 34).

**Records.** USA: CT, DE, IN, MA, MD, NC, NH, NJ, NY, PA, RI, VA, WI

### *Brachinus ichabodopsis* Erwin, 1970

*Brachinus ichabodopsis* Erwin, 1970a: 150. Type locality: «Saint John's River, Hard-  
kinsville, Florida» (original citation). Holotype (♂) in MCZ [# 33509]. NOTE. I have not been able to find a place with the name “Hardkinsville,” or alphabetically close to, in Florida. I have seen the holotype label and the locality is clearly written “Hardkinsville.”

**Distribution.** This species is known only from the original two specimens, one collected at the type locality and the other at an unspecified locality in Florida (Erwin 1970a: 150).

**Records. USA:** FL

***Brachinus janthinipennis* (Dejean, 1831)**

*Aptinus janthinipennis* Dejean, 1831: 412. Type locality: «Amérique septentrionale» (original citation), restricted to «New York» by Lindroth (1969a: 1106), herein to Ithaca, Tompkins County (see Erwin 1970a: 158). Holotype [by monotypy; designated lectotype by Erwin (1970a: 156)] (♀) in MHNP.

*Brachinus pumilio* LeConte, 1846b: 208. Type locality: «NovEboraci, ad lacum Onondaga [Onondaga County, New York]» (original citation). Lectotype (♂), designated by Erwin (1970a: 156), in MCZ [# 5841]. Synonymy established by Lindroth (1969a: 1106) based on Erwin's (1969c) thesis.

**Distribution.** The range of this species extends from Maine (Larochelle and Larivière 1990a: 33) and southern Quebec to western South Dakota, south to central Texas and central Georgia (Butts County, CMNH; Horn and Ulyshen 2009: 121) [see Erwin 1970a: Fig. 417].

**Records. CAN:** ON, QC **USA:** CO, CT, GA, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, MS, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SD, TX, VA, VT, WI

***Brachinus mobilis* Erwin, 1970**

*Brachinus mobilis* Erwin, 1970a: 159. Type locality: «Mobile [Mobile County], Alabama» (original citation). Holotype (♂) in CUIC [# 4568].

**Distribution.** This species is known only from the original five specimens collected at the type locality in southwestern Alabama.

**Records. USA:** AL

***Brachinus oxygonus* Chaudoir, 1843**

*Brachinus oxygonus* Chaudoir, 1843b: 714. Type locality: «Amérique septentrionale» (original citation), restricted to «Highlands County, Florida» by Erwin (1970a: 151). Lectotype (♂), designated by Erwin (1970a: 151), in MHNP.

*Brachinus stenomus* Chaudoir, 1868b: 291. Type locality: Amérique septentrionale (inferred from title of the paper), restricted to «Highlands County, Florida» by Erwin (1970a: 151). Holotype [by monotypy; designated lectotype by Erwin (1970a: 151)] (♂) in MHNP. Synonymy established by Erwin (1970a: 151).

**Distribution.** This species ranges from North Carolina to the Florida Keys, west to southern Alabama [see Erwin 1970a: Fig. 416]; also known from one locality in central Missouri (Erwin 1970a: 153).

**Records. USA:** AL, FL, GA, MO, NC, SC

***Brachinus sublaevis* Chaudoir, 1868**

*Brachinus sublaevis* Chaudoir, 1868b: 293. Type locality: Amérique septentrionale (inferred from title of the paper), restricted to «Florida» by Erwin (1970a: 149), herein to Brooksville, Hernando County (see Erwin 1970a: 150). Holotype [by monotypy; designated lectotype by Erwin (1970a: 149)] (♀) in MHNP.

*Brachynus pulchellus* Blatchley, 1910: 161. Type locality: «Posey County [Indiana]» (original citation for the lectotype). Lectotype (♀), designated by Blatchley (1930: 33), in PURC. Synonymy established by Erwin (1970a: 149).

**Distribution.** This species is known from southeastern Michigan southeastwards to southern Florida, including the Keys, and southwestwards to east-central and southwestern Texas [see Erwin 1970a: Fig. 393]. The records from southeastern South Dakota (Kirk and Balsbaugh 1975: 39) and southwestern Ohio (Wright and Whitehouse 1941: 70, as *B. pulchellus*) need confirmation.

**Records. USA:** AL, AR, FL, GA, IN, KY, LA, MI, MO, MS, OK, SC, TN, TX, VA [OH, SD]

***Brachinus vulcanoides* Erwin, 1969**

*Brachinus vulcanoides* Erwin, 1969b: 287. Type locality: «Baychester [Bronx County], New York» (original citation). Holotype (♂) in MCZ [# 34688].

**Distribution.** This species is known from a small area along the Atlantic Coast from New Hampshire to New Jersey [see Erwin 1970a: Fig. 415]. One specimen labeled from Crescent City, Florida is probably mislabeled (Erwin 1970a: 155).

**Records. USA:** CT, MA, NH, NJ, NY, RI

**[costipennis group]*****Brachinus costipennis* Motschulsky, 1859**

*Brachynus costipennis* Motschulsky, 1859a: 138. Type locality: «Californie» (original citation), herein restricted to Dry Creek, 9.0 miles northwest of Healdsburg, Sonoma County (see Erwin 1970a: 88). Lectotype (♀), designated by Erwin (1970a: 85), in MCZ [# 8329].

*Brachynus carinulatus* Motschulsky, 1859a: 139. Type locality: Californie (inferred from title of the paper). Lectotype (♂), designated by Erwin (1970a: 85), in ZMMU. Synonymy established by Erwin (1965: 4).

*Brachynus cognatus* Chaudoir, 1876a: 74. Type locality: «Orizaba [Veracruz, Mexico]» (lectotype label). Lectotype (♀), designated by Erwin (1970a: 85), in MHNP. Synonymy established by Erwin (1970a: 85).

*Brachinus cognatus* var. *cancellatus* Bates, 1891a: 269. Type locality: «Chihuahua City, Mexico» (lectotype label). Lectotype (♂), designated by Erwin (1970a: 85), in BMNH. Synonymy established by Erwin (1970a: 85).

**Distribution.** This species ranges from northern California to eastern Utah, south to Guatemala (Erwin 1973b: 82) and northern Baja California [see Erwin 1970a: Fig. 197]. Specimens labeled from “Arkansas” and “Kansas” are known but could be mislabeled (Erwin 1970a: 87).

**Records. USA:** AZ, CA, NM, TX, UT – Guatemala, Mexico

[**explosus group**]

***Brachinus explosus* Erwin, 1970**

*Brachinus explosus* Erwin, 1970: 161. Type locality: «Tamazunchale, San Luis Potosi, Mexico» (original citation). Holotype (♀) in MCZ [34689].

**Distribution.** This species is known from the type locality and “Arizona” (Erwin 2011b: 285).

**Records. USA:** AZ – Mexico

[**fumans group**]

***Brachinus azureipennis* Chaudoir, 1876**

*Brachynus azureipennis* Chaudoir, 1876a: 75. Type locality: «Matamoros, Etat de Puebla [Mexico]» (original citation). Lectotype (♂), designated by Erwin (1970a: 115), in MHNP.

**Distribution.** This species ranges from southeastern Arizona south to Guerrero, Mexico [see Erwin 1970a: Fig. 276].

**Records. USA:** AZ – Mexico

***Brachinus cibolensis* Erwin, 1970**

*Brachinus cibolensis* Erwin, 1970a: 98. Type locality: «Southwest Research Station (5,400 feet), five miles west of Portal, Cochise County, Arizona» (original citation). Holotype (♂) in AMNH [# 1232].

**Distribution.** This species ranges from northern Arizona and central New Mexico south to Durango City, Mexico [see Erwin 1970a: Fig. 219].

**Records. USA:** AZ, NM – Mexico

***Brachinus conformis* Dejean, 1831**

*Brachinus conformis* Dejean, 1831: 427. Type locality: «Amérique septentrionale» (original citation), restricted to «Florida» by Erwin (1970a: 119), herein to Highlands Hammock State Park, Highlands County (see Erwin 1970a: 121). Lectotype (♂), designated by Erwin (1970a: 119), in MHNP.

**Distribution.** This species is confined to northern and central Florida [see Erwin 1970a: Fig. 302].

**Records. USA:** FL



***Brachinus cyanipennis* Say, 1823**

*Brachinus cyanipennis* Say, 1823b: 143. Type locality: «Ames [Story County], Iowa» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 350), in MCZ [# 32998]. NOTE. «Near Engineer Cantonment [winter quarter along the west bank of the Missouri River north of modern Omaha, Nebraska], Missouri [Territory]» was the area originally cited by Say (1823b: 144).

*Brachinus cephalotes* Dejean, 1825: 317. Type locality: «Amérique septentrionale» (original citation). Lectotype (♂), designated by Erwin (1970a: 127), in MHNP. Synonymy established by Chaudoir (1868b: 297), confirmed by Erwin (1970a: 127).

*Brachinus rejectus* LeConte, 1863a: 525. Type locality: «middle and western states; Kansas» (original citation), restricted to «Kansas» by Lindroth (1969a: 1103). Lectotype (♀), designated by Erwin (1970a: 127), in MCZ [# 5843]. Synonymy established by Chaudoir (1868b: 297), confirmed by Erwin (1970a: 127).

**Distribution.** This species ranges from Cumberland County in Nova Scotia (Majka and Gilhen 2008: 1) to southern Manitoba, south to eastern Texas, northwestern Louisiana (Natchitoches Parish, Igor M. Sokolov pers. comm. 2009), southern Alabama, northwestern South Carolina (Ciegler 2000: 35), and Virginia along the east coast [see Erwin 1970a: Fig. 330]. The species is also recorded from an unspecified locality in New Mexico (Erwin 1970a: 128). The records from “Georgia” (J.E. LeConte 1849: 25, as *B. cephalotes*) and Enterprise in Florida (Castle and Laurent 1896: 303) need confirmation.

**Records.** CAN: MB, NB, NS, ON, QC USA: AL, AR, CT, DC, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI [FL, GA, NM]

***Brachinus favicollis* Erwin, 1965**

*Brachinus favicollis* Erwin, 1965: 11. Type locality: «Jamul, San Diego County, California» (original citation). Holotype (♂) in CAS [# 9132].

**Distribution.** The range of this species extends from eastern Arizona to the Pacific Coast in southern California and Baja California Norte [see Erwin 1970a: Fig. 365].

**Records.** USA: AZ, CA – Mexico

***Brachinus fumans* (Fabricius, 1781)**

*Carabus fumans* Fabricius, 1781: 307. Type locality: «America» (original citation), restricted to «Springfield [Hampden County], Mass[achusetts]» by Lindroth (1969a: 1105). Lectotype (♂), designated by Lindroth (1969a: 1105), in ZMUC.

*Brachinus cyanopterus* LeConte, 1844: 49. Type locality: «New York» (original citation). Lectotype (♀), designated by Erwin (1970a: 134), in MCZ [# 5847]. Synonymy established by LeConte (1846b: 203), confirmed by Erwin (1970a: 134).

*Brachinus sufflans* LeConte, 1846b: 204. Type locality: «NovEboraci [= New York]» (original citation). Lectotype (♀), designated by Erwin (1970a: 134), in MCZ

[# 5648]. Synonymy established by Chaudoir (1868b: 292), confirmed by Erwin (1970a: 134).

*Brachinus affinis* LeConte, 1846b: 204. Type locality: «Indiana ad flumen Ohio» (original citation). Lectotype (♂), designated by Erwin (1970a: 134), in MCZ [# 31881]. Synonymy established with doubt by Chaudoir (1868b: 292), confirmed by Erwin (1970a: 134).

*Brachinus amplipennis* Bates, 1891a: 268. Type locality: «Paso del Norte, Chihuahua [Mexico]» (lectotype label). Lectotype (♀), designated by Erwin (1970a: 136), in BMNH. Synonymy established by Lindroth (1969a: 1105) based on Erwin's (1969c) thesis.

*Brachinus tabasconus* Bates, 1891a: 268. Type locality: «San Juan Bautista, Tabasco [Mexico]» (lectotype label). Lectotype (♂), designated by Erwin (1970a: 136), in BMNH. Synonymy established by Lindroth (1969a: 1105) based on Erwin's (1969c) thesis.

*Brachinus atbarae* Stehr, 1950: 102. Type locality: «Atbara, B[ritish] C[olumbia]» (original citation). Holotype (♂) in OSUO. Synonymy established by Lindroth (1969a: 1105) based on Erwin's (1969c) thesis.

**Distribution.** This widely distributed species ranges from southwestern New Brunswick (Webster and Bousquet 2008: 23) to south-central British Columbia, south to southwestern California, the state of Tabasco in Mexico, and central Florida [see Erwin 1970a: Fig. 369].

**Records.** **CAN:** AB, BC, MB, NB, ON, QC **USA:** AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY – Mexico

### *Brachinus gebhardis* Erwin, 1965

*Brachinus gebhardis* Erwin, 1965: 6. Type locality: «Uvas Creek, 5 miles west of Morgan Hill, Santa Clara County, California» (original citation). Holotype (♂) in CAS [# 9047].

**Distribution.** This species ranges from northern California to southern Baja California Sur and southeastern Arizona [see Erwin 1970a: Fig. 332].

**Records.** **USA:** AZ, CA – Mexico

### *Brachinus imperialensis* Erwin, 1965

*Brachinus imperialensis* Erwin, 1965: 17. Type locality: «Potholes, Imperial County, California» (original citation). Holotype (♂) in CAS [# 9133].

**Distribution.** The range of this species extends from the Pacific Coast in southern California to northeastern Texas, north to northeastern Colorado, south to San Luis Potosí in central Mexico [see Erwin 1970a: Fig. 364].

**Records. USA:** AZ, CA, CO, NM, NV, TX – Mexico

***Brachinus imporcitis* Erwin, 1970**

*Brachinus imporcitis* Erwin, 1970a: 114. Type locality: «Pinal Creek, Globe, Gila County, Arizona» (original citation). Holotype (♂) in CUIC [# 4567].

**Distribution.** This species is known only from Arizona [see Erwin 1970a: Fig. 278].

**Records. USA:** AZ

***Brachinus javalinopsis* Erwin, 1970**

*Brachinus javalinopsis* Erwin, 1970a: 109. Type locality: «Willcox, Cochise County, Arizona» (original citation). Holotype (♂) in AMNH [# 1233].

**Distribution.** This species ranges from western Arizona to the Texas Panhandle and southeastern Texas [see Erwin 1970a: Fig. 254]; also known from northwestern Mississippi (Coahoma County, Drew A. Hildebrandt pers. comm. 2008).

**Records. USA:** AZ, MS, NM, TX

***Brachinus kavanaughii* Erwin, 1969**

*Brachinus kavanaughii* Erwin, 1969b: 287. Type locality: «along Coal Creek, Superior, Boulder County, Colorado» (original citation). Holotype (♂) in CAS [# 10361].

**Distribution.** This species is found west of the Appalachian Mountains from western New York to eastern Wyoming, including southwestern Wisconsin (Messer 2010: 34) and est-central Minnesota (Gandhi et al. 2011: 673), south to northeastern Mexico [see Erwin 1970a: Fig. 253].

**Records. USA:** CO, IL, KS, MN, MO, NE, NY, OH, OK, SD, TX, WI, WY – Mexico

***Brachinus medius* Harris, 1828**

*Brachinus medius* T.W. Harris, 1828b: 117. Type locality not stated; «Boston [Suffolk County], Massachusetts» selected by Erwin (1970a: 129). Lectotype (♂), designated by Erwin (1970a: 129), in MCZ [# 26411].

*Brachinus minutus* T.W. Harris, 1828b: 117. Type locality not stated; «Boston [Suffolk County], Massachusetts» selected by Erwin (1970a: 129). Lectotype (♂), designated by Erwin (1970a: 129), in MCZ [# 26412]. Synonymy established by Lindroth (1969a: 1104) based on Erwin's (1969c) thesis.

**Distribution.** This species ranges from the Atlantic Coast in New England to south-central British Columbia, south to southern California, northeastern Mexico, and central Florida [see Erwin 1970a: Fig. 331].

**Records.** CAN: BC, ON, QC USA: AL, AR, CA, CO, CT, DC, FL, GA, IA, ID, IL, IN, KS, LA, MA, ME, MI, MN, MO, MS, MT, ND, NE, NH, NJ, NY, OH, OK, OR, PA, RI, SC, SD, TX, UT, VT, WA, WI – Mexico

***Brachinus mexicanus* Dejean, 1831**

*Brachinus mexicanus* Dejean, 1831: 428. Type locality: «Mexique» (original citation), restricted to «Baja California» by Erwin (1970a: 104), herein to Cataviña (see Erwin 1970a: 106). Lectotype (♂), designated by Erwin (1970a: 104), in MHNP.

*Brachinus convexus* Chaudoir, 1837a: 7. Type locality: «Mexique» (original citation). Lectotype (♀), designated by Erwin (1970a: 104), in MHNP. Synonymy established by Chaudoir (1876a: 73), confirmed by Erwin (1970a: 104).

*Brachynus le contei* Motschulsky, 1859a: 139 [primary homonym of *Brachinus lecontei* LeConte, 1844]. Type locality: California (inferred from title of the paper). Two syntypes in ZMMU (Erwin 1965: 10). Synonymy established by Lindroth (1969a: 1099) based on Erwin's (1969c) thesis.

*Brachinus fidelis* LeConte, 1863a: 524. Type locality: «Kern [Kern County, California]» (lectotype label). Lectotype (♀), designated by Erwin (1970a: 104), in MCZ [# 5852]. Synonymy established, under the name *B. lecontei* Motschulsky, by Erwin (1965: 9). NOTE. LeConte (1863a: 524) reported this species from “New Mexico, Arizona and Lower California” suggesting that the specimen selected as lectotype may not be a syntype.

**Distribution.** This species occurs from eastern Washington to northern Illinois, south to Guatemala and the southern part of the Baja California Peninsula [see Erwin 1970a: Fig. 252].

**Records.** USA: AR, AZ, CA, IL, NM, NV, OR, SD, TX, UT, WA – Guatemala, Mexico

***Brachinus neglectus* LeConte, 1844**

*Brachinus neglectus* LeConte, 1844: 49. Type locality: «Georgia» (original citation), herein restricted to Thomasville, Thomas County (see Erwin 1970a: 111). Lectotype (♂), designated by Erwin (1970a: 110), in MCZ [# 31775].

**Distribution.** This species is restricted to the Coastal Plain where it ranges from North Carolina to central Florida, west to “Mississippi” (Drew A. Hildebrandt pers. comm. 2007) [see Erwin 1970a: Fig. 255].

**Records.** USA: AL, FL, GA, MS, NC, SC

***Brachinus ovipennis* LeConte, 1863**

*Brachinus ovipennis* LeConte, 1863a: 525. Type locality: «middle and southern states» (original citation), herein restricted to Conneaut Lake, Crawford County, Pennsylvania (see Erwin 1970a: 122). Lectotype (♂), designated by Erwin (1970a: 121),

in MCZ [# 31774]. NOTE. Erwin (1970a: 121) restricted the type locality to «Vermont» but that state is not part of LeConte's concept of the middle states. The lectotype bears a pink label indicating middle states.

**Distribution.** This species ranges from southeastern Maine (Majka et al. 2011: 47) and southern Quebec to southwestern South Dakota, south to northern Texas, “Mississippi” (Drew A. Hildebrandt pers. comm. 2007) and, east of the Appalachian Mountains, to Long Island, New York [see Erwin 1970a: Fig. 303].

**Records.** CAN: ON, QC USA: CT, IA, IL, IN, KS, MA, ME, MI, MN, MO, MS, NY, OH, OK, PA, RI, SD, TX, VT, WI

### *Brachinus patruelis* LeConte, 1844

*Brachinus patruelis* LeConte, 1844: 50. Type locality: «New York» (original citation), herein restricted to Southold, Suffolk County (see Erwin 1970a: 119). Lectotype (♀), designated by Erwin (1970a: 117), in MCZ [# 5842].

**Distribution.** This species ranges from southwestern Maine (Majka et al. 2011: 48) to Wisconsin (Messer 2010: 34), including northeastern Ohio (Ashtabula County, Foster F. Purrington pers. comm. 2009), south to Maryland (Kent County, CMNH) [see Erwin 1970a: Fig. 301]. The records from “Georgia” (J.E. LeConte 1849: 25) and Missouri (Summers 1873: 133) are likely in error.

**Records.** USA: CT, IL, MA, MD, ME, MI, NH, NJ, NY, OH, RI, WI

### *Brachinus perplexus* Dejean, 1831

*Brachinus perplexus* Dejean, 1831: 426. Type locality: «Amérique septentrionale» (original citation), restricted to «Florida» by Erwin (1970a: 141), herein to Royal Palm State Park, Dade County (see Erwin 1970a: 142). Lectotype (♂), designated by Erwin (1970a: 141), in MHNP.

*Brachinus le contei* LeConte, 1844: 49. Type locality: «Georgia» (original citation). One possible syntype, with an orange label (= southern states), in MCZ (collection LeConte under the name *B. perplexus*). Synonymy established by LeConte (1863a: 524).

**Distribution.** This species ranges from southeastern Virginia (Norfolk, Robert L. Davidson pers. comm. 2012) to eastern Oklahoma, south to southeastern Texas and southwestern Florida [see Erwin 1970a: Fig. 366]. The records from New York (LeConte 1846b: 203), New Jersey (Smith 1910: 212), southeastern Iowa (King 1914: 322; Hendrickson 1930: 94), and Missouri (Summers 1873: 133) need confirmation.

**Records.** USA: AL, AR, FL, GA, LA, MS, NC, OK, SC, TN, TX, VA [IA, MO, NJ, NY]

### *Brachinus phaeocerus* Chaudoir, 1868

*Brachinus phaeocerus* Chaudoir, 1868b: 300. Type locality: «Texas» (original citation, see page 299), herein restricted to Big Bend National Park, Brewster



County (see Erwin 1970a: 114). Lectotype (♂), designated by Erwin (1970a: 111), in MHNP.

**Distribution.** This species is restricted to the Great Plains and ranges from north-eastern Iowa (Black Hawk County, Doug A. Veal pers. comm. 2009) to north-central Colorado, south to Chihuahua in northern Mexico and southeastern Texas [see Erwin 1970a: Fig. 279]. The specimens collected near Ithaca, New York (Erwin 1970a: 114), are possibly strays or mislabeled.

**Records. USA:** AZ, CO, IA, KS, NE, NM, OK, TX [NY] – Mexico

***Brachinus puberulus* Chaudoir, 1868**

*Brachinus puberulus* Chaudoir, 1868b: 294. Type locality: «Texas» (original citation), herein restricted to Brownsville, Cameron County (see Erwin 1970a: 140). Lectotype (♂), designated by Erwin (1970a: 140), in MHNP.

**Distribution.** This species is known from a few specimens collected in the Gulf Plain in eastern Texas [see Erwin 1970a: Fig. 368].

**Records. USA:** TX

***Brachinus quadripennis* Dejean, 1825**

*Brachinus quadripennis* Dejean, 1825: 316. Type locality: «Amérique septentrionale» (original citation), restricted to «Florida» by Lindroth (1969a: 1101), herein to Gainesville, Alachua County (see Erwin 1970a: 103). Lectotype (♀), designated by Erwin (1970a: 99), in MHNP.

*Brachinus stygicornis* Say, 1830b: (1) [3]. Type locality: «South Bend [Cass County], Neb[raska]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 350), in MCZ [# 32997]. Synonymy established by Lindroth and Freitag (1969: 350). NOTE. «Engineer Cantonment [= winter quarter along the west bank of the Missouri River north of modern Omaha, Nebraska] near Council Bluff, Missouri [Territory]» was the area originally cited by Say (1830b: (1) [3]).

*Brachinus tschernikhii* Mannerheim, 1843: 184. Type locality: «California» (original citation). Syntype(s) probably lost (Erwin 1965: 13). Synonymy established by Lindroth (1969a: 1102) based on Erwin's (1969c) thesis. Etymology. The specific name was proposed for Egor [Georgii] Leont'evich Tschernikh [Chernykh] [*ca.* 1813-1843], agriculturist at Fort Ross and also a successful beetle collector in Alaska and California. Tschernikh was in charge of one of the ranch, the Tschernikh Ranch, located five miles north of Bodega Bay (near present-day Freestone). Along with Vosnesensky, naturalist and curator at the Zoological Museum of the Academy of Natural Sciences in Saint Petersburg, he was the first to climb Mount Saint Helena in Napa County in June 1841.

**Distribution.** The range of this species extends from Massachusetts to south-central British Columbia, south to southern California along the Pacific Coast, north-central

Utah, central Kansas, southeastern Texas, southern Mississippi (George and Wilkinson Counties, Drew A. Hildebrandt pers. comm. 2008), and southern Florida [see Erwin 1970a: Fig. 251]. At least one specimen simply labeled from Arizona is known (Erwin 1970a: 101); the record from southwestern New Mexico (Fall and Cockerell 1907: 160, as *B. tschernikhii*) needs confirmation.

**Records.** **CAN:** AB, BC, MB, ON, SK **USA:** AL, AR, CA, FL, GA, IA, ID, IL, IN, KS, LA, MA, MI, MN, MO, MS, MT, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SC, SD, TN, TX, UT, WA, WI [AZ, NM]

### ***Brachinus tenuicollis* LeConte, 1844**

*Brachinus tenuicollis* LeConte, 1844: 49. Type locality: North America (inferred from title of the paper), restricted to «New York» by Erwin (1970a: 123), herein to Oswego, Oswego County (see Erwin 1970a: 125). Syntype location unknown. NOTE. LeConte (1846b: 199) subsequently stated that he had but a single specimen of this species. The specimen selected as lectotype by Erwin (1970a: 123) is probably not the syntype (see “Note” under *B. similis*).

*Brachinus ballistarius* LeConte, 1846b: 199. Type locality: «NovEboraci [= New York]» (original citation). Holotype [by monotypy; designated lectotype by Erwin (1970a: 123)] (♂) in MCZ [# 5846]. Synonymy established by Lindroth (1969a: 1103) based on Erwin’s (1969c) thesis.

*Brachinus similis* LeConte, 1846b: 199. Type locality: «NovEboraci [= New York]» (original citation). Lectotype (♀), designated by Erwin (1970a: 123), in MCZ [# 5849]. Synonymy established by Lindroth (1969a: 1103) based on Erwin’s (1969c) thesis. NOTE. Erwin (1970a: 123) selected the same specimen as lectotype for both *B. tenuicollis* LeConte and *B. similis* LeConte. Based on the labels attached to the specimen, the lectotype is likely a syntype of *B. similis* and consequently not of *B. tenuicollis*.

**Distribution.** This species ranges from southern Quebec to southeastern Wyoming (Lavigne 1977: 44), south to southwestern Texas and northern Florida [see Erwin 1970a: Fig. 329].

**Records.** **CAN:** ON, QC **USA:** AR, CO, CT, DC, DE, FL, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NE, NH, NJ, NM, NY, OH, OK, SC, TN, TX, VT, WI, WY

### ***Brachinus velutinus* Erwin, 1965**

*Brachinus velutinus* Erwin, 1965: 17. Type locality: «Davis, Yolo County, California» (original citation). Holotype (♂) in UCD.

**Distribution.** This species is known so far only from the Central Valley in California between the Sierra Nevada and the Coast Ranges [see Erwin 1970a: Fig. 367].

**Records.** **USA:** CA

**[hirsutus group]*****Brachinus hirsutus* Bates, 1884**

*Brachinus hirsutus* Bates, 1884: 295. Type locality: «Pinos Altos in Chihuahua, Mexico» (original citation). Lectotype (♂), designated by Erwin (1970a: 93), in BMNH.

**Distribution.** This species ranges from southern Utah to the Rio Grande in southwestern Texas, south to the Mexican High Plateau in Jalisco [see Erwin 1970a: Fig. 220].

**Records. USA:** AZ, NM, TX, UT – Mexico

***Brachinus pallidus* Erwin, 1965**

*Brachinus pallidus* Erwin, 1965: 8. Type locality: «Mad River, 5 miles east of Mad River Post Office, Trinity County, California» (original citation). Holotype (♂) in CAS [# 9134].

**Distribution.** This species ranges from northeastern Washington to southern California [see Erwin 1970a: Fig. 218].

**Records. USA:** CA, OR, WA

**[kansanus group]*****Brachinus kansanus* LeConte, 1863**

*Brachinus kansanus* LeConte, 1863a: 524. Type locality: «Kansas» (original citation). Lectotype (♂), designated by Erwin (1970a: 83), in MCZ [# 5851].

**Distribution.** This species is mainly restricted to the Great Plains and ranges from southwestern Ohio to western Kansas south to southern Oklahoma and western Arkansas [see Erwin 1970a: Fig. 198].

**Records. USA:** AR, IA, IL, KS, MN, MO, NE, OH, OK

**[lateralis group]*****Brachinus adustipennis* Erwin, 1969**

*Brachinus adustipennis* Erwin, 1969b: 287. Type locality: «Myakka River, Myakka River State Park, Sarasota County, Florida» (original citation). Holotype (♂) in MCZ [# 34683].

**Distribution.** This widely distributed species ranges from southeastern New York to southern Nebraska (Franklin County, Foster F. Purrington pers. comm. 2010), north to southwestern Wisconsin (Messer 2010: 34) and Michigan, south to Panama, southern Florida, and Cuba, west to the coast of the Gulf of California [see Erwin 1970a: Fig. 166].

**Records. USA:** AL, AR, FL, GA, IA, IL, IN, KS, KY, LA, MA, MI, MO, MS, NE, NM, NY, OK, SC, TN, TX, VA, WI – Costa Rica, Cuba, Mexico, Panama

***Brachinus aeger* Chaudoir, 1876**

*Brachynus aeger* Chaudoir, 1876: 82. Type locality: «Nouvelle-Grenade» (original citation). Lectotype (♀), designated by Erwin (1970: 77), in MHNP.

**Distribution.** This species ranges from southern Sonora in Mexico to Colombia [see Erwin 1970: Fig. 168]. It was also recorded from “Texas” (Erwin 2011b: 277).

**Records. USA:** TX – Belize, Colombia, Costa Rica, Guatemala, Guyana, Honduras, Mexico, Panama, Venezuela

***Brachinus lateralis* Dejean, 1831**

*Brachinus lateralis* Dejean, 1831: 424. Type locality: «Amérique septentrionale» (original citation), restricted to «Imperial County, California» by Erwin (1970a: 73). Lectotype (♂), designated by Erwin (1970a: 73), in MHNP.

*Brachinus leucoloma* Chaudoir, 1868b: 301. Type locality: «Rio-Gila, en Californie» (original citation). Holotype [by monotypy; designated lectotype by Erwin (1970a: 73)] (♂) in MHNP. Synonymy established by Erwin (1965: 7).

**Distribution.** This species extends from northern Arizona, southern Nevada, and southern California south to the southern part of the Baja California Peninsula and Chiapas in Mexico [see Erwin 1970a: Fig. 169]; also recorded from Nicaragua (Erwin 2011b: 292). The record from Cuba (Jacquelin du Val 1857: 12) must be in error.

**Records. USA:** AZ, CA, NV – Mexico, Nicaragua

[**texanus group**]

***Brachinus elongatulus* Chaudoir, 1876**

*Brachynus elongatulus* Chaudoir, 1876a: 75. Type locality: «Mexique (Terres froides, Mexico, Orizaba, Guanajuato)» (original citation), restricted to «Orizaba [Veracruz]» by Erwin (1970a: 65). Lectotype (♀), designated by Erwin (1970a: 65), in MHNP.

*Brachynus elongatulus* var. *brevior* Chaudoir, 1876a: 75. Type locality: «Etat d’Oaxaca, Mexique» (original citation). Lectotype (♀), designated by Erwin (1970a: 65), in MHNP. Synonymy established by Erwin (1970a: 65).

**Distribution.** This species extends along the Pacific Coast from central Oregon to the southern extremity of the Baja California Peninsula, and from western Arizona to southwestern Oklahoma (Kondratieff et al. 2005: 171), south to Oaxaca, Mexico [see Erwin 1970a: Fig. 109].

**Records. USA:** AZ, CA, NM, OK, OR, TX – Mexico

***Brachinus geniculatus* Dejean, 1831**

*Brachinus geniculatus* Dejean, 1831: 428. Type locality: «environs de Carthagène [Colombia]» (original citation). Syntype(s) probably in MHNP.

*Brachinus ventralis* Mannerheim, 1837: 40. Type locality: «Columbia ad Maracay» (original citation). Syntype(s) location unknown. Synonymy established by Chaudoir (1876a: 78).

*Brachynus rhytiderus* Chaudoir, 1876a: 76. Type locality: «Mexique» (original citation), restricted to «San Luis Potosi» by Erwin (1970a: 63). Lectotype (♂), designated by Erwin (1970a: 63), in MHNP. Synonymy established by Erwin (1973b: 79).

**Distribution.** This species ranges from east-central Texas south at least to northern Colombia (Dejean 1831: 428) [see Erwin 1970a: Fig. 110].

**Records. USA:** TX – Belize, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama.

### ***Brachinus texanus* Chaudoir, 1868**

*Brachinus texanus* Chaudoir, 1868b: 299. Type locality: «Texas» (original citation), herein restricted to Wolfe City, Hunt County (see Erwin 1970a: 63). Lectotype (♂), designated by Erwin (1970a: 60), in MHNP.

**Distribution.** This species ranges from Massachusetts to “Minnesota,” south to the Rio Grande River in southern Texas and west-central Florida [see Erwin 1970a: Fig. 108]. The species is quite common west of the Mississippi Basin and south of latitude 40°, but known only from a few isolated localities outside this area. The record from southeastern Alberta (Erwin 1970a: 62) is possibly based on a mislabeled specimen or a stray; that from Riverside County, California (Dajoz 2007: 19) is probably in error.

**Records. USA:** AL, AR, FL, KS, LA, MA, MI, MN, MO, MS, ND, NE, NY, OK, TN, TX, VA, WI [AB]

### **Subfamily HARPALINAE Bonelli, 1810**

Harpalii Bonelli, 1810: Tabula Synoptica. Type genus: *Harpalus* Latreille, 1802. NOTE. The oldest available name for this taxon is Graphipterinae Latreille, 1802. I agree with Bouchard et al. (2011: 122) that the name Harpalinae should be maintained.

**Diversity.** Worldwide, with about 19,600 species arrayed here in two supertribes for convenience: Pterostichitae and Harpalitae.

### **Supertribe PTEROSTICHITAE Bonelli, 1810**

Pterostichii Bonelli, 1810: Tabula Synoptica. Type genus: *Pterostichus* Bonelli, 1810.

**Diversity.** Worldwide, with about 6,400 species arrayed in the following 24 tribes: Abacetini (about 810 species), Amorphomerini (two species in the genus *Amorphomerus* Sloane), Bascanini (ten species in the genus *Bascanus* Péringuey), Brachygnathini (seven species in the genus *Brachygnathus* Perty), Chaetodactylini (about 20 species in the genus *Chaetodactyla* Tschitschérine), Chaetogenyini (five species), Chlaeniini (about 980 species), Cnemalobini (about 30 species), Cratocerini (four species),



Cuneipectini (two species in the genus *Cuneipectus* Sloane), Dercylini (35 species in the genus *Dercylus* Laporte), Drimostomatini [= Caelostomini] (about 290 species), Glyptini (nine species), Idiomorphini (ten species), Melanchitonini (about 70 species), Metiini (about 75 species), Microcheilini (two species in the genus *Microcheila* Brullé), Morionini (about 85 species), Oodini (about 300 species), Orthogoniini (about 120 species), Panagaeini (about 270 species), Peleciini (about 75 species), Pterostichini (about 2,500 species), and Zabrinini (about 700 species).

### Tribe MORIONINI Brullé, 1835

Morioniens Brullé, 1835b: 36. Type genus: *Morion* Latreille, 1810. NOTE. The stem of *Morion* is *Morion-* (Madge 1989 : 465).

**Diversity.** About 85 species (Lorenz 2005: 247-248) in the Nearctic (two species, none endemic), Neotropical (11 species), Australian (16 species), Oriental (11 species), Palearctic (six species), and Afrotropical (40 species) Regions. These species are arrayed in nine genera: *Buderes* Murray (one Afrotropical species), *Hyperectenus* Alluaud (two Afrotropical species), *Hyperion* Laporte (one Australian species), *Megamorio* Chaudoir (six Afrotropical species), *Morion* (about 40 species), *Morionidius* Chaudoir (five Asian species), *Moriosomus* Motschulsky (two Neotropical species), *Platynodes* Westwood (one Afrotropical species), and *Stereostoma* Kirby (28 Afrotropical species).

### Genus MORION Latreille, 1810

*Morion* Latreille, 1810: 159. Type species: *Harpalus monilicornis* Latreille, 1805 by monotypy. Etymology. Uncertain, possibly from the Greek *morion* (piece, part, portion, section) or from the Latin *morio*, *-onis* (fool, simpleton); morio or morion was also the name of a gem in Pliny the Elder [masculine]. NOTE. *Morio* is an incorrect subsequent spelling not in prevailing usage, introduced by Lamarck (1817: 510) and accepted by Latreille (1818b: 385) himself as the proper Latin name for the French name Morion.

**Diversity.** About 40 species (Lorenz 2005: 247) in temperate, subtropical, and tropical areas of the Nearctic (two species), Neotropical (9 species), Australian (15 species), Oriental (eight species), Palearctic (four species), and Afrotropical (three species) Regions.

**Identification.** Allen (1969) reviewed the Western Hemisphere species.

### *Morion aridus* Allen, 1969

*Morion aridus* Allen, 1969: 146. Type locality: «Organ Pipe Cactus National Monument, Pima [Graham County], Arizona» (original citation). Holotype (♂) in MCZ [# 31609].

**Distribution.** This species is known from southern Arizona, the Baja California Peninsula (Allen 1969: 146), and the state of Sonora (CAS).

**Records. USA:** AZ – Mexico

***Morion monilicornis* (Latreille, 1805)**

*Harpalus monilicornis* Latreille, 1805: 206. Type locality: «Americae insulis» (original citation), which is likely incorrect; Savannah, Chatham County, Georgia (see Palisot de Beauvois 1811: 107, as *Scarites georgiae*) herein selected. Syntype(s) location unknown (possibly in MHNP).

*Scarites georgiae* Palisot de Beauvois, 1811: 107. Type locality: «Savan[n]ah [Chatham County], Géorgie» (original citation). Syntype(s) probably lost. Synonymy established by Dejean (1825: 430).

**Distribution.** This species ranges from east-central South Dakota to central New York, south to southern Florida and southeastern Texas (Allen 1969: 147). The record from Cuba (Jacquelin du Val 1857: 18) needs confirmation.

**Records. USA:** AL, AR, FL, GA, IA, IL, KY, LA, MD, MO, MS, NC, NY, OH, OK, SC, SD, TX, VA

**Tribe ABACETINI Chaudoir, 1873**

Abacétides Chaudoir, 1873a: 5. Type genus: *Abacetus* Dejean, 1828.

Celioschesini Jeannel, 1948a: 381, 442. Type genus: *Celioschesis* Tschitschérine, 1898 (= *Aristopus* LaFerté-Sénectère, 1853). NOTE. The stem of *Celioschesis* is *Celioschese-* (Madge 1989 : 461).

Loxandrina Erwin and Sims, 1984: 383. Type genus: *Loxandrus* LeConte, 1853.

**Diversity.** Worldwide, with approximately 810 species in about 45 genera. The tribe is underrepresented in the Northern Hemisphere with around 75 species (less than 10% of the world fauna). Only five species, all in the genus *Abacetus*, are known from Europe and northern Africa. The Western Hemisphere is represented by about 235 species (29% of the world fauna) in the genera *Adrimus* Bates (22 Neotropical species), *Loxandrus* (about 190 species), *Metoncidus* Bates (one Neotropical species), *Oxycrepis* Reiche (four Neotropical species), and *Stolonis* (19 species). All these genera belong to the loxandrine complex.

**Taxonomic Note.** Members of this tribe are often included in the tribe Pterostichini.

**Genus LOXANDRUS LeConte, 1853**

*Megalostylus* Chaudoir, 1842: 855 [junior homonym of *Megalostylus* Schönherr, 1840].

Type species: *Feronia recta* Say, 1823 designated by Casey (1918: 325). Etymology (original). From the Greek *megale* (large) and *stylos* (pillar, by extension base), alluding to the robust first antennomere (“*antennes ... 1er article plus gros que tous les autres ... fort long*”) of the adult [masculine]. NOTE. Casey’s designation was intended for *Loxandrus* LeConte but since *Loxandrus* is a replacement name for *Megalostylus* Chaudoir, both have the same type species and the type fixation for either applies also to the other (ICZN 1999: Article 67.8).

*Loxandrus* LeConte, 1853a: 250. Replacement name for *Megalostylus* Chaudoir, 1842.

Etymology. From the Greek *loxos* (slanting, by extension oblique) and *andros*

(male), alluding to the obliquely truncate male protarsomeres 1-3 (“*antici maris articulis ... valde obliquis*”) of the species [masculine].

**Diversity.** About 210 species in the Nearctic (44 species), Neotropical (about 150 species), and Australian (about 20 species) Regions.

**Identification.** Allen (1972) revised the North American species though he left out more than 20 species because their type series were not located or included only females. These species were studied by Bousquet (2006a) leading to several new synonymies.

[**agilis group**]

***Loxandrus accelerans* Casey, 1918**

*Loxandrus accelerans* Casey, 1918: 386. Type locality: «Galveston [Galveston County], Texas» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47338].

**Distribution.** This species is known only from the type locality in southeastern Texas.

**Records. USA:** TX

***Loxandrus agilis* (Dejean, 1828)**

*Feronia agilis* Dejean, 1828: 244. Type locality: «Amérique septentrionale» (original citation), herein restricted to Archbold Biological Station, Highlands County, Florida (CNC). Lectotype (♂), designated by Allen (1972: 91), in MHNP.

*Loxandrus calathinus* LeConte, 1878b: 376. Type locality: «Tampa [Hillsborough County], Florida» (original citation). Lectotype (♀), designated by Bousquet (2006a: 146), in MCZ [# 5693]. Synonymy established by Bousquet (2006a: 146).

*Loxandrus flavilimbus* Blatchley, 1918: 418. Type locality: «Dunedin [Pinellas County, Florida]» (original citation). Lectotype (♀), designated by Blatchley (1930: 43), in PURC. Synonymy established by Allen (1972: 92).

*Loxandrus cursitans* Casey, 1918: 387. Type locality: «Dunedin [Pinellas County], Florida» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47348]. Synonymy established by Bousquet (2006a: 148).

**Distribution.** This species has been recorded from southeastern South Carolina (Ciegler 2003: [2]), northern Georgia (J.E. LeConte 1849: 26; Fattig 1949: 28), all over Florida except the Keys (Peck and Thomas 1998: 19), southwestern Alabama (Löding 1945: 17), Mississippi (Snodgrass and Cross 1983: 18), one locality (probably Mittie in Cherokee County) in eastern Texas (see Allen 1972: 94), and the Bahamas (Peck and Thomas 1998: 19). The record from “Arkansas” (Wickham 1896b: 43) needs confirmation; those from the District of Columbia (Ulke 1902: 7) and southwestern Ohio (Wright and Whitehouse 1941: 70) are probably in error.

**Records. USA:** AL, FL, GA, MS, SC, TX [AR] – Bahamas

***Loxandrus algidus* Allen, 1972**

*Loxandrus algidus* Allen, 1972: 108. Type locality: «Maryland» (original citation). Holotype (♂) in UMSP.

**Distribution.** This species is known from a few specimens collected in Maryland (Allen 1972: 110; CNC), eastern Alabama, and southeastern Oklahoma (Bousquet 2006a: 151-152).

**Records. USA:** AL, MD, OK

***Loxandrus cervicalis* Casey, 1918**

*Loxandrus cervicalis* Casey, 1918 [12 November]: 385. Type locality: «Sarasota [Sarasota County], Florida» (original citation). Lectotype (♂), designated by Allen (1977: 286), in USNM [# 47340].

*Loxandrus mundus* Casey, 1918 [12 November]: 385. Type locality: «LaBelle [Hendry County], Florida» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47341]. Synonymy established, under the name *L. brunneus* Blatchley, by Casey (1924: 79).

*Loxandrus suturalis* Casey, 1918 [12 November]: 384. Type locality: «Dunedin [Pinellas County], Florida» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47339]. Synonymy established by Bousquet (2006a: 151).

*Loxandrus brunneus* Blatchley, 1918 [31 December]: 417 [primary homonym of *Loxandrus brunneus* Sloane, 1903]. Type locality: «shore of Lake Okeechobee, four miles southeast of Moore Haven [Glades County, Florida]» (original citation for the lectotype). Lectotype (♂), designated by Blatchley (1930: 43), in PURC. Synonymy established by Allen (1972: 98).

*Loxandrus blatchleyi* Csiki, 1930: 569. Replacement name for *Loxandrus brunneus* Blatchley, 1918.

**Distribution.** This species is known from several localities in northern and central Florida and one locality in central Arkansas [see Allen 1972: Fig. 176]. The records from South Carolina (Kirk 1969: 11) and Georgia (Fattig 1949: 28, also as *L. mundus*) need confirmation.

**Records. USA:** AR, FL [GA, SC]

***Loxandrus extendus* Allen, 1972**

*Loxandrus extendus* Allen, 1972: 82. Type locality: «Arkansas» (original citation). Holotype (♂) in MCZ [# 31941].

**Distribution.** This species is known from Dubois and Vigo Counties in western Indiana, from an unspecified locality in Arkansas (Allen 1972: 84), and from Noxubee County in eastern Mississippi (CMNH).

**Records. USA:** AR, IN, MS

***Loxandrus floridanus* LeConte, 1878**

*Loxandrus floridanus* LeConte, 1878b: 376. Type locality: «[Fort] Capron and Enterprise [Florida]» (original citation). Seven syntypes in MCZ [# 5694].

*Loxandrus comptus* Casey, 1918: 387. Type locality: «Dunedin [Pinellas County], Florida» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47349]. Synonymy established by Bousquet (2006a: 147).

*Loxandrus scitus* Casey, 1918: 388. Type locality: «Dunedin [Pinellas County], Florida» (original citation). Lectotype (♂), designated by Allen (1977: 286), in USNM [# 47351]. Synonymy established by Allen (1972: 89).

*Loxandrus contumax* Casey, 1918: 388. Type locality: «Indian River [Brevard County], Florida» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47352]. Synonymy established by Bousquet (2006a: 147).

*Loxandrus brevisculus* Casey, 1924: 80. Type locality: «Dunedin [Pinellas County], Florida» (original citation). Holotype [by monotypy] (♀) in USNM [# 47350]. Synonymy established by Bousquet (2006a: 146).

**Distribution.** This species is known from the Bahamas and along the Coastal Plain from southern Florida west to eastern Texas, north to northeastern Louisiana [see Allen 1972: Fig. 171]. The record from southern Georgia (Fattig 1949: 27, as *L. comptus*) needs confirmation.

**Records. USA:** AL, FL, LA, MS, TX [GA] – Bahamas

***Loxandrus icarus* Will and Liebherr, 1998**

*Loxandrus icarus* Will and Liebherr, 1998: 234. Type locality: «Eliz. Furnace Cpgd., G[eorge] Washington N[ational] F[orest], Shenandoah Co[unty], V[irgini]a» (original citation). Holotype (♂) in CUIC [# 7038].

**Distribution.** This species is known only from the original 13 specimens collected at the type locality.

**Records. USA:** VA

***Loxandrus parallelus* Casey, 1918**

*Loxandrus parallelus* Casey, 1918: 386. Type locality: «Monroe [probably in Ouachita Parish], Louisiana» (original citation). Holotype [by monotypy] (♂) in USNM [# 47342].

**Distribution.** This species is known from northeastern Arkansas south to southeastern Louisiana, east to eastern Mississippi (Noxubee County, CMNH) and west to east-central Texas [see Allen 1972: Fig. 170]; also recorded from South Carolina (Kirk 1969: 11; Ciegler 2000: 59). One specimen simply labeled from Kentucky is known (Allen 1972: 98)

**Records. USA:** AR, LA, MS, SC, TX [KY]



***Loxandrus parvulus* Chaudoir, 1868**

*Loxandrus parvulus* Chaudoir, 1868b: 342. Type locality: «Caroline» (original citation). Holotype [by monotypy] (♀) in MHNP (Bousquet 2006a: 149).

*Loxandrus aduncus* Allen, 1972: 96. Type locality: «Winter Park [Orange County], Florida» (original citation). Holotype (♂) in MCZ [# 31955]. Synonymy established by Bousquet (2006a: 149).

**Distribution.** This species is known from a few localities in central Florida and southern Alabama [see Allen 1972: Fig. 174, as *L. aduncus*]. It probably occurs also farther north as implied by the type locality given by Chaudoir (1868b: 342).

**Records. USA:** AL, FL

***Loxandrus piceolus* Chaudoir, 1868**

*Loxandrus piceolus* Chaudoir, 1868b: 343. Type locality: «Texas» (original citation). Holotype [by monotypy] (♀) in MHNP (Bousquet 2006a: 149).

**Distribution.** This species is known only from the holotype (Bousquet 2006a: 149).

**Records. USA:** TX

***Loxandrus piciventris* (LeConte, 1846)**

*Argutor piciventris* LeConte, 1846b: 337. Type locality: «Georgia» (original citation). Lectotype (♀), designated by Bousquet (2006a: 150), in MCZ [# 5698].

**Distribution.** This species is known only from the type series.

**Records. USA:** GA

***Loxandrus pusillus* LeConte, 1853**

*Loxandrus pusillus* LeConte, 1853a: 252. Type locality: «Georgia» (original citation), herein restricted to Little Satilla River at junction with US 301, Pierce County (see Allen 1972: 136). Holotype [by monotypy] (♀) in MCZ [# 5699].

*Loxandrus minutus* Allen, 1972: 134. Type locality: «Myakka River State Park, Sarasota Co[unty], Florida» (original citation). Holotype (♂) in MCZ [# 31952]. Synonymy established by Bousquet (2006a: 151).

**Distribution.** This species is known from southeastern Georgia to central Florida including the Panhandle (Peck and Thomas 1998: 19) [see Allen 1972: Fig. 175, as *L. minutus*].

**Records. USA:** FL, GA

***Loxandrus rossi* Allen, 1972**

*Loxandrus rossi* Allen, 1972: 106. Type locality: «Paragould, Greene County, Arkansas» (original citation). Holotype (♂) in MSUE.

**Distribution.** This species is known from a few localities in central Georgia, northern Florida (Peck and Thomas 1998: 19), northeastern Alabama (Allen 1972: 108), and northeastern Arkansas [see Allen 1972: Fig. 174].

**Records. USA:** AL, AR, FL, GA

***Loxandrus saccisecundaris* Allen, 1972**

*Loxandrus saccisecundaris* Allen, 1972: 78. Type locality: «Georgia» (original citation). Holotype (♂) in MCZ [# 31949].

**Distribution.** This species is known only from the holotype collected in Georgia from an unspecified locality.

**Records. USA:** GA

***Loxandrus spinilunatus* Allen, 1972**

*Loxandrus spinilunatus* Allen, 1972: 100. Type locality: «Arkansas» (original citation). Holotype (♂) in MCZ [# 31942].

**Distribution.** This species is known from two unspecified localities in Arkansas and Louisiana (Allen 1972: 102).

**Records. USA:** AR, LA

***Loxandrus taeniatus* LeConte, 1853**

*Loxandrus taeniatus* LeConte, 1853a: 252. Type locality: «Louisiana» (original citation), herein restricted to Lake Chicot State Park, Evangeline Parish (see Allen 1972: 87). Holotype [by monotypy] (♂) in MCZ [# 5697].

**Distribution.** This species is known along the Coastal Plain from North Carolina and South Carolina, west to southern Louisiana and eastern Arkansas [see Allen 1972: Fig. 175]. Specimens simply labeled from Georgia are known (Allen 1972: 87). The records from Missouri (Summers 1873: 134), central Kansas (Knaus 1885: 58), and southeastern Texas (Casey 1918: 384) need confirmation.

**Records. USA:** AL, AR, LA, MS, NC, SC [GA, KS, MO, TX]

***Loxandrus unilobus* Allen, 1972**

*Loxandrus unilobus* Allen, 1972: 76. Type locality: «Carlisle, Lonoke Co[unty], Arkansas» (original citation). Holotype (♂) in MCZ [# 31945].

**Distribution.** This species is found along the Coastal Plain from northeastern Florida to central Louisiana and east-central Arkansas [see Allen 1972: Fig. 172]. At least one specimen simply labeled from Texas is known (Allen 1972: 78).

**Records. USA:** AR, FL, LA [TX]

***Loxandrus velox* (Dejean, 1828)**

*Feronia velox* Dejean, 1828: 245. Type locality: «Amérique septentrionale» (original citation). Lectotype (♂), designated by Allen (1972: 158), in MHNP.

**Distribution.** This species is known for sure only from the four original specimens. The records from “Pennsylvania” (LeConte 1853a: 252), South Carolina (Kirk 1969: 11), Georgia (J.E. LeConte 1849: 26; Leng 1910: 73; Fattig 1949: 28), and southwestern Alabama (Löding 1945: 17) need confirmation.

**Records.** [AL, GA, PA, SC]

**Note.** Dejean’s name was listed as synonym of *L. rectus* (Say) by LeConte (1846b: 338) but later considered a valid species (e.g., LeConte 1853a: 252; LeConte 1878b: 376).

**[celer group]*****Loxandrus celer* (Dejean, 1828)**

*Feronia celeris* Dejean, 1828: 246. Type locality: «Amérique septentrionale» (original citation), herein restricted to Saint Simons Island, Glynn County, Georgia (see Allen 1972: 45). Lectotype (♂), designated by Allen (1972: 44), in MHNP.

*Loxandrus rapidus* Chaudoir, 1868b: 344. Type locality: «Louisiane» (original citation). Lectotype (♂), designated by Allen (1972: 44), in MHNP. Synonymy established by Allen (1972: 44).

*Loxandrus parvicollis* Casey, 1918: 389. Type locality: «Galveston [Galveston County], Texas» (original citation). Holotype [by monotypy] (♀) in USNM [# 47343]. Synonymy established by Bousquet (2006a: 149).

*Loxandrus concinnus* Casey, 1918: 391. Type locality: «Dunedin [Pinellas County], Florida» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47353]. Synonymy established by Bousquet (2006a: 147).

**Distribution.** This species ranges from Virginia (Virginia Beach County, VMNH) to southern Florida, west to southeastern Texas (Casey 1918: 389, as *L. parvicollis*) and central Oklahoma (Grady County, Robert L. Davidson pers. comm. 2012), south to Chiapas in southern Mexico; also known from the Bahamas, Cuba, Cayman Islands, and Puerto Rico (Peck 2005: 31, as *L. celeris*) [see Allen 1972: Fig. 147]. The records from “Pennsylvania” (LeConte 1853a: 252) and southwestern Ohio (Wright and Whitehouse 1941: 70) need confirmation.

**Records. USA:** AL, FL, GA, LA, MS, OK, SC, TX, VA [OH, PA] – Bahamas, Cayman Islands, Cuba, Mexico, Puerto Rico

**[crenatus group]*****Loxandrus crenatus* LeConte, 1853**

*Loxandrus crenatus* LeConte, 1853a: 253. Type locality: «Georgia» (original citation), herein restricted to Brawbridge, Decatur County (see Allen 1972: 112). Holotype [by monotypy] (♂) in MCZ [# 5701].

*Loxandrus crenulatus* Chaudoir, 1868b: 343. Type locality: «Texas» (original citation). Lectotype (♀), designated by Bousquet (2006a: 148), in MHNP. Synonymy established by Bousquet (2006a: 148).

**Distribution.** This species inhabits the Coastal Plain from southeastern Virginia (Norfolk, Robert L. Davidson pers. comm. 2008) to central Florida, west to southeastern Texas (Brazoria County, Brian Raber pers. comm. 2010) [see Allen 1972: Fig. 162], including western Arkansas (Polk and Garland Counties, Robert L. Davidson pers. comm. 2012); also recorded from Cuba (Darlington 1934: 91).

**Records. USA:** AL, AR, FL, GA, LA, MS, NC, SC, TX, VA – Cuba

### *Loxandrus proximus* Chaudoir, 1868

*Loxandrus proximus* Chaudoir, 1868b: 344. Type locality: «je crois qu'il est originaire du Texas» (original citation). Holotype [by monotypy] (♀) in MHNP.

**Distribution.** This species is at present known only from the holotype which Chaudoir (1868b: 344) believed had been collected in Texas.

**Records. USA:** TX

### [erraticus group]

### *Loxandrus brevicollis* (LeConte, 1846)

*Argutor brevicollis* LeConte, 1846b: 338. Type locality: «provinciis australibus, et NovEboraci [= New York]» (original citation), restricted to «Enterprise [Volusia County], Florida» by Allen (1972: 142). Three syntypes in MCZ [# 5695].

*Loxandrus fulgens* Casey, 1918: 388. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47344]. Synonymy established by Bousquet (2006a: 148).

**Distribution.** This species is found from southeastern Pennsylvania to Iowa (Wickham 1888: 82; King 1914: 323; Jaques and Redlinger 1946: 297), south to southern Louisiana and central Florida including the Panhandle (Peck and Thomas 1998: 19) [see Allen 1972: Fig. 160]. Old specimens simply labeled from Massachusetts and Oklahoma are known (Allen 1972: 144).

**Records. USA:** AL, AR, DC, DE, FL, GA, IA, IL, IN, LA, MO, MS, NC, PA, SC, TN, VA [MA, OK]

### *Loxandrus cincinnati* Casey, 1924

*Loxandrus cincinnati* Casey, 1924: 80. Type locality: «Cincinnati [Hamilton County], Ohio» (original citation). Lectotype (♂), designated by Allen (1977: 286), in USNM [# 47355].

*Loxandrus cincinnatiensis* Csiki, 1930: 570. Unjustified emendation of *Loxandrus cincinnati* Casey, 1924.

**Distribution.** This species is known from southwestern Ohio and northeastern Kentucky to western Illinois, south to north-central Texas, southern Alabama, and the Florida Panhandle (Peck and Thomas 1998: 19) [see Allen 1972: Fig. 168]. One specimen simply labeled from “South Carolina” is known (Allen 1972: 156).

**Records. USA:** AL, AR, FL, IL, IN, KY, LA, MO, MS, OH, TN, TX [SC]

***Loxandrus circulus* Allen, 1972**

*Loxandrus circulus* Allen, 1972: 157. Type locality: «District of Columbia» (original citation). Holotype (♂) in MCZ [# 31950].

**Distribution.** This species is known from a few localities in Maryland, the District of Columbia, northern Ohio, Mississippi (Drew A. Hildebrandt pers. comm. 2007), and Alabama [see Allen 1972: Fig. 159]. The record from “Illinois” (Bousquet and Laroche 1993: 161) needs confirmation.

**Records. USA:** AL, DC, MD, MS, OH [IL]

***Loxandrus erraticus* (Dejean, 1828)**

*Feronia erratica* Dejean, 1828: 240. Type locality: «Amérique septentrionale» (original citation), restricted to «Mobile [Mobile County], Alab[ama]» by Lindroth (1966: 538). One syntype in MHNP (Lindroth 1955b: 15).

**Distribution.** This species ranges along the Coastal Plain from Rhode Island and Connecticut (William L. Krinsky pers. comm. 2008) to central Florida, west to southern Louisiana and north along the Mississippi River drainage to east-central Illinois [see Allen 1972: Fig. 155]. The record from southwestern Ohio (Dury 1902: 113) needs confirmation.

**Records. USA:** AL, AR, CT, DC, DE, FL, GA, IL, IN, KY, LA, MO, MS, NC, NJ, PA, RI, SC [OH]

***Loxandrus gibbus* Allen, 1972**

*Loxandrus gibbus* Allen, 1972: 146. Type locality: «Tuscaloosa [Tuscaloosa County], Alabama» (original citation). Holotype (♂) in MCZ [# 31953].

**Distribution.** This species is known along the Coastal Plain from southern North Carolina to central Florida, west to northeastern Louisiana and southern Arkansas, north along the Mississippi River drainage to southwestern Indiana and southwestern Illinois (Allen 1972: 147-148, Fig. 156).

**Records. USA:** AL, AR, FL, IL, IN, LA, MO, MS, NC, TN, SC

***Loxandrus minor* (Chaudoir, 1843)**

*Megalostylus minor* Chaudoir, 1843b: 766. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Holotype [by monotypy] (♀) in MHNP.



*Loxandrus inquietus* Casey, 1918: 389. Type locality: «Indiana» (original citation). Lectotype (♀), designated by Lindroth (1975: 125), in USNM [# 47345]. Synonymy established by Lindroth (1966: 540).

**Distribution.** This species ranges from southern Ontario (Lindroth 1966: 540) south to southeastern Louisiana (Chaudoir 1843b: 766), west to eastern Kansas [see Allen 1972: Fig. 167]. The records from New Jersey (Smith 1910: 206), District of Columbia (Ulke 1902: 7), South Carolina (Kirk 1969: 11; Ciegler 2000: 59), “Georgia” (J.E. LeConte 1849: 26), Florida (Frost 1964: 138), and southwestern Alabama (Löding 1945: 17) need confirmation.

**Records.** CAN: ON USA: AR, IA, IL, IN, KS, LA, MO [AL, DC, FL, GA, NJ, SC]

### *Loxandrus nitidulus* (LeConte, 1846)

*Argutor nitidulus* LeConte, 1846b: 339. Type locality: «provinciis australibus» (original citation), herein restricted to Lucedale, George County, Mississippi (see Allen 1972: 153). Four syntypes in MCZ [# 5696].

**Distribution.** This species ranges from northern Indiana to eastern Iowa, south to northern Louisiana and southwestern Alabama [see Allen 1972: Fig. 161]. One specimen simply labeled from Florida is known (Allen 1972: 153).

**Records.** USA: AL, AR, IA, IL, IN, LA, MO, MS, TN [FL]

### *Loxandrus robustus* Allen, 1972

*Loxandrus robustus* Allen, 1972: 153. Type locality: «Carlisle, Lonoke Co[unty], Arkansas» (original citation). Holotype (♂) in MCZ [# 31939].

**Distribution.** This species is known from one locality in southwestern Indiana, several localities in Arkansas, and one locality in Noxubee County in eastern Mississippi (CMNH) [see Allen 1972: Fig. 169].

**Records.** USA: AR, IN, MS

### *Loxandrus uniformis* Allen, 1972

*Loxandrus uniformis* Allen, 1972: 130. Type locality: «Mobile [Mobile County], Alabama» (original citation). Holotype (♂) in CAS [# 11543].

**Distribution.** This species is known from a few localities in northwestern Ohio, South Carolina, and southwestern Alabama [see Allen 1972: Fig. 165]. Specimens simply labeled from Virginia and Arkansas are known (Allen 1972: 132).

**Records.** USA: AL, OH, SC [AR, VA]

### *Loxandrus velocipes* Casey, 1918

*Loxandrus velocipes* Casey, 1918: 390. Type locality: «District of Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 125), in USNM [# 47346].

*Loxandrus inferus* Allen, 1972: 137. Type locality: «Rosslyn, Nelson Co[unty], Virginia» (original citation). Holotype (♂) in MCZ [# 31940]. Synonymy established by Will and Liebherr (1998: 237).

**Distribution.** This species ranges from Maryland (Erwin 1981b: 160) to southeastern Minnesota (Allen 1972: 137), including north-central Ohio (Lee 1994: 61) and southern Ontario (Lindroth 1966: 539), south to southeastern Louisiana and southern Georgia (Torres and Ruberson 2006: 32) [see Allen 1972: Fig. 158]. The record from “Connecticut” (Bousquet and Laroche 1993: ) was based on a misidentified specimen of *L. vitiosus* (Krinsky and Oliver 2001: 102).

**Records.** CAN: ON USA: AL, AR, DC, GA, IA, IL, IN, LA, MD, MN, MO, MS, NC, OH, SC, TN, VA, WI, WV

[**infimus group**]

***Loxandrus infimus* Bates, 1882**

*Loxandrus infimus* Bates, 1882a: 87. Type locality: «Cubilguitz [Alta Verapaz], Guatemala» (original citation for the lectotype). Lectotype (♂), designated by Allen (1972: 30), in BMNH.

*Loxandrus mutans* Darlington, 1936c: 180. Type locality: «Etang Lachaux, Haiti» (original citation). Holotype (♂) in MCZ [# 22022]. Synonymy established by Allen (1972: 30).

**Distribution.** This species is found from northern Sonora and southeastern Texas south to Brazil (Allen 1972: 34); also known from Haiti [see Allen 1972: Fig. 144].

**Records.** USA: TX – Brazil, Guatemala, Haiti, Mexico

***Loxandrus pactinullus* Allen, 1972**

*Loxandrus pactinullus* Allen, 1972: 34. Type locality: «8.1 mi[les] E[ast] Villamar (5500 ft), Michoacan, Mexico» (original citation). Holotype (♂) in MCZ [# 31943].

**Distribution.** This species ranges from southeastern Arizona (Allen and Ball 1980: 500) south to Morelos in Mexico [see Allen 1972: Fig. 154].

**Records.** USA: AZ – Mexico

***Loxandrus sculptilis* Bates, 1884**

*Loxandrus sculptilis* Bates, 1884: 278. Type locality: «Tolé [Chiriquí], Panama» (original citation for the lectotype). Lectotype (♂), designated by Allen (1972: 38), in BMNH.

**Distribution.** This species ranges from southern Texas (Allen and Ball 1980: 501) and central Sinaloa south to Panama [see Allen 1972: Fig. 153].

**Records.** USA: TX – Mexico, Panama

## [micans group]

***Loxandrus duryi* Wright, 1939**

*Loxandrus duryi* Wright, 1939: 257. Type locality: «near Goshen, Clermont County, Ohio» (original citation). Holotype (♂) location unknown. Etymology. The specific name honors Ralph Dury [1899-1984], naturalist, director of the Cincinnati Museum of Natural History, and authority on freshwater bivalves. Ralph was the son of Charles Dury [1847-1931], collector of natural history objects in Ohio who published new species of Coleoptera and lists of beetles found in the vicinity of Cincinnati, Ohio.

**Distribution.** The range of this species extends from central New York (Bousquet 2006a: 152) to east-central Iowa (Johnson County, CMNH), including southern Ontario (CNC), south to southeastern Texas (Cameron County, CMNH), central Louisiana, and northeastern Alabama (DeKalb County, CMNH) [see Allen 1972: Fig. 166].

**Records.** CAN: ON USA: AL, IA, IL, IN, LA, MO, MS, NY, OH, PA, TX, VA

***Loxandrus micans* Chaudoir, 1868**

*Loxandrus micans* Chaudoir, 1868b: 342. «Opelousas [Saint Landry Parish], Louisiana» (original citation). Holotype [by monotypy] (♂) in MHNP.

**Distribution.** This species is known from three localities in southwestern Tennessee, eastern Arkansas (Allen 1972: 114, Fig. 165), and southern Louisiana (Chaudoir 1868b: 342).

**Records.** USA: AR, LA, TN

***Loxandrus straneoi* Will and Liebherr, 1998**

*Loxandrus straneoi* Will and Liebherr, 1998: 231. Type locality: «30°51'23"N, 88°44'45"W, Rt26 at Pascagoula R[iver], George Co[unty], Mississippi» (original citation). Holotype (♂) in CUIC [# 7037]. Etymology. This species was named after Stefano Ludovico Straneo [1902-1997], a teacher, administrator, and author. Straneo was also deeply involved as an amateur in the study of Carabidae and particularly the tribe Pterostichini. He described 64 new genera and almost 1,200 new species.

**Distribution.** This species is known only from George and Noxubee Counties in eastern Mississippi (Will and Liebherr 1998: 231).

**Records.** USA: MS

***Loxandrus vulneratus* Casey, 1918**

*Loxandrus vulneratus* Casey, 1918: 390. Type locality: «Indiana» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47354].

*Loxandrus vitiosus* Allen, 1972: 115. Type locality: «4 mi[les] w[est] Mineral Springs, Howard Co[unty], Arkansas» (original citation). Holotype (♂) in UAIC. Synonymy established by Bousquet (2006a: 151).

**Distribution.** This species ranges from Connecticut (Krinsky and Oliver 2001: 102) and southeastern Pennsylvania to southwestern Illinois, south to southern Louisiana, southwestern Alabama, and central South Carolina (Ciegler 2000: 60) [see Allen 1972: Fig. 167]. One specimen simply labeled from Florida is known (Allen 1972: 116).

**Records. USA:** AL, AR, CT, DC, IL, IN, LA, MD, MO, MS, NC, OH, PA, SC, TN, VA [FL]

[**rectangulus group**]

***Loxandrus rectangulus* LeConte, 1878**

*Loxandrus rectangulus* LeConte, 1878b: 377. Type locality: «Enterprise [Volusia County, Florida]» (original citation). Two syntypes [2 originally cited] in MCZ [# 5700].

**Distribution.** This species is known from central and southern Florida (Peck and Thomas 1998: 19), the Bahamas (Turnbow and Thomas 2008: 13), Grand Cayman Island, and southern Mexico [see Allen 1972: Fig. 146]. One specimen simply labeled from Texas is known (Allen 1972: 42).

**Records. USA:** FL [TX] – Bahamas, Cayman Islands, Mexico

[**rectus group**]

***Loxandrus collucens* Casey, 1918**

*Loxandrus collucens* Casey, 1918: 382. Type locality: «Houston [Harris County], Texas» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47336].

*Loxandrus ludovicianus* Casey, 1918: 383. Type locality: «Cane River [Natchitoches Parish], Louisiana» (original citation). Holotype [by monotypy] (♀) in USNM [# 47337]. Synonymy established by Bousquet (2006a: 149).

**Distribution.** This species is known from a few localities in northwestern Louisiana (Casey 1918: 383, as *L. ludovicianus*) and eastern and southern Texas (Casey, 1918: 382; Brazoria, Fort Bend, Lasalle, and Live Oak Counties, CMNH).

**Records. USA:** LA, TX

***Loxandrus lucens* Chaudoir, 1868**

*Loxandrus lucens* Chaudoir, 1868b: 342. Type locality: «Havre [Hill County], Texas» (original citation). Lectotype (♂), designated by Allen (1972: 129), in MHNP.

**Distribution.** This species is found west of the Appalachians from central Kentucky south to eastern Texas and southern Alabama (Allen 1972: 130, Fig. 163). The record from northern Georgia (Fattig 1949: 27) is probably in error.

**Records. USA:** AL, AR, KY, LA, TN, TX



**Figure 29.** *Lachnocrepis parallela* (Say). This species is found in marshes and swamps in temperate eastern North America and is closely related to two species living under similar conditions in eastern Asia. The genus *Lachnocrepis* is another example of taxa exhibiting disjunct eastern Asia-eastern North America distributional patterns. Most current biogeographers agree that such disjunct patterns result from range restrictions of taxa associated with the mixed mesophytic forest during the mid-Tertiary.



***Loxandrus pravitubus* Allen, 1972**

*Loxandrus pravitubus* Allen, 1972: 72. Type locality: «Brownsville [Cameron County], Texas» (original citation). Holotype (♂) in MCZ [# 31957].

**Distribution.** This species is found along the Coastal Plain from southern North Carolina to the Rio Grande in southeastern Texas [see Allen 1972: Fig. 159].

**Records. USA:** AL, LA, MS, NC, TX

***Loxandrus rectus* (Say, 1823)**

*Feronia recta* Say, 1823a: 58. Type locality: «S[outh] C[arolina]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33034].

*Feronia lucidula* Dejean, 1828: 239. Type locality: «Amérique septentrionale» (original citation). Lectotype (♂), designated by Allen (1972: 68), in MHNP. Synonymy established by LeConte (1853a: 251), confirmed by Allen (1972: 68).

*Megalostylus laticollis* Chaudoir, 1843b: 766. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♂), designated by Allen (1972: 68), in MHNP. Synonymy established by LeConte (1853a: 251), confirmed by Allen (1972: 68).

*Loxandrus iris* Motschulsky, 1866: 242. Type locality: «Nouv[elle] Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♂), designated by Bousquet and Laroche (1993: 15), in ZMMU. Synonymy established by Bousquet and Laroche (1993: 15).

*Loxandrus rectus mandibularis* Casey, 1918: 382. Type locality: «District of Columbia» (original citation). Lectotype (♂), designated by Allen (1977: 286), in USNM [# 47334]. Synonymy established by Allen (1972: 68).

*Loxandrus limatus* Casey, 1918: 382. Type locality: «District of Columbia» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47335]. Synonymy established by Bousquet (2006a: 149).

**Distribution.** This species ranges from the District of Columbia to southern Illinois, north to northern Ohio (Lee 1994: 61), south to southeastern Texas and northern Florida including the Panhandle (Peck and Thomas 1998: 19) [see Allen 1972: Fig. 157]. The record from southeastern Pennsylvania (Rathvon 1869: 525) needs confirmation.

**Records. USA:** AL, AR, DC, FL, GA, IL, IN, KY, LA, MD, MO, MS, NC, OH, SC, TN, TX, VA [PA]

**[saphyrinus group]*****Loxandrus saphyrinus* (Chaudoir, 1843)**

*Megalostylus saphyrinus* Chaudoir, 1843b: 766. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♂), designated by Allen (1972: 126), in MHNP.

*Loxandrus reflexus* LeConte, 1878b: 376. Type locality: «Tampa [Hillsborough County, Florida]» (original citation). Lectotype (♀), designated Bousquet (2006a: 151), in MCZ [# 5692]. Synonymy established by Bousquet (2006a: 151).

*Loxandrus lateralis* Casey, 1918: 381. Type locality: «Sarasota [Sarasota County], Florida» (original citation). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47347]. Synonymy established by Bousquet (2006a: 148).

*Loxandrus sapphirinus* Csiki, 1930: 573. Unjustified emendation of *Loxandrus saphyrinus* (Chaudoir, 1843).

**Distribution.** This species is found from North Carolina to northwestern Arkansas, including south-central Kentucky (Metcalf County, Peter W. Messer pers. comm. 2012), south to eastern Texas and southern Florida [see Allen 1972: Fig. 164].

**Records. USA:** AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, TX

### Genus *STOLONIS* Motschulsky, 1866

*Stolonis* Motschulsky, 1866: 230. Type species: *Stolonis notula* Motschulsky, 1866 by monotypy. Etymology. Uncertain, possibly from the Greek *stolonis* (shoot) [feminine].

*Prostolonis* Mateu, 1976: 69. Type species: *Prostolonis martinezi* Mateu, 1976 by original designation. Synonymy established by Allen and Ball (1980: 529). Etymology. From the Latin prefix *pro-* (before, in front of) and the generic name *Stolonis* [*q.v.*] [feminine].

**Diversity.** Twenty species in the Neotropical Region, one of them extending into southern United States.

**Identification.** Will (2005) provided a key for the identification of the species of this genus.

**Taxonomic Note.** This genus-group taxon has been ranked as a subgenus of *Oxycrepis* Reiche by Allen and Ball (1980) but as a distinct genus by Will (2005).

### *Stolonis intercepta* Chaudoir, 1874

*Stolonis intercepta* Chaudoir, 1874a: 87. Type locality: «Jucatan [= Yucatán, Mexico]» (original citation). Lectotype (♂), designated by Allen and Ball (1980: 530), in MHNP.

*Stolonis ulkei* G.H. Horn, 1885a: 129. Type locality: «Texas» (original citation). One syntype [2 originally cited] in MCZ [# 34452] and one in CMNH (collection Ulke). Synonymy established by Allen and Ball (1980: 530).

**Distribution.** This species ranges from southern Arizona and southern Texas along the Gulf of Mexico coast south to southern Mexico (Allen and Ball 1980: 532). The record from southwestern Ohio (Dury 1906: 257) must be in error or based on a stray.

**Records. USA:** AZ, TX – Mexico

**Tribe PTEROSTICHINI Bonelli, 1810**

*Pterostichii* Bonelli, 1810: Tabula Synoptica. Type genus: *Pterostichus* Bonelli, 1810.

*Poecilii* Bonelli, 1810: Tabula Synoptica. Type genus: *Poecilus* Bonelli, 1810.

*Molopides* Bonelli, 1810: Tabula Synoptica. Type genus: *Molops* Bonelli, 1810.

*Féroniens* Dejean, 1825: 3. Type genus: *Feronia* Latreille, 1816 (= *Poecilus* Bonelli, 1810).

*Trigonotomidae* Laporte, 1834: 75 (as *Trogonotomidae*). Type genus: *Trigonotoma* Dejean, 1828.

*Catadromiens* Brullé, 1835a: 277, 328. Type genus: *Catadromus* Macleay, 1825.

*Stomides* Gené, 1839: 50. Type genus: *Stomis* Clairville, 1806.

*Euchroides* Chaudoir, 1874b: 16. Type genus: *Euchroa* Brullé, 1835.

*Platysmatini* Tschitschérine, 1899a: 84. Type genus: *Platysma* Bonelli, 1810. NOTE. The stem of *Platysma* is *Platysmat-* (Madge 1989: 467).

*Myadina* Jacobson, 1907: 334. Type genus: *Myas* Sturm, 1826. NOTE. The stem of *Myas* is *Myad-* (Madge 1989: 465).

*Abaxini* Schuler, 1970: 115. Type genus: *Abax* Bonelli, 1810. NOTE. The stem of *Abax* is *Abac-* (Madge 1989: 460).

*Aristochroodini* Sciaky, 1996: 437. Type genus: *Aristochroodes* Marcilhac, 1993.

**Diversity.** Worldwide, with about 2,620 species. The North American fauna is represented by about 255 species (9.7% of the world fauna), of which six are adventive, arrayed in 38 genus-group taxa including the eastern endemic *Abacidus* (five species), *Cyclotrachelus* (43 species), *Cylindrocharis* (three species), *Feronina* (two species), *Gastrellarius* (three species), *Gastrosticta* (ten species), *Lophoglossus* (six species), *Monoferonia* (four species), *Paraferonia* (one species), and *Piesmus* (one species), the western endemic *Anilloferonia* (three species), *Leptoferonia* (26 species), *Orsonjohnsonus* (one species), and *Pseudoferonina* (nine species), as well as *Hypherpes* (60 species) and *Lamenius* (one species).

**Genus ABARIS Dejean, 1831**

*Abaris* Dejean, 1831: 780. Type species: *Abaris aenea* Dejean, 1831 by monotypy. Etymology (original). From the Greek *a* (absence) and *barys* (heavy), probably alluding to the small size (and thus light) for pterostichines of adults of the sole species in the hands of Dejean [feminine].

*Abarys* Agassiz, 1846: 1. Unjustified emendation of *Abaris* Dejean, 1831.

**Diversity.** Twenty-seven species in the Neotropical Region, one of them reaching southwestern United States. The species are arrayed in two subgenera: *Abaris s.str.* (13 species) and *Abaridius* (14 species).

**Identification.** Will (2002b) published a revision of all known species.

**Taxonomic Note.** A cladistic analysis placed the genus *Neotalus* Will, with one South American species, as the sister-group to *Abaris* (Will 2002b).

### Subgenus *Abaridius* Chaudoir, 1874

*Abaridius* Chaudoir, 1874a: 97. Type species: *Abaris tachypoides* Bates, 1871 by monotypy. Etymology. From the generic name *Abaris* [*q.v.*] and the Latin suffix *-ius* (pertaining to), alluding to the close affinity of the taxon to *Abaris* (“*pour indiquer son affinité avec les vrais Abarys*”) [masculine].

*Abareoidius* Rye, 1875: 240. Unjustified emendation of *Abaridius* Chaudoir, 1874.

**Diversity.** Fourteen species in the Neotropical Region, one of them reaching southwestern United States.

### *Abaris splendidula* (LeConte, 1863)

*Pterostichus splendidulus* LeConte, 1863c: 10. Type locality: «Fort Yuma, California» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5648].

**Distribution.** This species is known from southern Arizona, possibly also southeastern California as suggested by the type locality, Sonora in northwestern Mexico, and the southern part of the Baja California Peninsula [see Will 2002b: Fig. 17].

**Records. USA:** AZ [CA] – Mexico

### Genus *HYBOTHECUS* Chaudoir, 1874

*Hybothecus* Chaudoir, 1874b: 3. Type species: *Hybothecus incrassatus* Chaudoir, 1874 by monotypy. Etymology. From the Greek *hybos* (hump) and *thece* (case, container), possibly alluding to the markedly convex elytra (“*remarquable par la forte convexité des élytres*”) of the adult [masculine].

*Ophryogaster* Chaudoir, 1878: 59. Type species: *Feronia anomala* Chaudoir, 1878 designated by Straneo (1977: 115). Synonymy established by Lorenz (2005: 261) based on a communication of Will (Kiplin W. Will pers. comm. 2007). Etymology. From the Greek *ophryos* (brow) and *gaster* (stomach, by extension abdomen), probably alluding to the transverse furrow on the last three visible abdominal sterna (“*profond sillon transversal, qui longe le bord antérieur des 3 derniers segments de l’abdomen*”) of the adult [feminine].

*Incastichus* Moret, 1997: 304. Type species: *Incastichus aequidianus* Moret, 1997 by original designation. Synonymy established by Lorenz (2005: 261). Etymology. From *Inca* (the South American Indian peoples) and the Greek *stichos* (line, row) [masculine].

**Diversity.** Seven species in the Neotropical Region, one of them reaching southwestern United States.

**Identification.** There is no taxonomic revision or available key for the identification of the species.

### *Hybothecus flobri* (Bates, 1882)

*Ophryogaster flobri* Bates, 1882a: 84. Type locality: «probably near Mexico city, Mexico» (original citation). Syntype(s) location unknown (possibly in ZMHB; not in

BMNH according to Stuart Hine pers. comm. 1991). Etymology. The specific name was proposed for Julius Flohr [1837-1896], a physician born in Germany who left for Mexico City in 1859. Flohr was a collector of natural history specimens.

*Pterostichus arizonicus* Schaeffer, 1910: 393. Type locality: «Tucson [Pima County], Arizona» (original citation). Holotype (♀) in USNM [# 42500]. Synonymy established by Bousquet and Laroche (1993: 17).

**Distribution.** This species is known from southern Arizona (Schaeffer 1910: 393, as *Pterostichus arizonicus*; Graham, Pima and Santa Cruz Counties, UASM) south to Chiapas (UASM).

**Records. USA:** AZ – Mexico

### Genus *POECILUS* Bonelli, 1810

*Poecilus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus cupreus* Linnaeus, 1758 designated by Curtis (1827: plate 187). Etymology. From the Greek *poecilos* (varicolored), possibly alluding to the variously colored species Bonelli had in his hands [masculine].

*Feronia* Latreille, 1816: 191. Type species: *Carabus cupreus* Linnaeus, 1758 designated by Blanchard [in Audouin et al. 1842: plate 22]. Etymology. Divinity of the ancient Italians, guardian of the plants and the emancipated (Theil 1882: 1071) [feminine].

*Thalia* Hope, 1838: 70 [junior homonym of *Thalia* Bruguière, 1791]. Unnecessary replacement name for *Feronia* Latreille, 1816. Etymology. Thalia was one of the Muse [feminine].

*Enchores* Gistel, 1848a: x, xi. Unnecessary replacement name for *Poecilus* Bonelli, 1810.

*Feronius* Wencker and Silbermann, 1866: 7. Unnecessary replacement name for *Feronia* Latreille, 1816.

**Diversity.** About 140 species (Lorenz 2005: 266-269) in the Nearctic (13 species) and Palaearctic (128 species) Regions; five of the North American species extend into northern Mexico and Cuba. The species of *Poecilus* are arrayed in seven subgenera: *Poecilus s.str.* (about 70 species), *Angoleus* Villa and Villa (23 species), *Parapedius* Seidlitz (two species in the Mediterranean region), *Carenostylus* Chaudoir (one Mediterranean species), *Derus* (23 species), *Metapedius* Fiori (one species from Italy), and *Pseudoderus* Seidlitz (18 species in western Asia).

**Identification.** No review or identification key is available for the North American species and a revision of the genus is needed.

**Taxonomic Note.** *Lyropedius* Seidlitz (two eastern European species) is treated as a subgenus of *Poecilus* by some authors, including Kryzhanovskij and Abdurakhmanov (1983). Bousquet (1999: 58) pointed out that the taxon, based on character of the male genitalia, is probably not closely related to *Poecilus*. The taxon is listed as a subgenus of *Pterostichus* by Bousquet (2003d: 498).



### Subgenus *Poecilus* Bonelli, 1810

*Poecilus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus cupreus* Linnaeus, 1758 designated by Curtis (1827: plate 187).

*Leconteus* Lutshnik, 1915a: 414. Type species: *Feronia chalcites* Say, 1823 by original designation. Synonymy established by Csiki (1930: 589). Etymology. From the surname of John Lawrence LeConte [masculine].

*Americobius* Lutshnik, 1915a: 414. Type species: *Feronia azteca* Tschitschérine, 1897 by original designation. Synonymy established by Csiki (1930: 589). Etymology. From the English prefix *americo-* (relating to America) and the Greek *bios* (life) [masculine].

*Parapoecilus* Jeannel, 1942: 746, 751. Type species: *Carabus dimidiatus* Olivier, 1795 (= *Carabus kugelanni* Panzer, 1797) by original designation. Synonymy established by Lindroth (1966: 478). Etymology. From the Greek *para* (near, beside) and the generic name *Poecilus* [*q.v.*] [masculine].

**Diversity.** About 70 species (Lorenz 2005: 266–268) in the Nearctic (12 species, of which five extend into northern Mexico or Cuba) and Palaearctic (about 60 species) Regions.

**Identification.** Chaudoir (1876c) reviewed the species but his work is outdated. Lindroth's (1966) monograph covers seven of the 12 North American species.

#### [*chalcites* group]

#### *Poecilus chalcites* (Say, 1823)

*Feronia chalcites* Say, 1823a: 56. Type locality: «Washington, D[istrict of] C[olumbia]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 342), in MCZ [# 33038]. NOTE. «the Missouri» was the area originally cited by Say (1823a: 56).

*Feronia sayi* Brullé, 1835c: 277. Unnecessary replacement name for *Feronia chalcites* Say, 1823.

*Poecilus micans* Chaudoir, 1843b: 767. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) in MHNP. Synonymy established, under the name *P. sayi* (Brullé), by LeConte (1853a: 254).

**Distribution.** This species ranges from southwestern New Brunswick (Majka et al. 2007: 9) to the Black Hills in western South Dakota (Kirk and Balsbaugh 1975: 21), south to northern Chihuahua (Bates 1891a: 249), southern Texas (Johnson 1978: 67), and the Florida Panhandle (Okaloosa County, CNC); also recorded from Cuba (Darlington 1934: 91). The records from Arizona (Snow 1906b: 162, as *P. sayi*) and “North Dakota” (Bousquet and Laroche 1993: 165) need confirmation.

**Records.** CAN: NB, ON, QC USA: AL, AR, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [AZ, ND] – Cuba, Mexico

***Poecilus diplophryus* Chaudoir, 1876**

*Poecilus subcordatus* LeConte, 1851: 181 [secondary homonym of *Poecilus subcordatus* (Chaudoir, 1842)]. Type locality: «ad flumina Colorado et Gila» (original citation). Lectotype (♀), designated by Bousquet (1999: 62), in MCZ [# 79].

*Poecilus diplophryus* Chaudoir, 1876c: 42. Replacement name for *Poecilus subcordatus* LeConte, 1851.

*Poecilus pimalis* Casey, 1913: 138. Type locality: «Tuçson [Pima County], Arizona» (original citation). Holotype [by monotypy] (♀) in USNM [# 47087]. Synonymy established by Bousquet and Larochelle (1993: 17).

**Distribution.** This species ranges from “Colorado” (LeConte 1858a: 28) to west-central Nevada (Bechtel et al. 1983: 474), south to the Baja California Peninsula (Horn 1894: 309) and “New Mexico” (Schaupp 1882c: 41). The record from est-central South Dakota (Kirk and Balsbaugh 1975: 21) needs confirmation.

**Records. USA:** AZ, CA, CO, NM, NV, UT [SD] – Mexico

***Poecilus scitulus* LeConte, 1846**

*Poecilus scitulus* LeConte, 1846b: 334. Type locality: «fluminis Platte furcationem [= Platte River, Nebraska]» (original citation). Lectotype (♀), designated by Bousquet (1999: 64), in MCZ [# 5634].

**Distribution.** The range of this species extends from southern Manitoba to the Fraser River in south-central British Columbia (Lindroth 1966: 481), south to southern California (Fall 1901a: 44) and the Mexico City environs on the Mexican Plateau (Ball and Shpeley 1992a: 52).

**Records. CAN:** AB, BC, MB, SK **USA:** AZ, CA, CO, ID, KS, MN, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WY – Mexico

**[*lucublandus* group]*****Poecilus coloradensis* (Csiki, 1930)**

*Poecilus bicolor* LeConte, 1846b: 232 [secondary homonym of *Pterostichus bicolor* (Aragona, 1830)]. Type locality: «ad Rocky Mountains» (original citation). One syntype in MCZ [# 5640]. **NOTE.** LeConte (1853a: 255) stated that he had a single specimen of this species.

*Pterostichus coloradensis* Csiki, 1930: 591. Replacement name for *Pterostichus bicolor* (LeConte, 1846).

**Distribution.** This species is known for sure only from the syntype. The records from northeastern Kansas (Horn 1872c: 385; Popenoe 1878: 78) are suspect.

**Records. USA:** [CO, KS]

**Note.** Adults of this species are structurally similar to, and possibly conspecific with, those of *P. lucublandus* Say as defined by Lindroth (1966: 482-483).

***Poecilus corvus* (LeConte, 1873)**

*Pterostichus corvus* LeConte, 1873a: 307. Type locality: «Dacota» (original citation), herein restricted to Newell, Butte County, South Dakota (see Kirk and Balsbaugh 1975: 21). Lectotype (♂), designated by Bousquet (1999: 61), in MCZ [# 5636].

**Distribution.** This species is found from western Ontario (CNC) to southeastern Alberta (Lindroth 1966: 484), south to southeastern Oregon (Harney County, James R. LaBonte pers. comm. 2009; Hatch 1953: 115), central Wyoming (Lavigne 1977: 47), western South Dakota (Kirk and Balsbaugh 1975: 21), and western Minnesota (Tinerella and Rider 2001: 320; Gandhi et al. 2005: 926). The record from northern British Columbia (Jarrett and Scudder 2001: 382) needs confirmation.

**Records.** CAN: AB, MB, ON, SK USA: MN, MT, ND, OR, SD, WY [BC]

***Poecilus cursor* LeConte, 1853**

*Poecilus cursorius* LeConte, 1851: 181 [secondary homonym of *Poecilus cursorius* (Dejean, 1828)]. Type locality: «S[an]ta Isabel [San Bernardino County, California]» (lectotype label). Lectotype (♂), designated by Bousquet (1999: 61), in MCZ [# 78]. NOTE. LeConte (1851: 181) originally cited this species from «San Diego, ad montes» but later (1853a: 255) listed it from «Santa Isabel, California». Because the lectotype label indicates that the specimen was collected at Santa Isabel, this is the type locality. Santa Isabel is a Mohave settlement near Needles in San Bernardino County along the Colorado River.

*Poecilus cursor* LeConte, 1853a: 254. Replacement name for *Poecilus cursorius* LeConte, 1851.

**Distribution.** This species is known from western Oregon (Hatch 1953: 115, as *Pterostichus occidentalis*) to southern California (Fall 1901a: 45, as *Pterostichus occidentalis*).

**Records.** USA: CA, OR

**Note.** This species has been known for a long time under the name *Poecilus occidentalis* (Dejean, 1828) but Lindroth (1966: 484) showed that *P. cursor* and *P. occidentalis* are different species.

***Poecilus laetulus* (LeConte, 1863)**

*Pterostichus laetulus* LeConte, 1863c: 10. Type locality: «San Jose [Santa Clara County, California]» (original citation for *P. occidentalis* Dejean *sensu* LeConte, 1853). Lectotype (♂), designated by Bousquet (1999: 62), in MCZ [# 5635]. NOTE. This name was proposed for *Pterostichus occidentalis* (Dejean, 1828) *sensu* LeConte (1853a: 253). By an unfortunate error, LeConte (1863c: 10) used the specific name *californicus* instead of *occidentalis*.

**Distribution.** This species ranges from southeastern Washington (Hatch 1953: 115) to southern California (Fall 1901a: 44; Moore 1937: 9) and southern Arizona (Wickham 1898: 300). The records from New Mexico (Wickham 1896a: 157; Fall and

Cockerell 1907: 158) and northeastern Kansas (Popenoe 1878: 78) are probably based on misidentified specimens.

**Records. USA:** AZ, CA (CHI), OR, WA

***Poecilus lucublandus* (Say, 1823)**

*Feronia lucublanda* Say, 1823a: 55. Type locality: «Ithaca [Tompkins County], N[ew] Y[ork]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 342), in MCZ [# 33036].

*Feronia convexicollis* Say, 1823a: 50. Type locality: «Devil's Lake [Ramsey County], N[orth] Dak[ota]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 342), in MCZ [# 33035]. Synonymy established by Lindroth (1966: 482). NOTE. «Missouri [Territory]» was the area originally cited by Say (1823a: 51).

*Poecilus fraternus* Say, 1824: 270. Type locality: «North-west Territory» (original citation). Syntype(s) lost. Synonymy established by LeConte (1853a: 255). NOTE. This name has been listed as a *nomen dubium* by Lindroth and Freitag (1969: 342).

*Poecilus castanipes* Kirby, 1837: 37. Type locality: northern parts of British America (inferred from title of the book). Holotype [by monotypy] (♀) in BMNH. Synonymy established by LeConte (1853a: 255), confirmed by Lindroth (1953b: 172).

*Poecilus dilatatus* LeConte, 1846b: 232. Type locality: «NovEboraci [= New York]» (original citation). Lectotype (♀), designated by Bousquet (1999: 63), in MCZ [# 5639]. Synonymy established by LeConte (1853a: 255), confirmed by Bousquet (1999: 63).

*Pterostichus manhattanis* Casey, 1884c: 72. Type locality: «Willeys Point [Queens County], New York Harbor» (original citation). Holotype [by monotypy] (♂) in USNM [# 47083]. Synonymy established by Horn (1885b: 108), confirmed by Lindroth (1966: 482).

*Poecilus elucens* Casey, 1924: 76. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♂), designated by Lindroth (1975: 123), in USNM [# 47084]. Synonymy established by Lindroth (1966: 482).

*Poecilus planifer* Casey, 1924: 76. Type locality: «Agassiz, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47088]. Synonymy established by Hatch (1953: 116), confirmed by Lindroth (1966: 482).

*Poecilus lucublandus acomanus* Casey, 1924: 76. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype (♂), designated by Bousquet (1999: 62), in USNM [# 47086]. **New synonymy.**

*Poecilus lucublandus louisinus* Casey, 1924: 76. Type locality: «S[ain]t Louis, Missouri» (original citation). Holotype [by monotypy] (♂) in USNM [# 47082]. **New synonymy.**

**Distribution.** This widely distributed species ranges from Cape Breton Island (Lindroth 1954c: 303) to Vancouver Island, north at least to Fort Smith in southern

Northwest Territories (Lindroth 1966: 483), south to “Oregon” (Hatch 1953: 116), northern New Mexico (Fall and Cockerell 1907: 158), the Texas Panhandle (Michels et al. 2010: 743), southwestern Oklahoma (Kondratieff et al. 2005: 173), northern Georgia (Fattig 1949: 26), and central South Carolina (Ciegler 2000: 61).

**Records. CAN:** AB, BC (VCI), MB, NB, NS (CBI), NT, ON, PE, QC, SK **USA:** CO, CT, DC, DE, GA, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY

**Note.** The lectotypes of *P. lucublandus acomanus* Casey and *P. lucublandus louisinus* Casey are conspecific with members of *Poecilus lucublandus* as defined by Lindroth (1966) and these names are here placed in synonymy. However, the species exhibits considerable structural variation within its range and it is possible, even likely, that more than one species are included within the actual concept of *P. lucublandus*.

### ***Poecilus occidentalis* (Dejean, 1828)**

*Feronia occidentalis* Dejean, 1828: 231. Type locality: «Californie» (original citation). One syntype in MHNP (Lindroth 1966: 484).

**Distribution.** This species is known from southern California (Fall 1901a: 45).

**Records. USA:** CA

[*incertae sedis*]

### ***Poecilus cyanicolor* Chaudoir, 1876**

*Poecilus cyaneus* LeConte, 1846b: 231 [primary homonym of *Poecilus cyaneus* Gory, 1833]. Type locality: «ad Rocky Mountains» (original citation), cited from «near Long’s Peak [Boulder County, Colorado], Missouri Territory» by LeConte (1853a: 254). Lectotype (♀), designated by Bousquet (1999: 62), in MCZ [# 5637].

*Poecilus cyanicolor* Chaudoir, 1876c: 43. Replacement name for *Poecilus cyaneus* LeConte, 1846.

*Poecilus cyanicolor* var. *connexus* Chaudoir, 1876c: 44. Type locality: «Montagnes-Rocheuses; Colorado» (original citation). Syntype(s) [3 originally cited] probably in MHNP. Synonymy established by Csiki (1930: 595).

**Distribution.** This species is known yet only from north-central (LeConte 1853a: 254) and southeastern Colorado (Michels et al. 2008), “Kansas” (Horn 1872c: 385), and a few localities in central Mexico (Bates 1882a: 84).

**Records. USA:** CO, KS – Mexico

### ***Poecilus mexicanus* Chaudoir, 1876**

*Poecilus mexicanus* Chaudoir, 1876c: 44. Type locality: «Mexique» (original citation). Syntype(s) probably in MHNP and MHNG (collection Reiche).



*Poecilus snowi* Casey, 1913: 137. Type locality: «San Bernardino Ranch, Cochise Co[unty], Arizona» (original citation). Lectotype (♂), designated by Allen (1977: 286), in USNM [# 47085]. Synonymy established with doubt by Casey (1918: 376).

**Distribution.** This species ranges from southeastern Arizona (Casey 1913: 137, as *P. snowi*) south at least to the state of Oaxaca in Mexico (Bates 1882a: 84).

**Records. USA:** AZ – Mexico

### *Poecilus texanus* (LeConte, 1863)

*Pterostichus texanus* LeConte, 1863c: 10. Type locality: «Texas» (original citation). Lectotype (♂), designated by Bousquet (1999: 64), in MCZ [# 5638].

**Distribution.** This species is known from southeastern Arizona (Snow 1906b: 162) and southern Texas (Snow 1906a: 141; Duval County, CMNH). The records from Kansas (Knaus 1901: 110; Snow 1903: 193) need confirmation.

**Records. USA:** AZ, TX [KS]

### Subgenus *Derus* Motschulsky, 1844

*Derus* Motschulsky, 1844: xi. Type species: *Argutor politus* Motschulsky, 1844 (= *Platysma ravum* Lutshnik, 1922) by monotypy. Etymology. From the Greek *dere* (neck, by extension pronotum) [masculine].

*Derulus* Tschitschérine, 1896a: 112. Type species: *Feronia samojedora* Sahlberg, 1880 designated by Lindroth (1966: 476). Synonymy established by Lindroth (1966: 476).

**Diversity.** Twenty-three species (Lorenz 2005: 269), mostly in the arctic and subarctic areas, in North America (one species), Asia (21 species), and eastern Europe (three species).

**Identification.** No revision or identification key is available for the species. Lindroth (1966: 476-478) covered the North American species.

### *Poecilus nearcticus* (Lindroth, 1966)

*Pterostichus nearcticus* Lindroth, 1966: 477. Type locality: «Anderson R[iver] delta, N[orth]W[est] Terr[itories]» (original citation). Holotype (♂) in CNC [# 9727].

**Distribution.** This species ranges from the Anderson River delta in northern Northwest Territories (Lindroth 1966: 478) to the Titaluk River (North Slope County) in northern Alaska (CNC). The species is also known from a few localities in eastern Siberia (Alfimov and Berman 2009: Fig. 1). Fossil remnants of this species, from the early Pleistocene and Late Wisconsin, have been found in the lower Kolymian Basin in northeastern Siberia (Matthews 1974a: 208) and western Alaska (Matthews 1974b: 1365) respectively.

**Records. CAN:** NT, YT **USA:** AK – **Holarctic**

### Genus *LOPHOGLOSSUS* LeConte, 1853

*Lophoglossus* LeConte, 1853a: 248. Type species: *Feronia tartarica* Say, 1823 designated by Casey (1918: 324). Etymology. From the Greek *lophos* (crest) and *glossa* (tongue), alluding to the carinate glossal sclerite (“*ligula carinata*”) of the adult [masculine].

**Diversity.** Six species in the temperate regions of eastern North America.

**Identification.** Will (1999) reviewed the species and provided a key for their identification.

#### *Lophoglossus gravis* LeConte, 1873

*Lophoglossus gravis* LeConte, 1873a: 316. Type locality: «probably Pennsylvania» (original citation). Holotype [by monotypy] (♂) in MCZ [# 34935].

**Distribution.** This species is known from a few localities along the Atlantic Coastal Plain and Piedmont Plateau from central New Jersey (Smith 1910: 205) to central South Carolina (Ceigler 2000: 62). The record from “Pennsylvania” (LeConte 1873a: 316) needs confirmation.

**Records. USA:** DC, GA, MD, NC, NJ, SC, VA [PA]

#### *Lophoglossus haldemanni* (LeConte, 1846)

*Lyperus haldemanni* LeConte, 1846b: 341. Type locality: «Alabama» (original citation), restricted to «Mobile, Mobile Co[unty]» by Will (1999: 272). Syntype(s) in MCZ [# 5642]. Etymology. The specific name honors Samuel Stehman Haldeman [1812-1880], American naturalist, linguist, and archaeologist. Haldeman spent most of his adult life teaching zoology, geology, philology, and chemistry at various colleges and Universities. As a naturalist, he was mainly interested in mollusks and insects, particularly beetles.

*Lophoglossus haldemani* LeConte, 1853a: 248. Unjustified emendation of *Lophoglossus haldemanni* (LeConte, 1846).

**Distribution.** This species ranges from southwestern Indiana (Blatchley 1910: 97; Schrock 1985: 354) to southeastern Iowa (Wickham 1911b: 6; Henry County, CNC), south to eastern Texas and central Florida (Will 1999: 272, Fig. 35). The record from North Carolina (Brimley 1938: 121) needs confirmation; that from “New York” (Wickham 1895a: 187) is likely in error.

**Records. USA:** AL, AR, FL, GA, IA, IL, IN, KS, KY, LA, MO, MS, OK, TN, TX [NC]

#### *Lophoglossus scrutator* (LeConte, 1846)

*Lyperus scrutator* LeConte, 1846b: 342. Type locality: «provinciis australibus» (original citation), cited from «Cleveland [Cuyahoga County], Ohio» by LeConte (1853a: 249). Lectotype (♀), designated by Bousquet (1999: 69), in MCZ [# 5644].

*Feronia canadensis* Chaudoir, 1868b: 331. Type locality: «Toronto [Ontario], dans le Canada occidental» (original citation). Holotype [by monotypy] (♀) location unknown (possibly in MHNP). Synonymy established by LeConte (1873a: 316).

*Lophoglossus illini* Casey, 1913: 145. Type locality: «Illinois» (original citation). Lectotype (♂), designated by Allen (1977: 286), in USNM [# 47096]. Synonymy established by Bousquet and Larochelle (1993: 15).

*Lophoglossus bispiculatus* Casey, 1913: 146. Type locality: «Indiana» (original citation). Lectotype (♂), designated by Allen (1977: 286), in USNM [# 47097]. Synonymy established by Bousquet and Larochelle (1993: 15).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 105) to southeastern Minnesota (Gandhi et al. 2005: 926), south to Missouri (Summers 1873: 145) and West Virginia (Will 1999: 270). The records from North Carolina (Brimley 1938: 121), South Carolina (Kirk 1970: 11), and Georgia (J.E. LeConte 1849: 26; Fattig 1949: 26) need confirmation.

**Records.** CAN: ON, QC USA: CT, IA, IL, IN, MA, MI, MN, MO, NJ, NY, OH, PA, VT, WI, WV [GA, NC, SC]

### *Lophoglossus substrenuus* (Csiki, 1930)

*Pterostichus strenuus* LeConte, 1853a: 249 [secondary homonym of *Pterostichus strenuus* (Panzer, 1796)]. Type locality: «New York» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5643]. NOTE. Will (1999: 267) selected «Odenton, Ann Arundel Co[unty], M[arylan]d» as type locality but this selection should be rejected since LeConte (1853a: 249) originally specified that his specimen came from New York.

*Pterostichus substrenuus* Csiki, 1930: 627. Replacement name for *Pterostichus strenuus* LeConte, 1853.

**Distribution.** This species ranges from Long Island in New York (Schaupp 1883b: 31) and New Jersey to central Missouri, north to northeastern Illinois, south to southeastern Louisiana (Saint Tammany Parish, Igor M. Sokolov pers. comm. 2009) and central Florida [see Will 1999: Fig. 34].

**Records.** USA: AL, AR, FL, GA, IL, IN, KY, LA, MO, MS, NC, NJ, NY, PA, SC, TN, VA

### *Lophoglossus tartaricus* (Say, 1823)

*Feronia tartarica* Say, 1823a: 44. Type locality: «Mobile [Mobile County], Ala[bama]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 32963].

*Feronia complanata* Dejean, 1828: 281. Type locality: «Amérique septentrionale» (original citation). Syntype(s) probably in MHNP. Synonymy established by LeConte (1846b: 341).

**Distribution.** As far as known, this species ranges along the Coastal Plain from the coast of South Carolina to central Florida, west to east-central Texas, north along the Mississippi Valley to southern Indiana (Will 1999: 271). The records from “Iowa” (Jaques and Redlinger 1946: 297), “Illinois” (Wolcott 1900: 469), “New York” (Wickham 1895a: 187; Casey 1913: 144), New Jersey (Smith 1910: 205), and southeastern Pennsylvania (Rathvon 1869: 526, as *Pterostichus complanata*) need confirmation.

**Records. USA:** AL, AR, FL, GA, IN, LA, MS, SC, TX [IA, IL, NJ, NY, PA]

### ***Lophoglossus vernix* Casey, 1913**

*Lophoglossus vernix* Casey, 1913: 146. Type locality: «Lyme [New London County], Connecticut» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47098].

**Distribution.** This species is known from a few localities along or near the Atlantic Coast from New Hampshire to Virginia (Will 1999: 268).

**Records. USA:** CT, MA, MD, NH, RI, VA

### **Genus *PIESMUS* LeConte, 1846**

*Piesmus* LeConte, 1846b: 340. Type species: *Feronia submarginata* Say, 1823 by monotypy. Etymology (original). From the Greek *pieszo* (to press), alluding to the depressed shape of the adults (“*habitus depressus*”) [masculine].

**Diversity.** One species in the temperate regions of eastern North America.

### ***Piesmus submarginatus* (Say, 1823)**

*Feronia submarginata* Say, 1823a: 45. Type locality: «Hope [Hempstead County], Ark[ansas]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 340), in MCZ [# 33041].

*Poecilus monedula* Germar, 1824: 18. Type locality: «America boreali» (original citation). Syntype(s) probably lost. Synonymy established by LeConte (1853a: 246).

**Distribution.** This species is found from southern Ohio (Purrington and Stanton 1996: 43; Silverman et al. 2008: 733) south to “Texas” (LeConte 1858a: 28), southern Mississippi (Hancock County, CNC), and central Florida (Peck and Thomas 1998: 19). Bates (1882a: 83) recorded it from “Mexico.”

**Records. USA:** AL, AR, FL, GA, IL, KY, LA, MS, NC, OH, OK, SC, TN, TX, VA, WV – Mexico

### **Genus *GASTRELLARIUS* Casey, 1918**

*Gastrellarius* Casey, 1918: 321, 338. Type species: *Feronia honesta* Say, 1823 by original designation. Etymology. Unknown [masculine].

**Diversity.** Three species in the temperate regions of eastern North America.

**Identification.** Darlington (1932) provided a key for the identification of the species.

***Gastrellarius blanchardi* (Horn, 1891)**

*Pterostichus blanchardi* G.H. Horn, 1891: 33. Type locality: «Highland[s] [Macon County], North Carolina» (original citation). Holotype [by monotypy] (♂) in MCZ [# 34426]. Etymology. The specific name honors Frederick Blanchard [1843-1912] who worked in the banking business at Lowell, Massachusetts. Blanchard was an ardent beetle collector, essentially New England species, and worked regularly with LeConte's collection. He bequeathed his collection to the Museum of Comparative Zoology.

**Distribution.** This species is found along the Appalachian Mountains from southern West Virginia (Hoffman 1998: 36) to northern Georgia (Leng 1910: 73; Fattig 1949: 21) and northwestern South Carolina (Ciegler 2000: 63).

**Records. USA:** GA, NC, SC, VA, WV

***Gastrellarius honestus* (Say, 1823)**

*Feronia honesta* Say, 1823a: 51. Type locality: «Rumney [Grafton County] N[ew] H[ampshire]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 340), in MCZ [# 33051].

*Feronia fastidita* Dejean, 1828: 323. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 14). Synonymy established by LeConte (1863b: 9), confirmed by Lindroth (1955b: 14).

*Stomis americana* Laporte, 1834: 72. Type locality: «Amérique du Nord» (original citation). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established, under the name *Feronia fastidita* Dejean, by Chaudoir (1847: 13).

*Gastrellarius atronitens* Casey, 1918: 339. Type locality: «Indiana» (original citation). Lectotype (♂), designated by Lindroth (1975: 123), in USNM [# 47044]. Synonymy established by Lindroth (1966: 472).

*Gastrellarius scolopaceus* Casey, 1918: 340. Type locality: «probably Indiana» (original citation). Holotype [by monotypy] (♂) in USNM [# 47046]. Synonymy established by Lindroth (1966: 472).

*Gastrellarius deficiens* Casey, 1918: 340. Type locality: «Indiana» (original citation). Lectotype (♀), designated by Lindroth (1975: 123), in USNM [# 47045]. Synonymy established by Lindroth (1966: 472).

**Distribution.** This species ranges from the Nova Scotia Peninsula (Schaupp 1882c: 41; Christopher G. Majka pers. comm. 2008) to western Minnesota (Gandhi et al. 2005: 926), south along the Appalachian Mountains to northern Alabama (Löding 1945: 15), northern Georgia (Leng 1910: 73; Fattig 1949: 21), and northwestern South Carolina (Ciegler 2000: 63).

**Records. CAN:** NB, NS, ON, QC **USA:** AL, CT, DC, GA, IL, IN, KY, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, SC, TN, VA, VT, WI, WV



***Gastrellarius unicarum* (Darlington, 1932)**

*Pterostichus unicarum* Darlington, 1932: 155. Type locality: «Newfound Gap (5,000–5,200 feet), Smoky Mountains, North Carolina-Tennessee state line» (original citation). Holotype (♂) in MCZ [# 16434].

**Distribution.** This species is known from the Great Smokies along the Tennessee and North Carolina border (Darlington 1932: 155; Barr 1969: 81) and Rabun Bald in northeastern Georgia (Fattig 1949: 22).

**Records. USA:** GA, NC, TN

**Genus *Stomis* Clairville, 1806**

*Stomis* Clairville, 1806: 46. Type species: *Carabus pumicatus* Panzer, 1795 by monotypy. Etymology. Probably from the Greek *stoma* (mouth) [masculine].

**Diversity.** About 40 species in the temperate areas of the Nearctic (two species, one of them adventive) and Palaearctic Regions, arrayed in two subgenera, both represented in North America.

**Subgenus *Neostomis* Bousquet, 1983**

*Neostomis* Bousquet, 1983: 1599. Type species: *Pterostichus termitiformis* Van Dyke, 1926 by original designation. Etymology. From the Greek prefix *neo-* (new) and the generic name *Stomis* [*q.v.*], alluding to the fact that the sole species of *Stomis* placed in this taxon inhabits the New World [masculine].

**Diversity.** One North American species along the Pacific Coast.

**Identification.** Hacker (1968) redescribed the species.

***Stomis termitiformis* (Van Dyke, 1926)**

*Pterostichus termitiformis* Van Dyke, 1926a: 74. Type locality: «Marshfield [= Coos Bay, Coos County], Oregon» (original citation). Holotype (♂) in CAS [# 1826].

**Distribution.** This rarely collected species is known from one specimen collected along the west coast of Vancouver Island (Bousquet 2000: 81) and a few others collected along or near the coast of Oregon (Hacker 1968: 42).

**Records. CAN:** BC **USA:** OR

**Subgenus *Stomis* Clairville, 1806**

*Stomis* Clairville, 1806: 46. Type species: *Carabus pumicatus* Panzer, 1795 by monotypy. *Stomatomius* Gistel, 1856: 358. Type species: *Carabus pumicatus* Panzer, 1795 designated by Bousquet (2002b: 48).

*Stobeus* Fairmaire, 1889: 8. Type species: *Stobeus collucens* Fairmaire, 1889 by original designation. Synonymy established by Bousquet (1988b: 230). Etymology. Unknown [masculine].

*Eustomis* Semenov, 1889a: 378. Type species: *Stomis formosus* Semenov, 1889 by monotypy. Synonymy established by Bousquet (1983: 1597). Etymology. From the Greek *eu* (agreeable, original, primitive) and the generic name *Stomis* [*q.v.*] [masculine].

**Diversity.** Thirty-six species in Asia (29 species) and Europe (seven species), one of them adventive in eastern North America.

**Identification.** There is no taxonomic revision of the subgenus. The sole species in North America was included in Lindroth's (1966: 443) monograph.

### *Stomis pumicatus* (Panzer, 1795)

*Carabus pumicatus* Panzer, 1795: 60. Type locality: «Mannhemii [Baden-Württemberg, Germany]» (original citation). Syntype(s) possibly in ZMHB.

*Carabus tenuis* Marsham, 1802: 468. Type locality: Great Britain (inferred from title of the book). Syntype(s) possibly in BMNH. Synonymy established by Samouelle (1819: 153).

**Distribution.** This European species is adventive in North America where it is known from a few localities in Cape Breton Island (Bousquet 1987a: 124), Prince Edward Island (CNC), and New Brunswick (Kent County, Christopher G. Majka pers. comm. 2011). The first inventoried specimen collected on this continent was found in Cape Breton Highland National Park in 1984 (Bousquet 1987a: 124). The previous North American record from Hemmingford, Quebec (Darlington 1940b: 252) was based on a mislabeled specimen (see Bousquet 1987a: 124).

**Records.** CAN: NB, NS (CBI), PE – **Adventive**

### Genus *STEREOCERUS* Kirby, 1837

*Stereocerus* Kirby, 1837: 34. Type species: *Stereocerus similis* Kirby, 1837 (= *Feronia haematopus* Dejean, 1831) by monotypy. Etymology. From the Greek *stereos* (solid, firm, hard) and *ceros* (horn, by extension antenna), alluding to the stout antennae (“antennae robust”) of the adults [masculine].

*Boreobia* Tschitschérine, 1896b: 375. Type species: *Feronia imitatrix* Tschitschérine, 1896 (= *Feronia haematopus* Dejean, 1831) designated by Bousquet (1984a: 4). Etymology. From the Greek *boreas* (north) and *bios* (life) [feminine].

**Diversity.** Two Holarctic species in the arctic, subarctic, and boreal regions.

**Identification.** Lindroth (1966) redescribed both species and provided a mean for their identification through his key to Canadian species of *Pterostichus*.

### *Stereocerus haematopus* (Dejean, 1831)

*Feronia haematopus* Dejean, 1831: 769. Type locality: «côtes du Labrador» (original citation), herein restricted to Hopedale (CNC). One syntype [3 originally cited] in MHNP (Lindroth 1955b: 15).

- Stereocerus similis* Kirby, 1837: 34. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Lectotype (♂), designated by Bousquet (1999: 86), in BMNH. Synonymy established by LeConte (1865a: xxxvii), confirmed by Bousquet (1999: 86).
- Feronia strigicollis* R.F. Sahlberg, 1844: 42. Type locality: circa Okhotsk, Khabarovsk Kray, Siberia, Russia (inferred from introduction and title of the paper). Lectotype (♂), designated by Lindroth (1966: 531), in ZMUT. Synonymy established by Lindroth (1954b: 135).
- Feronia imitatrix* Tschitschérine, 1896b: 373. Type locality: «Novaja Zemlja [= Novaya Zemlya, Russia]» (original citation). Syntype(s) [2 originally cited] in ZILR. Synonymy established by Lindroth (1966: 532).
- Pterostichus lapponicus* Jedlička, 1937: 46. Type locality: «Lappon» (original citation). Holotype (♀) in NMP. Synonymy established by Bousquet (1999: 86).

**Distribution.** This Holarctic species ranges in the Palaearctic Region from northern European Russia to the Far East, south to Manchuria (Bousquet 2003d: 517), and in the Nearctic Region from Alaska (Lindroth 1966: 533) to Newfoundland (Lindroth 1955a: 88), south to high mountains in New England (Lindroth 1966: 533), the Black Hills in southwestern South Dakota (Robert L. Davidson pers. comm. 2008), and Wyoming (Lindroth 1966: 533). The record from “New York” (Notman 1928: 226) needs confirmation; that from Ohio (Everly 1927: 155) is in error. Fossil remnants of this species, dated between about 10,400 and 18,100 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96) and Cape Breton Island in Nova Scotia (Miller 1997: 250); others, believed to be 2.0–2.5 million years old, have been found in Greenland (Bennike and Böcher 1990: 336; Böcher 1995: 28).

**Records.** CAN: AB, BC, LB, MB, NF, NT, NU, ON, QC, SK, YT USA: AK, ME, MT, NH, SD, VT, WY [NY] – **Holarctic**

### *Stereocerus rubripes* (Motschulsky, 1860)

- Steroderus rubripes* Motschulsky, 1860: 94. Type locality: «Sibérie arctique» (original citation), restricted to «Anadyr [Russia]» by Lindroth (1969a: 1119). One syntype in ZMMU (Lindroth 1969a: 1119).
- Pterostichus kryzhanovskii* Lindroth, 1966: 533. Type locality: «Atkasuk [= Atqasuk], Meade R[iver], Alaska» (original citation). Holotype (♂) in MCZ [# 33502]. Synonymy established by Lindroth (1969a: 1119). Etymology. The specific name was proposed in honor of Oleg Leonidovich Kryzhanovskij [1918–1997], one of the leading Russian entomologists of his time. A veteran of World War II, Kryzhanovskij worked at the Zoological Institute of Saint Petersburg on taxonomy of various groups of beetles with a special interest in Carabidae and Histeridae. He was also known for his work on biogeography.

**Distribution.** This Holarctic species ranges from the northern part of European Russia (Bousquet 2003d: 517) to the Arctic Slope in northern Alaska. The record from “Yukon Territory” (Ball and Currie 1997: 452) could not be confirmed.

**Records.** USA: AK [YT] – **Holarctic**

**Genus *MYAS* Sturm, 1826**

*Myas* Sturm, 1826: 6, 171. Type species: *Abax chalybaeus* Palliardi, 1825 by monotypy. Etymology. Uncertain, possibly from the Latin *myax*, *-acis* (kind of pearl mussels in Pliny the Elder) or the Greek *mys*, *myos* (mouse), or *myia* (fly) [masculine]. The name was proposed by Franz Anton Ziegler and first described by Dejean (1828: 423-424).

**Diversity.** Thirty-two species (Lorenz 2005: 265-266) in the temperate regions of North America (two species), Asia (29 species), and Europe (one species), arrayed in two subgenera (Bousquet 1999: 90): *Myas s.str.* for the European species and *Trigonognatha* for the other ones.

**Subgenus *Trigonognatha* Motschulsky, 1857**

*Trigonognatha* Motschulsky, 1857a: 25. Type species: *Trigonognatha cuprescens* Motschulsky, 1857 by monotypy. Etymology. From the Greek *trigonos* (triangular) and *gnathos* (jaw), alluding to the triangular mandibles (“*mandibules triangulaires*”) of the adult [feminine].

*Aurisma* Fairmaire, 1889: 9. Type species: *Aurisma delavayi* Fairmaire, 1889 by monotypy. Synonymy established by Tschitschérine (1898a: 77).

*Neomyas* Allen, 1980: 17. Type species: *Myas cyanescens* Dejean, 1828 by original designation. Synonymy established by Bousquet (1999: 90). Etymology. From the Greek prefix *neo-* (new) and the generic name *Myas* [*q.v.*] [masculine].

**Diversity.** Thirty-one species (Lorenz 2005: 266) in eastern North America (two species) and eastern Asia (29 species).

**Identification.** Allen (1980) revised the North American under the generic name *Neomyas*. Lindroth (1966) redescribed both species.

***Myas coracinus* (Say, 1823)**

*Abax coracinus* Say, 1823a: 59. Type locality: «Rock(e)ville, P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 339), in MCZ [#33053].

**Distribution.** This species ranges from southwestern Connecticut (Krinsky and Oliver 2001: 104) to northeastern Illinois, north to the northwestern region of the lower peninsula of Michigan (Allen 1980: 20; Hatch 1925: 549), south to northern Mississippi (Union County, Drew A. Hildebrandt pers. comm. 2010), northern Alabama (Löding 1945: 15), and northwestern Georgia (Fattig 1949: 21). The records from southern Wisconsin (Rauterberg 1885: 16) and “Massachusetts” (Bousquet and Laroche 1993: 168) need confirmation.

**Records.** CAN: ON USA: AL, CT, DC, DE, GA, DE, IL, IN, KY, MD, MI, MS, NC, NJ, NY, OH, PA, TN, VA, VT, WV [MA, WI]

***Myas cyanescens* Dejean, 1828**

*Myas cyanescens* Dejean, 1828: 425. Type locality: «Amérique septentrionale» (original citation), restricted to «M[oun]t Toby [Franklin County], Mass[achusetts]» by Lindroth (1966: 445). One syntype in MHNP (Lindroth 1955b: 14).

*Myas foveatus* LeConte, 1847: 355. Type locality: «NovEboraci [= New York]» (original citation). Lectotype (♀), designated by Bousquet (1999: 91), in MCZ [# 5599]. Synonymy established by LeConte (1869b: 249), confirmed by Lindroth (1955b: 14).

*Neomyas lindrothi* Allen, 1980: 20. Type locality: «Graybeard Mountain, North Carolina» (original citation). Holotype (♂) location unknown (missing in AMNH, Richard L. Hoffman pers. comm. 2003). **New synonymy.** NOTE. Allen (1980) established *Neomyas lindrothi* exclusively on the presence of a distinct scale group on the right lateral surface of the endophallus; this group of scales being absent in *M. cyanescens*. In my opinion, this character alone is probably not of specific nature considering among others that the endophallic scales are extremely variable in members of *M. cyanescens* as noted by Allen (1980: 24) himself.

**Distribution.** This species is found from “Nova Scotia” (Larochelle and Larivière 1990a: 29) to northwestern Minnesota (Allen 1980: 24), south to northern Alabama (Löding 1945: 15) and Georgia (Fattig 1949: 21, as *M. foveatus*). A specimen simply labeled from Texas is known (Allen 1980: 26).

**Records.** CAN: NB, NS, ON, QC USA: AL, CT, GA, IA, IL, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, RI, TN, VA, VT, WI, WV [TX]

**Genus *PTEROSTICHUS* Bonelli, 1810**

*Pterostichus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus fasciatopunctatus* Creutzer, 1799 designated by Curtis (1828: plate 196). Etymology. From the Greek *pteron* (wing, by extension elytron) and *stichos* (row, line), possibly alluding to the striae on the elytra of the adults [masculine].

**Diversity.** About 1,055 species (Lorenz 2005: 269–287, 289, as *Pterostichus*, *Lyropeidius*, and *Abacidus*) in the Nearctic (about 180 species, of which four are adventive) and Palaearctic (about 875 species) Regions. *Percolaus* Bates with two Middle American species, *Mayaferonia* Ball and Roughley with two Middle American species, and *Allotriopus* Bates with eight Mexican species are also included in the genus *Pterostichus* by some authors (e.g., Ball and Roughley 1982).

**Faunistic Note.** *Pterostichus* (*Steropus*) *madidus* (Fabricius), a European species, is known in North America from two specimens, one collected in 1913 in Quebec (Lindroth 1966: 476) and the other one in 1984 in Somerset County, Pennsylvania (Cameron and Reeves 1990: 127). Until more specimens are collected on this continent, the species is not considered as a North American resident.

**Taxonomic Note.** Based on phylogenetic analyses from two nuclear gene sequences (wingless and 28SrDNA), Sasakawa and Kubota (2007) concluded that the genus *Pter-*



*ostichus sensu* Bousquet (1999) was monophyletic with the exception of *Bothriopterus* which forms a clade with *Stomis* and *Myas*.

### Subgenus *Argutor* Dejean, 1821

*Argutor* Dejean, 1821: 11. Type species: *Carabus vernalis* Panzer, 1795 designated by Curtis (1837: plate 666). Etymology. Uncertain, possibly from the Latin *argutor* (to stand about, to trample on) [masculine]. The name was proposed by Johann Karl Megerle von Mühlfeld and made available by Dejean.

*Lagarus* Chaudoir, 1838: 10. Type species: *Carabus vernalis* Panzer, 1795 by original designation. Etymology (original). From the Greek *lagaros* (loose, thin, by extension spindly), alluding to the body shape of adults of the two species Chaudoir included in this taxon [masculine].

*Gluptodactylus* Gautier des Cottés, 1869: 147. Type species: *Carabus vernalis* Panzer, 1795 by monotypy. Etymology (original). From the Greek *glyptos* (carved) and *dactylos* (finger), alluding to the presence of a sulcus on the male first tarsomeres (“♂ les premiers articles des tarse ... sillonnés en dessus”) [masculine].

*Aulacotarsus* Reiche [in Reiche and Lallemant], 1872: 16. Unnecessary replacement name for *Gluptodactylus* Gautier des Cottés, 1869. Etymology. From the Greek *aulacos* (furrow) and *tarsos* (tarsus) [masculine].

*Eolagarus* Tschitschérine, 1899d: 287. Type species: *Lagarus dulcis* Bates, 1883 by monotypy. Synonymy established, under the name *Lagarus* Chaudoir, implicitly by Lindroth (1966: 501), explicitly by Lafer (1984: 19). Etymology. From the Greek *eos* (east) and the generic name *Lagarus* [*q.v.*] [masculine].

*Pseudargutor* Casey, 1918: 324. Type species: *Feronia erythropus* Dejean, 1828 (= *Loxandrus commutabilis* Motschulsky, 1866) by original designation. Synonymy established, under the name *Lagarus* Chaudoir, by Lindroth (1966: 501). Etymology (original). From the Greek *pseudos* (fallacy, lie) and the generic name *Argutor* [*q.v.*] [masculine].

*Pseudolagarus* Lutshnik, 1922: 70. Type species: *Platysma leconteianum* Lutshnik, 1922 (= *Loxandrus commutabilis* Motschulsky, 1866) by original designation. Synonymy established, under the name *Lagarus* Chaudoir, by Lindroth (1966: 501). Etymology (original). From the Greek *pseudos* (fallacy, lie) and the generic name *Lagarus* [*q.v.*] [masculine].

*Paralagarus* Lutshnik, 1922: 71. Type species: *Platysma chungusorum* Lutshnik, 1922 (= *Pterostichus sulcitaris* Morawitz, 1863) by original designation. Synonymy established, under the name *Lagarus* Chaudoir, by Lafer (1984: 19). Etymology. From the Greek *para* (near, beside) and the generic name *Lagarus* [*q.v.*] [masculine].

**Diversity.** Thirteen species in the boreal and temperate areas of the Nearctic (three species, one of them adventive) and Palearctic (11 species) Regions.

**Identification.** Bousquet and Webster (2004) reviewed the Nearctic species.

**Taxonomic Note.** This subgenus was known until the late 1980s under the name *Lagarus* Chaudoir.

## [commutabilis group]

***Pterostichus commutabilis* (Motschulsky, 1866)**

*Feronia erythropus* Dejean, 1828: 243 [secondary homonym of *Pterostichus erythropus* (Marsham, 1802)]. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1966: 502). One syntype in MHNP (Lindroth 1966: 502).

*Platyderus nitidus* Kirby, 1837: 29 [secondary homonym of *Pterostichus nitidus* (Dejean, 1828)]. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Lectotype (♀), designated by Bousquet (1999: 99), in BMNH. Synonymy established by LeConte (1846b: 231), confirmed by Bousquet (1999: 99).

*Loxandrus commutabilis* Motschulsky, 1866: 243. Type locality: «Am[érique] b[oréale]» (lectotype label). Lectotype (♀), designated by Bousquet and Larochelle (1993: 15), in ZMMU. Synonymy established by Bousquet and Larochelle (1993: 15).

*Platysma leconteianum* Lutshnik, 1922: 70. Replacement name for *Platysma erythropus* (Dejean, 1828) and *Platysma nitida* (Kirby, 1837).

**Distribution.** This species ranges from Cape Breton Island and Prince Edward Island to south-central British Columbia, south to the Lake Tahoe region in the Sierra Nevada, southern Colorado along the Rocky Mountains, northeastern Kansas (Popenoe 1877: 23, as *P. erythropus*), southern Indiana, and Delaware along the Atlantic Coast [see Bousquet and Webster 2004: Fig. 5].

**Records.** CAN: BC, MB, NB, NS (CBI), ON, PE, QC, SK USA: CA, CO, CT, DE, IA, IL, IN, KS, MA, ME, MI, MN, ND, NE, NH, NJ, NY, OH, PA, RI, SD, VT, WA, WI

***Pterostichus praetermissus* (Chaudoir, 1868)**

*Feronia praetermissa* Chaudoir, 1868b: 331. Type locality: «Louisiane» (lectotype label). Lectotype (♀), designated by Bousquet and Larochelle (1993: 14), in MCZ [# 34423].

**Distribution.** This species ranges from Nova Scotia (Christopher G. Majka pers. comm. 2004) to the Missouri River in southeastern South Dakota and eastern Nebraska, south to southwestern Texas (Dajoz 2007: 23, as *P. commutabilis*), northern Alabama, and northern Florida [see Bousquet and Webster 2004: Fig. 6].

**Records.** CAN: NS, ON, QC USA: AL, CT, FL, GA, IA, IL, IN, LA, MA, MD, ME, MI, MN, NE, NH, NJ, NY, OH, PA, RI, SC, SD, TX, VA, VT, WI

## [vernalis group]

***Pterostichus vernalis* (Panzer, 1795)**

*Carabus vernalis* Panzer, 1795: 60 [primary homonym of *Carabus vernalis* Müller, 1776]. Type locality: Germany (inferred from title of the book). Syntype(s) possibly in ZMHB. NOTE. Panzer's name should be permanently invalid because it is

a primary homonym. However, *Carabus vernalis* Müller has never been interpreted since its original description to my knowledge and the name is a *nomen dubium*.

*Carabus crenatus* Duftschmid, 1812: 92. Type locality: «um Linz [Austria]» (original citation). Syntype(s) probably lost. Synonymy established by Dejean (1821: 11).

**Distribution.** This European species is adventive in North America where it is known from southern Quebec, south of the Saint Lawrence River, eastern Ontario (near Avonmore, CNC), and northern Vermont (Bousquet and Webster 2004: 658). The first inventoried specimen collected on this continent was found in 1997 (Byers et al. 2001: 84). The previous record from Quebec (Lindroth 1966: 503) was based on a mislabeled specimen.

**Records.** CAN: ON, QC USA: VT – **Adventive**

### Subgenus *Phonias* des Gozis, 1886

*Phonias* des Gozis, 1886: 8. Type species: *Platysma interstincta* Sturm, 1824 (= *Platysma ovoidea* Sturm, 1824) by original designation. Etymology. Uncertain, possibly from the Greek *phonos* (slaughter, murder) and suffix *-ios* (pertaining to) [masculine].

*Micromaseus* Casey, 1918: 324 [junior homonym of *Micromaseus* Desbrochers des Loges, 1906]. Type species: *Feronia patruelis* Dejean, 1831 by original designation. Etymology. From the Greek *micros* (small, little) and the generic name *Omaseus* [*q.v.*] [masculine].

*Omaseulus* Lutshnik, 1929: 5. Replacement name for *Micromaseus* Casey, 1918. Etymology. From the generic name *Omaseus* [*q.v.*] and the Latin suffix *-ulus* (small, little) [masculine].

*Americomaseus* Csiki, 1930: 644. Replacement name for *Micromaseus* Casey, 1918. Etymology. From the English prefix *americo-* (relating to America) and the generic name *Omaseus* [*q.v.*] [masculine].

*Biphonias* Jeanne, 1988: 74. Type species: *Pterostichus longinquus* Bates, 1873 by original designation. Synonymy established by Kryzhanovskij et al. (1995: 99). Etymology. From the Latin prefix *bi-* (two) and the generic name *Phonias* [*q.v.*] [masculine].

**Diversity.** Twenty-eight species (Lorenz 2005: 275) in the boreal and temperate areas of the Nearctic (four species, one of them adventive) and Palaearctic (25 species) Regions.

**Identification.** Lindroth (1966) reviewed the Nearctic species.

### *Pterostichus corrusculus* LeConte, 1873

*Pterostichus corrusculus* LeConte, 1873a: 314. Type locality: «Massachusetts» (original citation), herein restricted to Medford, Middlesex County (CNC). Lectotype (♂), designated by Bousquet (1999: 103), in MCZ [# 5650].

*Pterostichus corrusculus* Csiki, 1930: 644. Unjustified emendation of *Pterostichus corrusculus* LeConte, 1873.

**Distribution.** This small *Pterostichus* is known from New Brunswick (Webster and Bousquet 2008: 18) to northern Wisconsin (Marquette County, CMNH; Rauterberg 1885: 16; Messer 2010: 37), south to central Pennsylvania (Clinton County, CMNH) and northeastern New Jersey (Bergen County, CNC).

**Records.** CAN: NB, ON, QC USA: CT, MA, ME, NH, NJ, NY, PA, RI, WI

### *Pterostichus femoralis* (Kirby, 1837)

*Argutor femoralis* Kirby, 1837: 30. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1966: 504). Lectotype (♂), designated by Bousquet (1999: 103), in BMNH.

*Pterostichus desidiosus* LeConte, 1863c: 11. Type locality: «western states» (original citation). Lectotype (♀), designated by Bousquet (1999: 104), in MCZ [# 5649]. Synonymy established by LeConte (1873a: 309), confirmed by Bousquet (1999: 104).

*Micromaseus aequicollis* Casey, 1918: 379. Type locality: «S[ain]t Louis, Missouri» (original citation). Holotype [by monotypy] (♂) in USNM [# 47074]. Synonymy established by Lindroth (1966: 504).

**Distribution.** The range of this species extends from the Saguenay River in Quebec (Laroche 1975: 101) to east-central British Columbia (Jarrett and Scudder 2001: 383), south to northeastern New Mexico (Fall and Cockerell 1907: 158; San Miguel County, MCZ), the Texas Panhandle (Robert L. Davidson pers. comm. 2008), and the District of Columbia (Ulke 1902: 6). The records from “Georgia” (J.E. LeConte 1849: 26) and southern Louisiana (Summers 1874a: 80) need confirmation.

**Records.** CAN: AB, BC, MB, NB, ON, QC, SK USA: AR, CO, CT, DC, IA, IL, IN, KS, MA, MI, MN, MO, MT, ND, NE, NH, NJ, NM, NY, OH, OK, PA, SD, TX, VT, WI [GA, LA]

### *Pterostichus patruelis* (Dejean, 1831)

*Feronia patruelis* Dejean, 1831: 759. Type locality: «Amérique septentrionale» (original citation), restricted to «W[est] Roxbury [Suffolk County], Mass[achusetts]» by Lindroth (1966: 505). Holotype [by monotypy] (♀) in MHNP.

*Argutor bicolor* Kirby, 1837: 30. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Lectotype (♂), designated by Bousquet (1999: 104), in BMNH. Synonymy established by LeConte (1870: 396), confirmed by Bousquet (1999: 104).

*Argutor linearis* Mannerheim, 1853: 126. Type locality: «ad ostia fl[umen] Kaktnu [= Kenai River] peninsulae Kenai [Alaska]» (original citation). Syntype(s) location unknown (Lindroth 1966: 505). Synonymy established by Hamilton (1894a: 9).

**Distribution.** This species occurs from Newfoundland (Lindroth 1955a: 91) to the Gulf Coast of Alaska (Lindroth 1966: 506), south at least to northeastern Washington (Pend Oreille County, CNC), eastern Kansas (Popenoe 1877: 23; Lindroth 1966: 505), and southwestern Virginia (Hoffman 1998: 39).

**Records. FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), ON, PE, QC, SK, YT **USA:** AK, CT, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NJ, NY, OH, PA, RI, SD, VA, VT, WA, WI, WV

***Pterostichus strenuus* (Panzer, 1796)**

*Carabus strenuus* Panzer, 1796b: no 6. Type locality: «Brunsvigiae [= Brunswick, Germany]» (original citation). Syntype(s) location unknown (possibly in ZMHB).

**Distribution.** This European species is adventive in North America on both coasts where it is found in southeastern Newfoundland (Lindroth 1955a: 91; Larson and Langor 1982: 593) and the Vancouver area in British Columbia (Spence and Spence 1988: 158, Fig. 8). The first inventoried specimen collected on this continent was found in Newfoundland in 1937 (see Lindroth 1955a: 91).

**Records. CAN:** BC, NF – **Adventive**

**Subgenus *Bothriopterus* Chaudoir, 1835**

*Tilodes* Fischer von Waldheim, 1829a: 19 [potential *nomen oblitum*, see Bousquet (2002c: 179)]. Type species: *Carabus oblongopunctatus* Fabricius, 1787 designated by Bousquet (1999: 104). Etymology. Unknown [masculine].

*Bothriopterus* Chaudoir, 1835: 447 [potential *nomen protectum*]. Type species: *Carabus oblongopunctatus* Fabricius, 1787 designated by Chaudoir (1838: 9). Etymology (see Chaudoir 1838: 9). From the Greek *bothros* (pit, dimple) and *pteron* (wing, by extension elytron), probably alluding to the foveolate discal setigerous punctures on the third elytral interval in adults of *Pterostichus oblongopunctatus* and related species [masculine].

*Dysidius* Chaudoir, 1838: 8. Type species: *Feronia morosa* Dejean, 1828 (= *Feronia muta* Say, 1823) by original designation. Synonymy established by Goulet (1974a: 27). Etymology (original). From the Greek *dys-* (bad, with difficulty; referring to by Chaudoir as deplorable, sad) and *eidōs* (form, appearance), alluding to the specific name of the sole species (*F. morosa*) Chaudoir attributed to this genus-group taxon [masculine].

*Geopezus* Gistel, 1856: 358. Type species: *Carabus oblongopunctatus* Fabricius, 1787 by monotypy.

*Parargutor* Casey, 1918: 324. Type species: *Pterostichus lustrans* LeConte, 1851 by original designation. Synonymy established, under the name *Dysidius* Chaudoir, by Lindroth (1966: 489). Etymology. From the Greek *para* (near, beside) and the generic name *Argutor* [*q.v.*] [masculine].

**Diversity.** Eighteen species (Lorenz 2005: 273) in the arctic (marginal), subarctic, boreal, and temperate areas of the Nearctic (six species, one of them circumboreal) and Palaearctic (12 species, including two in the Himalayas) Regions, with one species (*P. tropicalis* Bates) in the mountains of northern Mexico.



**Identification.** Tschitschérine (1900d) published a key to the species but his work is outdated. Lindroth (1966: 484–491) reviewed the North American species under his *adstrictus* and *mutus* groups.

[**adstrictus group**]

***Pterostichus adstrictus* Eschscholtz, 1823**

*Pterostichus adstrictus* Eschscholtz, 1823: 103. Type locality: «Unalaschka [Aleutian Islands, Alaska]» (original citation). Three syntypes in ZMH (Silfverberg 1987: 11). NOTE. This species was also made available the same year by an illustration in Fischer von Waldheim (1823: plate 19, figure 1).

*Feronia vitrea* Dejean, 1828: 320. Type locality: «Kamtschatka [Russia]; île de Sitka sur la côte nord-ouest de l'Amérique septentrionale [Alaska]» (original citation). Syntype(s) probably in MHNP. Synonymy established by Tschitschérine (1900d: 609).

*Feronia luczotii* Dejean, 1828: 321. Type locality: «île de Terre-Neuve [= Newfoundland]» (original citation). Syntype(s) probably in MHNP. Synonymy established by Tschitschérine (1900d: 609). Etymology. The specific name was proposed for François-Marie-Julien Luczot de La Thébaudais [1769–1844], Chief engineer of Morbihan in France and amateur entomologist with an interest in Lepidoptera and Coleoptera. It is under his chairmanship that 18 entomologists formed the *Société entomologique de France* on January 31, 1832 at the headquarters of the *Société philomathique* (Peyerimhoff 1932: 4). His son, ship lieutenant Charles Luczot, brought him insects from Newfoundland, Chile, and Madagascar and some of them found their way into the hands of Dejean.

*Harpalus borealis* Zetterstedt, 1828: 32. Type locality: «Ofver-Tornea, Wittangi et Juckasjervi [Sweden]» (original citation), restricted to «Vittangi [Norrbotten], Lapl[and]» by Lindroth (1966: 485). Lectotype (♂), designated by Lindroth (1966: 485), in ZMLS. Synonymy established by Mannerheim (1852: 295), confirmed by Lindroth (1966: 485).

*Omasus bulwerii* Stephens, 1828a: 113. Type locality: «near Dublin [Ireland]» (original citation). Syntype(s) probably in BMNH. Synonymy established, under the name *P. orinomus* (Stephens), by Wilson and Duncan (1834: 83).

*Omasus orinomum* Stephens, 1828a: 114. Type locality: «base of Ben Lomond, in Scotland; Westmoreland, Cumberland, and Yorkshire [United Kingdom]» (original citation). Syntype(s) probably in BMNH. Synonymy established with the name *P. vitreus* (Dejean) by LeConte (in Bell 1859: 248).

*Feronia oblongo-notata* Say, 1830b: (6) [3]. «Aweme, Man[itoba]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33037]. Synonymy established, under the name *P. luczotii* (Dejean), by LeConte (1850: 206). NOTE. «N[orth] W[est] Territory» was the area originally cited by Say (1830b: (6) [3]).

*Pterostichus seriepunctatus* Mannerheim, 1843: 204. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Lectotype (♂), designated by Lindroth

- (1966: 485), in ZMH. Synonymy established by Tschitschérine (1900d: 609), confirmed by Lindroth (1966: 485).
- Feronia commixta* Chaudoir, 1850b: 135. Type locality: «Sitka [Alaska]» (original citation). Syntype(s) probably in MHNP. Synonymy established by Lindroth (1966: 485).
- Bothriopterus sexpunctatus* Mannerheim, 1853: 127. Type locality: «insula Kadjak [Alaska]» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1966: 485), in ZMH. Synonymy established by Tschitschérine (1900d: 609), confirmed by Lindroth (1954b: 133).
- Pterostichus motschulskyi* Mäklin, 1855: 39. Type locality: «continenti Americes borealis ad fontes Kaknu [= Skilak Lake or Kenai River, both on Kenai Peninsula, Alaska]» (original citation for *P. orinomus* (Stephens) *sensu* Mannerheim, 1852). Lectotype (♂), designated by Bousquet (1999: 108), in ZMH. Synonymy established, under the name *P. luzotii* (Dejean), by LeConte (1863b: 9), confirmed by Bousquet (1999: 108). NOTE. This name was proposed for *Pterostichus orinomus* (Stephens, 1828) *sensu* Mannerheim (1852: 295).
- Platysma arctica* Reiche, 1857: viii. Type locality: «Islandia, etiam in Lapponia» (original citation). Syntype(s) location unknown (possibly in MHNG). Synonymy established by Tschitschérine (1900d: 609).
- Platysma obtusangula* Motschulsky, 1859a: 150. Type locality: California (inferred from title of the paper). One syntype in ZMMU (Keleinikova 1976: 208), possibly another one in MCZ (Lindroth 1966: 485). Synonymy established, under the name *P. sexpunctatus* (Mannerheim), by LeConte (1863b: 9), confirmed by Lindroth (1954b: 133).
- Platysma oblongiuscula* Motschulsky, 1859a: 151. Type locality: California (inferred from title of the paper). One syntype, listed as “corruptum,” in ZMMU (Keleinikova 1976: 208). Synonymy established by LeConte (1863b: 9).
- Bothriopterus latescans* Casey, 1913: 139. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47089]. Synonymy established by Lindroth (1954b: 133).
- Bothriopterus sericeus* Casey, 1913: 140. Type locality: «Clackamas Co[unty], Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47090]. Synonymy established by Hatch (1953: 118), confirmed by Lindroth (1954b: 133).
- Bothriopterus latebricola* Casey, 1913: 141. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47092]. Synonymy established by Lindroth (1954b: 133).
- Bothriopterus shastanus* Casey, 1913: 141. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47093]. Synonymy established by Hatch (1953: 118), confirmed by Lindroth (1954b: 133).
- Bothriopterus saxatilis* Casey, 1913: 142. Type locality: «Boulder Co[unty], Colorado» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975:

124), in USNM [# 47095]. Synonymy established by Hatch (1953: 118), confirmed by Lindroth (1954b: 133).

*Bothriopterus laticollis* Casey, 1913: 142. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47094]. Synonymy established by Lindroth (1954b: 133).

*Bothriopterus angusticollis* Casey, 1924: 77. Type locality: «Provo Cañon [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47091]. Synonymy established by Lindroth (1954b: 133).

**Distribution.** This circumpolar species ranges from Iceland to the coast of Bering Sea (Bousquet 2003d: 487) and from Alaska, including the Aleutian, Kodiak, and possibly Pribilof Islands (Lindroth 1966: 487), to Newfoundland (Lindroth 1955a: 94), south to north-central Pennsylvania (LeConte 1867a: 346, as *P. luczotii*), northeastern Indiana (Blatchley 1910: 98, as *P. luczotii*; Schrock 1985: 353), the Black Hills in western South Dakota (Kirk and Balsbaugh 1975: 22), the Black Range in west-central New Mexico (Fall and Cockerell 1907: 158, as *P. luczotii*), and the Sierra Nevada in California (Dajoz 2007: 16). The record from Virginia (Goulet 1974a: 19) is apparently based on misidentified specimens of *P. pensylvanicus* (Hoffman 1998: 39); that from “Nebraska” (Schaupp 1882c: 42, as *P. luczotii*) probably refers to Colorado.

**Records.** **FRA:** PM **CAN:** AB, BC (QCI, VCI), LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, AZ, CA, CO, CT, IA, ID, IN, MA, ME, MI, MN, MT, ND, NH, NM, NY, OR, PA, RI, SD, UT, VT, WA, WI, WY – **Holarctic**

### *Pterostichus oregonus* LeConte, 1861

*Pterostichus oregonus* LeConte, 1861b: 339. Type locality: «east of Fort Colville [Washington]» (original citation). Lectotype (♂), designated by Bousquet (1999: 110), in MCZ [# 5647].

*Omaseus colligatus* Walker, 1866: 314. Type locality: British Columbia (inferred from title of the book). Lectotype (♀), designated by Bousquet (1999: 111), in BMNH. Synonymy established by LeConte (1870: 399), confirmed by Bousquet (1999: 111).

**Distribution.** This species ranges from southern British Columbia (Lindroth 1966: 489) south to northern Utah (Cache, Davis and Utah Counties, Robert L. Davidson pers. comm. 2012) and eastern Oregon (Hatch 1953: 118).

**Records.** **CAN:** BC **USA:** ID, OR, UT, WA

### *Pterostichus pensylvanicus* LeConte, 1873

*Pterostichus pensylvanicus* LeConte, 1873a: 314. Type locality: «mountains of Pennsylvania» (original citation). Lectotype (♂), designated by Bousquet (1999: 111), in MCZ [# 5646].

**Distribution.** The range of this species extends from Newfoundland (Lindroth 1955a: 93) to central British Columbia, north to Fort Smith in southern Northwest Territo-

ries (Lindroth 1966: 487), south to the Black Hills in western South Dakota (Kirk and Balsbaugh 1975: 22), southeastern Iowa (Wickham 1911b: 6), and west-central Virginia (Hoffman 1998: 39).

**Records.** **CAN:** AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK **USA:** CT, IA, IL, IN, MA, MD, ME, MI, MN, ND, NH, NJ, NY, OH, PA, RI, SD, VA, VT, WI, WV

[**mutus group**]

***Pterostichus lustrans* LeConte, 1851**

*Pterostichus lustrans* LeConte, 1851: 181. Type locality: «San Francisco, San Jose, et S[an]ta Isabel [California]» (original citation), herein restricted to San Francisco [San Francisco County]. Lectotype (♂), designated by Bousquet (1999: 109), in MCZ [# 80].

*Platysma puncticollis* Motschulsky, 1859a: 149. Type locality: «Col[onie] Ross [farming community about 75 miles north of San Francisco along the coast, California]» (original citation). Lectotype (probably ♂), designated by Bousquet (1997b: 334), in ZMMU. Synonymy established by Leng (1920: 58), confirmed by Bousquet (1997b: 335).

*Parargutor atrolucens* Casey, 1918: 378. Type locality: «Clackamas Co[unty], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47072]. Synonymy established by Lindroth (1966: 490).

**Distribution.** This species ranges from Vancouver Island (Lindroth 1966: 491) and northern Idaho (Idaho County, CNC) south to central New Mexico (Bernalillo County, CMNH), southern Arizona (Wickham 1898: 300; Snow 1906b: 162), and southern California (Fall 1901a: 45; Moore 1937: 9).

**Records.** **CAN:** BC (VCI) **USA:** AZ, CA (CHI), CO, ID, NM, NV, OR, UT, WA

***Pterostichus mutus* (Say, 1823)**

*Feronia muta* Say, 1823a: 44. Type locality: «Black M[oun]t[ain]s, N[o]rth C[arolina]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33039].

*Omaseus politus* T.W. Harris, 1828c: 123. Type locality: «N[ew] Y[ork]» (lectotype label). Lectotype (♂), designated by Bousquet (1999: 110), in MCZ [# 34571]. Synonymy established, under the name *P. morosus* (Dejean), by Harris (1833: 567), confirmed by Bousquet (1999: 110).

*Feronia morosa* Dejean, 1828: 282. Type locality: «Amérique septentrionale» (original citation). Syntype(s) probably in MHNP. Synonymy established by LeConte (1853a: 242).

*Feronia carbonaria* Dejean, 1828: 283. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♂) probably in MHNP. Synonymy established by LeConte (1846b: 335).

*Omaseus picicornis* Kirby, 1837: 33. Type locality: northern parts of British America (inferred from title of the book). Lectotype (♂), designated by Bousquet (1999: 110), in BMNH. Synonymy established by LeConte (1846b: 335), confirmed by Bousquet (1999: 110).

*Pterostichus stenopus* Hausen, 1891a: 253. Type locality: «S[ain]t[e] Rose [= present day Laval], P[rovince of] Q[uebec]» (original citation). Holotype [by monotypy] (♂) location unknown. Synonymy established by Horn (1892c: 41).

*Pterostichus pulvinatus* Hausen, 1891b: 159. Type locality: «nord du Vermont» (original citation). Holotype [by monotypy] location unknown. Synonymy established by Horn (1892c: 41).

*Dysidius egens* Casey, 1924: 74. Type locality: «New Jersey» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47071]. Synonymy established by Lindroth (1954b: 132).

**Distribution.** This species ranges from western Newfoundland (Lindroth 1955a: 92) to “Montana” (Lindroth 1966: 490), south to northeastern New Mexico (San Miguel County, CNC), northeastern Kansas (Popenoe 1877: 23), and northeastern Georgia (Leng 1910: 73; Fattig 1949: 27); isolated in southwestern British Columbia, including Vancouver Island (Lindroth 1966: 490). The record from “Idaho” (Bousquet and Laroche 1993: 170) needs confirmation. Lindroth (1966: 490) postulated that the best explanation for the presence of this species in southwestern British Columbia is that it was accidentally introduced into the area.

**Records.** **CAN:** BC (VCI), MB, NB, NF, NS (CBI), ON, PE, QC **USA:** CO, CT, DC, DE, GA, IA, IL, IN, KS, MA, MD, ME, MI, MN, MT, NC, ND, NE, NH, NJ, NM, NY, OH, PA, RI, SD, TN, VA, VT, WI, WV [ID]

### *Pterostichus trinarius* (Casey, 1918)

*Pterostichus purpuratus* LeConte, 1853a: 242 [primary homonym of *Pterostichus purpuratus* Heer, 1841]. Type locality: «Ohio» (original citation). Lectotype (♂), designated by Bousquet (1999: 111), in MCZ [# 5645].

*Dysidius purpuratus trinarius* Casey, 1918: 377. Type locality: «Camphill [Cumberland County], Pennsylvania» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47070]. Synonymy established by Nicolay and Weiss (1934: 210), confirmed by Lindroth (1966: 489).

*Pterostichus ohionis* Csiki, 1930: 638. Replacement name for *Pterostichus purpuratus* LeConte, 1853.

**Distribution.** This species ranges from southeastern South Dakota (Kirk and Balsbaugh 1975: 22) to southwestern New York (Smith 1910: 205), south to Virginia (Nicolay and Weiss 1934: 211; Carrington 2002: 108), central West Virginia (Carrington 2002: 108), and central Missouri (Boone County, CMNH).

**Records.** **USA:** IA, IL, IN, KY, MD, MI, MO, NJ, NY, OH, PA, SD, VA, WI, WV



**Subgenus *Melanius* Bonelli, 1810**

*Melanius* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus aterrimus* Herbst, 1784 by subsequent monotypy in Latreille (1816: 194). Etymology. Uncertain, possibly from the Greek *melanos* (black), alluding to the black coloration of adults of the species in the hands of Bonelli [masculine].

*Omascus* Dejean, 1821: 12. Type species: *Carabus aterrimus* Herbst, 1784 designated by Curtis (1824: plate 15). Etymology. Unknown [masculine]. The name was proposed by Franz Anton Ziegler and made available by Dejean.

*Lyperus* Chaudoir, 1838: 12. Type species: *Carabus aterrimus* Herbst, 1784 by original designation. Etymology (original). From Greek *lyperos* (painful, by extension sad) [masculine].

*Lyperosomus* Motschulsky, 1850a: 47. Unnecessary replacement name for *Lyperus* Chaudoir, 1838. Etymology. From Greek *lyperos* (painful, by extension sad) and *soma* (body) [masculine].

*Metamelanius* Tschitschérine, 1900b: 395. Type species: *Feronia ebenina* Dejean, 1828 by monotypy. Synonymy established by Lindroth (1966: 498). Etymology. From the Greek *meta* (near, among) and the generic name *Melanius* [q.v.] [masculine].

**Diversity.** Eight species in the boreal and temperate regions of the Nearctic (three eastern species) and Palaearctic (five species, of which three occur in the Far East) Regions.

**Identification.** Lindroth (1966) reviewed the North American species. One new species was described subsequently by Goulet and Bousquet (1983).

**[corvinus group]*****Pterostichus corvinus* (Dejean, 1828)**

*Feronia corvina* Dejean, 1828 [29 November]: 281. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1966: 499). One syntype [2 originally cited] in MHNP (Lindroth 1966: 499).

*Omascus subpunctatus* T.W. Harris, 1828c [7 November]: 123. Type locality: «V[ermon]t» (lectotype label). Lectotype (♂), designated by Bousquet (1999: 115), in MCZ [# 34570]. Synonymy established with doubt by Harris (1833: 567), confirmed by Bousquet (1999: 115). NOTE. This name has always been listed as a junior synonym of Dejean's name and for that reason the name is retained here as invalid. The publication date of Dejean's work is from an external source (see Bousquet 2004a: 46) and the actual publication date is probably at least two to three weeks earlier.

*Omascus tenebrosus* Chaudoir, 1837b: 30. Type locality: «Amérique septentrionale» (original citation). Syntype(s) probably in MHNP. Synonymy established by LeConte (1863b: 9).

*Omascus aequalis* Casey, 1924: 72. Type locality: «New Jersey» (original citation). Lectotype (♀), designated by Lindroth (1975: 125), in USNM [# 47065]. Synonymy established by Nicolay and Weiss (1934: 210), confirmed by Lindroth (1954b: 132).

**Distribution.** The range of this species extends from Nova Scotia (Majka et al. 2007: 9) to south-central British Columbia, as far north as northeastern British Columbia (Lindroth 1966: 499–500) and southern Northwest Territories (CNC), south to eastern Washington (Hatch 1953: 117), northern Colorado (Haubold 1951: 704; Armin 1963: 224), southern Iowa (Union County, Foster F. Purrington pers. comm. 2011), and northeastern South Carolina (Ciegler 2000: 66). The record from southwestern California (Moore 1937: 9) is probably in error.

**Records.** CAN: AB, BC, MB, NB, NS, NT, ON, PE, QC, SK USA: CO, CT, DC, GA, IA, IL, IN, MA, MD, ME, MI, MN, ND, NE, NH, NJ, NY, OH, PA, RI, SC, SD, VA, VT, WA, WI, WV

### [*ebeninus* group]

#### *Pterostichus castor* Goulet and Bousquet, 1983

*Pterostichus castor* Goulet and Bousquet, 1983: 281. Type locality: «Limbour [= Gati-neau], Qué[bec]» (original citation). Holotype (♂) in CNC [# 17028].

**Distribution.** This species is restricted to a small area from New Brunswick (Webster and DeMerchant 2012: 6) to western Ontario, south to northern Wisconsin (Messer 2010: 37), northern Michigan (Dunn 1985a: 12), and northeastern Pennsylvania (Pike County, CMNH) [see Goulet and Bousquet 1983: map 1].

**Records.** CAN: NB, ON, QC USA: MI, NH, PA, VT, WI

#### *Pterostichus ebeninus* (Dejean, 1828)

*Feronia ebenina* Dejean, 1828: 307. Type locality: «Amérique septentrionale» (original citation), restricted to «New Orleans [Orleans Parish], Louis[iana]» by Lindroth (1966: 498). Syntype(s) location unknown (possibly in MHNP).

*Lyperus acutangulus* Chaudoir, 1843b: 771. Type locality: «Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) [2 originally cited] probably in MHNP. Synonymy established by Schaupp (1882c: 42).

**Distribution.** This species ranges from “Rhode Island” (Sikes 2003: 7) to “Minnesota” (Gandhi et al. 2005: 926), including southernmost Ontario (Lindroth 1966: 499, possibly only as strays), south to “Texas” (Schaupp 1882c: 42; Nicolay and Weiss 1934: 209), southeastern Louisiana (Lindroth 1966: 498), and southern Florida (Peck and Thomas 1998: 20).

**Records.** CAN: ON USA: AL, AR, DC, FL, GA, IA, IL, IN, LA, MD, MI, MN, MO, MS, NC, NJ, NY, OH, PA, RI, SC, TN, TX, VA, WI

### Subgenus *Pseudomaseus* Chaudoir, 1838

*Pseudomaseus* Chaudoir, 1838: 10. Type species: *Carabus nigrita* Paykull, 1792 by original designation. Etymology (original). From the Greek *pseudos* (fallacy, lie) and the generic name *Omaseus* [*q.v.*] [masculine].

**Diversity.** Eighteen species (Lorenz 2005: 274-275) in the boreal and temperate regions of the Nearctic (two species) and Palaearctic (16 species) Regions.

**Identification.** Bousquet and Pilon (1984) commented on the structural differences between the two North American species.

***Pterostichus luctuosus* (Dejean, 1828)**

*Feronia luctuosa* Dejean, 1828 [29 November]: 284. Type locality: «Amérique septentrionale» (original citation), restricted to «Arlington [Middlesex County], Mass[achusetts]» by Lindroth (1966: 501). One syntype in MHNP (Lindroth 1966: 501).

*Omaseus hamatus* T.W. Harris, 1828c [7 November]: 123. Type locality not stated. Lectotype (♂), designated by Bousquet (1999: 119), in MCZ [# 34568]. Synonymy established with doubt by Harris (1833: 567), confirmed by Bousquet (1999: 119). NOTE. See “Note” under *Omaseus subpunctatus*.

*Pterostichus abjectus* LeConte, 1853a: 243. Type locality: «middle states and Lake Superior» (original citation). Lectotype (♂), designated by Bousquet (1999: 119), in MCZ [# 5641]. Synonymy established by LeConte (1863b: 9), confirmed by Bousquet (1999: 119).

*Omaseus brevibasis* Casey, 1924: 73. Type locality: «near the city [of New York], New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 125), in USNM [# 47066]. Synonymy established by Bousquet and Laroche (1993: 16).

*Omaseus confluent* Casey, 1924: 73. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♂), designated by Lindroth (1975: 125), in USNM [# 47069]. Synonymy established by Nicolay and Weiss (1934: 209), confirmed by Lindroth (1954b: 132).

**Distribution.** This species ranges from Newfoundland to Vancouver Island, south to west-central Washington, central Colorado (Jefferson County, Robert L. Davidson pers. comm. 2008), east-central South Dakota, northern Illinois, and eastern Virginia [see Bousquet and Pilon 1984: Fig. 8].

**Records.** FRA: PM CAN: AB, BC (VCI), MB, NB, NF, NS (CBI), ON, PE, QC, SK USA: CO, CT, DC, IA, ID, IL, IN, MA, MD, ME, MI, MN, ND, NE, NH, NJ, NY, OH, PA, RI, SD, VA, VT, WA, WI, WV

***Pterostichus tenuis* (Casey, 1924)**

*Omaseus tenuis* Casey, 1924: 73. Type locality: «New Jersey» (original citation). Lectotype (♀), designated by Lindroth (1975: 125), in USNM [# 47068].

*Omaseus testaceus* Casey, 1924: 74. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Holotype [by monotypy] (♀) in USNM [# 47067]. Synonymy established by Bousquet and Pilon (1984: 389).

**Distribution.** This species ranges from eastern Newfoundland to northeastern Alberta, south to northern Colorado, northern Illinois, and southwestern North Carolina (Macon and Jackson Counties, CNC) [see Bousquet and Pilon 1984: Fig. 7].

**Records.** CAN: AB, MB, NB, NF, NS (CBI), ON, PE, QC USA: CO, CT, IL, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, RI, VT, WI, WV

### Subgenus *Feronina* Casey, 1918

*Feronina* Casey, 1918: 322. Type species: *Pterostichus palmi* Schaeffer, 1910 by original designation. Etymology. Probably a slight modification of the generic name *Feronia* [*q.v.*] [feminine].

**Diversity.** Two species in the Appalachian region of eastern North America.

**Identification.** Bousquet (2006b) commented on the structural differences between the two species.

### *Pterostichus barri* Bousquet, 2006

*Pterostichus barri* Bousquet, 2006b: 158. Type locality: «4 mi[les] w[est] Pennington Gap, U.S. 421, Lee Co[unty], V[irgini]a» (original citation). Holotype (♂) in CNC [# 23463].

**Distribution.** This species is known from northeastern Kentucky, eastern and central West Virginia, and southwestern Virginia (Bousquet 2006b: 159).

**Records.** USA: KY, VA, WV

### *Pterostichus palmi* Schaeffer, 1910

*Pterostichus palmi* Schaeffer, 1910: 393. Type locality: «North Carolina» (original citation), restricted to «Mount Mitchell State Park, Yancey Co[unty]» by Bousquet (1999: 125). Holotype (♂) in USNM [# 42499]. Etymology. The specific name honors Charles Palm [1836-1917], founder of the firm Palm, Fechteler & Co. in New York City which introduced the decalcomania industry in the United States. Born in Germany, Palm collected butterflies and beetles. His Coleoptera collection went to the American Museum of Natural History.

**Distribution.** This species is found at high elevation in the Appalachian Mountains in North Carolina, Tennessee (Barr 1969: 72), Kentucky (Jackson County, Foster F. Purrington pers. comm. 2009), and northern Georgia (Fattig 1949: 24), including the Black, Bald, Great Balsam, and Great Smoky Mountains. The record from “Virginia” (Bousquet and Larochelle 1993: 172) needs confirmation.

**Records.** USA: GA, KY, NC, TN [VA]

### Subgenus *Paraferonia* Casey, 1918

*Paraferonia* Casey, 1918: 323. Type species: *Pterostichus lubricus* LeConte, 1853 by original designation. Etymology. From the Greek *para* (near) and the generic name *Feronia* [*q.v.*] [feminine].

**Diversity.** One species in the Appalachian Mountains of eastern North America.

***Pterostichus lubricus* LeConte, 1853**

*Pterostichus lubricus* LeConte, 1853a: 240. Type locality: «upper part of Georgia» (original citation). Lectotype (♂), designated by Bousquet (1999: 126), in MCZ [# 5629].

**Distribution.** This species is endemic to the Appalachian Mountains from southwestern Virginia (Hoffman 1998: 38) to northern Georgia (Fattig 1949: 26) and northwestern South Carolina (Ciegler 2000: 67), including the Great Balsam and Great Smoky Mountains (Barr 1969: 80).

**Records. USA:** GA, NC, SC, TN, VA

**Subgenus *Pseudoferonina* Ball, 1965**

*Pseudoferonina* Ball, 1965: 107. Type species: *Pterostichus lanei* Van Dyke, 1926 by original designation. Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Feronina* [*q.v.*] [feminine].

*Melvilleus* Ball, 1965: 110. Type species: *Platysma shulli* Hatch, 1949 by original designation. Synonymy established by Bousquet (1985a: 254). Etymology. From the first name of Melville Hatch (see *Scaphinotus hatchi*) [masculine].

**Diversity.** Nine species in the Pacific Northwest.

**Identification.** Bousquet (1985a) wrote a key for the identification of the species. Three new species were described subsequently (Bousquet 1992b; Bergdahl and Kavanaugh 2011).

**[humidulus group]*****Pterostichus campbelli* Bousquet, 1985**

*Pterostichus campbelli* Bousquet, 1985a: 257. Type locality: «1 mi[le] S[outh] Hebo, Tillamook Co[unty], Ore[gon]» (original citation). Holotype (♂) in CNC [# 18401].

**Distribution.** This species is known from several localities in western Oregon. Two specimens simply labeled “Was” are also known (Bousquet 1985a: 258).

**Records. USA:** OR [WA]

***Pterostichus humidulus* (Van Dyke, 1943)**

*Pterostichus pacificus* Van Dyke, 1926a: 114 [secondary homonym of *Pterostichus pacificus* (Poppius, 1906)]. Type locality: «near Hoquiam [Grays Harbor County], Washington» (original citation). Holotype (♂) in CAS [# 1854].

*Feronia humidula* Van Dyke, 1943: 23. Replacement name for *Feronia pacifica* (Van Dyke, 1926).

**Distribution.** This species is known from western Washington (Bousquet 1985a: 259). The record from northwestern Oregon (Hatch 1953: 114) probably refers to *P. campbelli*.

**Records. USA:** WA



***Pterostichus smetanai* Bousquet, 1985**

*Pterostichus smetanai* Bousquet, 1985a: 254. Type locality: «Bear Cr[ee]k (3200'), Spirit L[a]k[e], M[oun]t S[ain]t Helens [Skamania County], Wash[ington]» (original citation). Holotype (♂) in CNC [# 18400].

**Distribution.** This species is known from the type locality in southern Washington and one locality in northwestern Oregon (Westcott et al. 2006: 8).

**Records. USA:** OR, WA

**[lanei group]*****Pterostichus amadeus* Bousquet, new replacement name**

*Pterostichus vexatus* Bousquet, 1985a: 253 [primary homonym of *Pterostichus vexatus* Broun, 1908]. Type locality: «Harvard [Latah County], Ida[ho]» (original citation). Holotype (♂) in CAS [# 15227].

*Pterostichus amadeus* Bousquet. New replacement name for *Pterostichus vexatus* Bousquet, 1985. NOTE. *Pterostichus vexatus* Bousquet, 1985 is a primary homonym of *Pterostichus vexatus* Broun, 1908, a valid species from New Zealand currently placed in the genus *Holcaspis* Chaudoir (Butcher 1984: 85; Larochelle and Larivière 2001: 98). The International Commission on Zoological Nomenclature (1999: 59) rules that the “junior name [of a primary homonym] is permanently invalid” (Article 57.2). However, the commission moderates this ruling in Article 23.9.5 which states that “when an author discovers that a species-group name in use is a junior primary homonym ... of another species-group name also in use, but the names apply to taxa not considered congeneric after 1899, the author must not automatically replace the junior homonym; the case should be referred to the Commission for a ruling under the plenary power and meanwhile prevailing usage of both names is to be maintained.” Since Broun described his new species in 1908, both taxa described under the name *Pterostichus vexatus* were considered congeneric after 1899 and therefore the name *Pterostichus vexatus* Bousquet, 1985 must be changed.

**Distribution.** This species is known from Latah and Idaho Counties (CNC) in northern Idaho and Mineral County in west-central Montana (James C. Bergdahl pers. comm. 2008).

**Records. USA:** ID, MT

***Pterostichus bousqueti* Bergdahl, 2011**

*Pterostichus bousqueti* Bergdahl [in Bergdahl and Kavanaugh], 2011: 80. Type locality: «small tributaries of the South Fork of the Payette River near Lowman (ca. 1200 m), Boise County, Idaho» (original citation). Holotype (♂) in CAS.

**Distribution.** This species is known from two creeks near their confluences with the South Fork of the Payette River near Lowman in west-central Idaho (Bergdahl and Kavanaugh 2011: 81).

**Records. USA:** ID

***Pterostichus lanei* Van Dyke, 1926**

*Pterostichus lanei* Van Dyke, 1926a: 76. Type locality: «Wawawai [Whitman County], Washington» (original citation). Holotype (♂) in CAS [# 1828]. Etymology. The specific name was proposed for Merton C. Lane [1893-1965] who worked as an entomologist with the United States Department of Agriculture in the Walla Walla field office in Washington. Heading the USDA's Pacific Northwest Wireworm Project, Lane became an authority on the biology and taxonomy of the Pacific Northwest elaterids.

**Distribution.** This species is known from a few localities in southeastern Washington and west-central Idaho (Bousquet 1985a: 259).

**Records. USA:** ID, WA

***Pterostichus lolo* Bergdahl, 2011**

*Pterostichus lolo* Bergdahl [in Bergdahl and Kavanaugh], 2011: 85. Type locality: «Cottonwood Creek near the confluence of Orogrande Creek and the North Fork of the Clearwater River (ca. 870 m), Clearwater County, Idaho» (original citation). Holotype (♂) in CAS.

**Distribution.** This species is known only from the type locality.

**Records. USA:** ID

***Pterostichus shulli* (Hatch, 1949)**

*Platysma shulli* Hatch, 1949a: 80. Type locality: «Pierce (3200 ft.) [Clearwater County], Idaho» (original citation). Holotype (♂) in USNM. Etymology. The specific name was proposed for Wesley Earl Shull [1899-?] who worked on economic entomology in Idaho. Shull was head of the Entomology Department at University of Idaho between 1938 and 1946.

**Distribution.** This species is known only from the type locality in northeastern Idaho.

**Records. USA:** ID

***Pterostichus spathifer* Bousquet, 1992**

*Pterostichus spathifer* Bousquet, 1992b: 519. Type locality: «Isabella Creek (1,700'), Clearwater Co[unty], Idaho» (original citation). Holotype (♂) in CAS [# 16024].

**Distribution.** This species is known only from several specimens collected at the type locality in northeastern Idaho.

**Records. USA:** ID

**Subgenus *Gastrosticta* Casey, 1918**

*Gastrosticta* Casey, 1918: 323, 371. Type species: *Feronia ventralis* Say, 1823 by original designation. Etymology. From the Greek *gastros* (stomach, by extension abdomen)



**Figure 30.** *Chlaenius purpuricollis* Randall. This relatively small chlaeniine had been rarely collected until pitfall trapping showed that it is common in alvars, which are flat, relatively open grassy areas with shallow or sporadic soil cover over calcareous bedrock. Alvars are known from Sweden, Estonia, New York, Michigan, Ohio, and particularly central Canada. The chlaeniine is also found in similar habitats in other parts of North America.

and *stictos* (punctured), alluding to the coarse punctures on the sides of the abdominal sterna (“conspicuous coarse punctuation of the lateral parts of the abdomen”) of the adult [feminine].

**Diversity.** Ten species in the temperate regions of North America, east of the Rocky Mountains.

**Identification.** Bousquet (1992b) published a preliminary key to the species.

***Pterostichus enodis* Bousquet, 1992**

*Pterostichus enodis* Bousquet, 1992b: 516. Type locality: «Tex[as]» (original citation). Holotype (♂) in CMNH.

**Distribution.** This species is known only from the holotype.

**Records. USA:** TX

***Pterostichus mutoides* Bousquet, 1992**

*Pterostichus mutoides* Bousquet, 1992b: 517. Type locality: «G[eorgi]a» (original citation). Holotype (♂) in CMNH.

**Distribution.** This species is known only from two specimens collected in “Georgia.”

**Records. USA:** GA

***Pterostichus obesulus* LeConte, 1873**

*Pterostichus obesulus* LeConte, 1873a: 314. Type locality: «Georgia» (original citation). Holotype [by monotypy] (♀) in MCZ [# 32326].

**Distribution.** This species is known only from a few localities in west-central Georgia (Fattig 1949: 25), northern Florida (Bousquet 1992b: 511, 513) including the Panhandle (Wakulla County, CMNH), and “Louisiana” (Bousquet 1992b: 513).

**Records. USA:** FL, GA, LA

***Pterostichus ophryoderus* (Chaudoir, 1878)**

*Feronia ophryodera* Chaudoir, 1878: 64. Type locality: «Mississippi» (original citation), herein restricted to 5 miles south of Toomsuba, Lauderdale County (CNC). Lectotype (♀), designated by Bousquet (1992b: 515), in MHNP.

**Distribution.** This species is known only from several localities in Mississippi (Bousquet 1992b: 515; Drew A. Hildebrandt pers. comm. 2007) and western Alabama (Greene County, Foster F. Purrington pers. comm. 2010).

**Records. USA:** AL, MS

***Pterostichus punctiventris* (Chaudoir, 1878)**

*Feronia punctiventris* Chaudoir, 1878: 66. Type locality: «Texas» (original citation). Lectotype (♀), designated by Bousquet (1992b: 516), in MHNP.

*Gastrosticta amnicola* Casey, 1918: 372. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype (♂), designated by Allen (1977: 286), in USNM [# 47116]. Synonymy established by Bousquet (1992b: 515).

**Distribution.** This species is known from a few localities from northern Georgia (Fattig 1949: 26, as *Gastrosticta amnicola*) to eastern Oklahoma (Latimer and Pushmataha Counties, CNC; Cherokee County, CMNH), north to east-central Missouri (Bousquet 1992b: 516), south to “Texas” (Chaudoir 1878: 66) and southwestern Alabama (Löding 1945: 16, as *Gastrosticta amnicola*).

**Records. USA:** AL, AR, GA, MO, MS, OK, TX

***Pterostichus putus* Casey, 1913**

*Pterostichus putus* Casey, 1913: 135. Type locality: «Texas» (original citation). Lectotype (♂), designated by Allen (1977: 286), in USNM [# 47117].

**Distribution.** This species is known only from a few localities in Grayson County (CNC) in Texas.

**Records. USA:** TX

***Pterostichus sayanus* Csiki, 1930**

*Feronia obscura* Say, 1830b: (5) [3] [primary homonym of *Feronia obscura* Dejean, 1828]. Type locality: «All[eghen]y, P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 342), in MCZ [# 32962]. NOTE. «Indiana» was the area originally cited by Say (1830b: (5) [3]).

*Pterostichus sayanus* Csiki, 1930: 676. Replacement name for *Pterostichus obscurus* (Say, 1830).

**Distribution.** This species ranges from southwestern Pennsylvania (Lindroth and Freitag 1969: 342) to “Iowa” (Jaques and Redlinger 1946: 297), south to east-central Louisiana (West Feliciana Parish, LSAM), northern Alabama (Löding 1945: 16; Madison County, CMNH), and northern Georgia (Fattig 1949: 25).

**Records. USA:** AL, AR, GA, IA, IL, IN, KY, LA, MO, NC, OH, PA, TN, VA, WV

***Pterostichus subacutus* (Casey, 1918)**

*Gastrosticta subacuta* Casey, 1918: 373. Type locality: «Texas» (original citation), restricted to «7.9 mi[les] S[outh] of Cuero, De Witt Co[unty]» by Bousquet (1999: 132). Lectotype (♀), designated by Allen (1977: 286), in USNM [# 47118].

**Distribution.** This species is known from a few localities in Oklahoma (Latimer and Marshall Counties, CMNH, CNC), eastern, central, and southern Texas (De Witt,



Madison, Anderson, Lee, and Houston Counties, CMNH, CNC, MCZ; Riley 2011), and “Louisiana” (CNC).

**Records. USA:** LA, OK, TX

### ***Pterostichus tumescens* LeConte, 1863**

*Pterostichus tumescens* LeConte, 1863c: 11. Type locality: «Louisiana» (original citation), herein restricted to Lake Claiborne, Claiborne Parish (CNC). Lectotype (♂), designated by Bousquet (1999: 132), in MCZ [# 5630].

**Distribution.** This species is known from southwestern Florida (Collier County, Foster F. Purrington pers. comm. 2011) and from central and southern Mississippi (Will and Gill 2008: 121; Hancock and Leake Counties, CMNH, CNC) to southeastern Oklahoma (Pushmataha County, CNC), south at least to east-central Texas (Harris County, CNC).

**Records. USA:** AR, FL, LA, MS, OK, TX

### ***Pterostichus ventralis* (Say, 1823)**

*Feronia ventralis* Say, 1823a: 46. Type locality: «Douglas Co[unty], Kan[sas]» (neotype label), herein restricted to Lawrence (CNC). Neotype (♂), designated by Lindroth and Freitag (1969: 341), in MCZ [# 32961]. NOTE. «Missouri [Territory]» was the area originally cited by Say (1823a: 46).

**Distribution.** This species is known from eastern Kansas (Lindroth and Freitag 1969: 341; Douglas County, CNC, UASM) to “Iowa” (Jaques and Redlinger 1946: 297) and southwestern Illinois (Saint Clair County, MCZ; Wickham 1895a: 185), south to northwestern Louisiana (Bossier Parish, LSAM; LeConte 1853a: 241) and south-central Texas (Comal County, CMNH). The record from “Florida” (Wickham 1895a: 185) needs confirmation (see Leng 1915: 576).

**Records. USA:** AR, IA, IL, KS, LA, MO, OK, TX [FL]

### **Subgenus *Morphnosoma* Lutshnik, 1915**

*Morphnosoma* Lutshnik, 1915b: 424. Type species: *Carabus vulgaris* Linnaeus *sensu auctorum* (= *Carabus melanarius* Illiger, 1798) by original designation. Etymology. From the Greek *morphnos* (kind of eagle in Pliny the Elder) and *soma* (body) [neuter].

*Omaseidius* Jeannel, 1942: 781. Type species: *Carabus vulgaris* Linnaeus *sensu auctorum* (= *Carabus melanarius* Illiger, 1798) by original designation.

**Diversity.** Two Palearctic species (*P. alexeji* Zamotajlov and Kryzhanovskij and *P. melanarius* with three subspecies), one of them adventive in North America. The status of *P. brevistylis* Jeannel, described from Switzerland, remains unclear.

**Taxonomic Note.** Sasakawa and Kubota (2006) combined members of *Petrophilus* Chaudoir (type species: *Feronia findelii* Dejean, 1828), *Euryperis* Motschulsky (type

species: *Euryperis uralensis* Motschulsky, 1850), *Morphnosoma*, *Euferonia*, *Feroperis* Lafer (type species: *Feronia jungens* Tschitschérine, 1893), and *Moritapterus* Berlov (type species: *Pterostichus thunbergi* Morawitz, 1862) into a single subgeneric taxon, *Petrophilus* Chaudoir, 1838.

### ***Pterostichus melanarius melanarius* (Illiger, 1798)**

*Carabus melanarius* Illiger, 1798: 163. Type locality: Prussia (inferred from title of the book). Syntype(s) probably lost (Lindroth 1966: 491).

**Distribution.** This European species is adventive in North America on both coasts and is now found from Newfoundland (Lindroth 1955a: 87; Larson and Langor 1982: 592) to Vancouver Island (Lindroth 1966: 492), south to northwestern California (Del Norte County, James R. LaBonte pers. comm. 1992), northern Utah (Davis County, CMNH), northern Colorado (Miller and Pairs 2008: 34), South Dakota (Ellsbury et al. 1998: 621; French et al. 2004: 557; Larsen and Purrington 2010: 571), northeastern Iowa (Purrington and Larsen 1997: 50), east-central Ohio (Usis and MacLean 1998: 67), and central Pennsylvania (Capogreco 1989b: 4; Byers et al. 2001: 85). The first inventoried specimen collected on this continent was found in Nova Scotia in 1926 (Lindroth 1957c: 153) and in the west in Seattle in 1927 (Hatch 1933c: 120).

**Records.** CAN: AB, BC (VCI), MB, NB, NF, NS (CBI), ON, PE, QC, SK USA: CA, CO, CT, IA, ID, IL, IN, MA, ME, MI, MN, MT, ND, NH, NY, OH, OR, PA, RI, SD, UT, VT, WA, WI, WY – **Adventive**

**Note.** Two other subspecies of *P. melanarius* are found in Europe, *P. melanarius bulgaricus* Lutshnik and *P. melanarius cardioderus* Chaudoir (Bousquet 2003d: 499).

### **Subgenus *Euferonia* Casey, 1918**

*Euferonia* Casey, 1918: 322, 365. Type species: *Feronia stygica* Say, 1823 by original designation. Etymology. From the Greek *eu* (well, by extension large) and the generic name *Feronia* [*q.v.*], alluding to the large size (“usually rather large in size”) of adults of these *Feronia* (= *Pterostichus*) species [feminine].

*Moritapterus* O. Berlov, 2000: 4. Type species: *Pterostichus thunbergi* Morawitz, 1862 by original designation. **New synonymy.** Etymology. From the surname of the Japanese carabidologist Seiji Morita and the Greek *pteron* (wing, by extension elytron) [masculine]. **NOTE.** Sasakawa and Kubota (2006) listed this name in synonymy with *Morphnosoma* Lutshnik along with *Euferonia* Casey.

**Diversity.** Eleven species in the boreal and temperate regions of eastern North America (six species) and Japan (five species: *P. robustistylis* Sasakawa and Kubota, *P. sejunctus* Bates, *P. thunbergi* Morawitz, *P. tschitscherianus* Jacobson, and *P. tuberifer* Sasakawa).

**Identification.** Nicolay and Weiss (1934) and Lindroth (1966) summarily reviewed the North American species. A thorough revision of this group is needed.

**Taxonomic Note.** This subgenus is often combined with *Morphnosoma* Lutshnik (e.g., Sasakawa and Kubota 2005; Lorenz 2005). The Japanese species are phenetically most similar to the North American *P. lachrymosus* (see Bousquet 1999: 137).

[**lachrymosus group**]

***Pterostichus lachrymosus* (Newman, 1838)**

*Feronia lachrymosa* Newman, 1838a: 387. Type locality: «northern states of America» (original citation, see page 388), restricted to «M[oun]t Mitchell, Black M[oun]t[ain]s, N[orth] C[arolina]» by Lindroth (1966: 495). Lectotype (♀), designated by Lindroth (1966: 495), in BMNH.

**Distribution.** This species occurs from New Brunswick (Bousquet 1987a: 124) to the Ontario Peninsula (Lindroth 1966: 495), south along the Appalachian Mountains to the Great Smokies in eastern Tennessee (Stockton 1954: Fig. 19; CNC) and to northern Georgia (Fattig 1949: 24). The record from southwestern Arkansas (Stockton 1954: 16) is probably in error.

**Records.** CAN: NB, ON, QC USA: CT, DC, GA, KY, MA, MD, ME, NC, NH, NJ, NY, OH, PA, SC, TN, VA, VT, WV

[**stygicus group**]

***Pterostichus coracinus* (Newman, 1838)**

*Feronia coracina* Newman, 1838a: 386. Type locality: «northern states of America» (original citation, see page 388), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1966: 494). Syntype(s) lost (Lindroth 1966: 494).

*Feronia monedula* Newman, 1838a: 386 [*nomen dubium*]. Type locality: «northern states of America» (original citation, see page 388). Syntype(s) probably lost (Lindroth 1966: 494). Synonymy established with doubt by LeConte (1873a: 317).

*Feronia moerens* Newman, 1838a: 387. Type locality: «northern states of America» (original citation, see page 388). Lectotype (♂), designated by Lindroth (1966: 494), in BMNH. Synonymy established by LeConte (1870: 399), confirmed by Lindroth (1966: 494).

*Pterostichus adiunctus* LeConte, 1853a: 245. Type locality: «Lake Superior» (original citation). Lectotype (♀), designated by Bousquet (1999: 138), in MCZ [# 5631]. Synonymy established by LeConte (1870: 399), confirmed by Lindroth (1966: 494).

*Pterostichus flebilis* LeConte, 1853a: 245. Type locality: «Lake Superior» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5632]. Synonymy established by LeConte (1870: 399), confirmed by Lindroth (1966: 494).

*Pterostichus erebeus* Casey, 1913: 134. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47063]. Synonymy established by Lindroth (1966: 494).

*Euferonia roanica* Casey, 1920: 188. Type locality: «Roan Mountain, North Carolina» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47059]. Synonymy established by Lindroth (1966: 494).

*Euferonia coracina venator* Casey, 1920: 189. Type locality: «Danville [Montour County], Pennsylvania» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47060]. Synonymy established by Nicolay and Weiss (1934: 204), confirmed by Lindroth (1966: 494).

*Euferonia coracina ludibunda* Casey, 1920: 189. Type locality: «Buena Vista Spring, Franklin Co[unty], Pennsylvania» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47061]. Synonymy established, under the name *P. coracinus erebeus* Casey, by Nicolay and Weiss (1934: 206), confirmed by Lindroth (1966: 494).

*Euferonia lacustris* Casey, 1924: 71. Type locality: «near Chicago, Illinois» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47062]. Synonymy established by Nicolay and Weiss (1934: 204), confirmed by Lindroth (1966: 494).

*Euferonia strigosula* Casey, 1924: 72. Type locality: «Hagerstown [Washington County], Maryland» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47056]. Synonymy established, under the name *P. coracinus roanicus* (Casey), by Nicolay and Weiss (1934: 205), confirmed by Lindroth (1966: 494).

*Euferonia washingtonensis* Nicolay and Weiss, 1934: 203. Type locality: «slopes of M[oun]t Madison [Coos County], New Hampshire» (original citation). Holotype (♂) in MCZ [# 22985]. Synonymy established by Lindroth (1966: 494).

*Euferonia washingtonensis* var. *rufitarsis* Nicolay and Weiss, 1934: 204. Type locality: «Black Mountain, North Carolina» (original citation). Holotype (♂) in MCZ [# 22986]. Synonymy established by Lindroth (1966: 494).

**Distribution.** This species is found from Newfoundland (Lindroth 1955a: 86) to eastern South Dakota (French et al. 2004: 557), north to the James Bay area in Quebec (Laroche 1975: 86), south along the Appalachian Mountains to eastern Tennessee (Nicolay and Weiss 1934: 206, as *Euferonia coracina roanica*) and northern Georgia (Fattig 1949: 24). The record from the Black Hills in southwestern South Dakota (Stockton 1954: 15) is doubtful.

**Records.** **FRA:** PM **CAN:** LB, NB, NF, NS (CBI), ON, PE, QC **USA:** CT, DC, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, RI, SC, SD, TN, VA, VT, WI, WV

### *Pterostichus ingens* (Casey, 1918)

*Euferonia ingens* Casey, 1918: 367. Type locality: «Willow Spring [Cook County], Ill[inois]» (lectotype label). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47055].

*Euferonia iripennis* Nicolay and Weiss, 1934: 200 [secondary homonym of *Pterostichus iripennis* (Chaudoir, 1868)]. Type locality: «Camden [Kershaw County], South

Carolina» (original citation). Holotype (♂) in MCZ [# 22984]. Synonymy established by Lindroth (1975: 124).

**Distribution.** Until the status of this taxon is better defined, its distribution remains inadequately documented. It has been recorded from Indiana, Illinois, Iowa, Missouri (Casey 1918: 367), and South Carolina (Nicolay and Weiss 1934: 200, as *Euferonia iripennis*).

**Records. USA:** IA, IL, IN, MO, SC

**Note.** Lindroth (1966: 493) discussed the status of this taxon and at the time regarded it as an extreme, southern form of *P. stygicus*. Lindroth (1975: 124) later listed it as specifically distinct from *P. stygicus* and listed *P. iripennis* (Nicolay and Weiss) as synonym.

### ***Pterostichus novus* Straneo, 1944**

*Pterostichus novus* Straneo, 1944: 127. Type locality: «Detroit [Wayne County, Michigan]» (original citation). Holotype probably in MSNM (collection Straneo).

**Distribution.** This species is known from scattered localities from southwestern Quebec (Bousquet 1998: 105) to eastern North Dakota (Cass and Ransom Counties, CNC), north to southern Manitoba (Lindroth 1966: 495), south to southern South Dakota including the Black Hills (Kirk and Balsbaugh 1975: 23), northeastern Illinois (Purrington et al. 2002: 201), and northeastern New Jersey (FSCA). The record from Maryland (Erwin 1981b: 162), based on a single old specimen, needs confirmation.

**Records. CAN:** MB, ON, QC **USA:** IL, MI, MN, ND, NJ, NY, OH, PA, SD, WI [MD]

### ***Pterostichus relictus* (Newman, 1838)**

*Feronia relictus* Newman, 1838a: 387. Type locality: «northern states of America» (original citation, see page 388), restricted to «Allegheny, Penns[ylvania]» by Lindroth (1966: 495). Lectotype, designated by Lindroth (1966: 495), in BMNH.

*Pterostichus protensus* LeConte, 1863c: 12. Type locality: «Pennsylvania» (original citation). Lectotype (♂), designated by Bousquet (1999: 139), in MCZ [# 5633]. Synonymy established by LeConte (1873a: 306), confirmed by Lindroth (1966: 495).

**Distribution.** The range of this species extends from northeastern New York (Notman 1928: 222) to southern Michigan (Eaton and Washtenaw Counties, UMAA), including southernmost Ontario (Lindroth 1966: 496), south to southwestern Indiana (Blatchley 1910: 93) and along the Appalachian Mountains to northern South Carolina (Ciegler 2000: 67) and central Alabama (Löding 1945: 16; Stockton 1954: Fig. 18). The records from eastern Kansas (Snow 1880: 78, as *P. protensus*; Knaus 1907: 233) are likely in error.

**Records. CAN:** ON **USA:** AL, GA, IN, KY, MI, NC, NY, OH, PA, SC, TN, VA



***Pterostichus stygicus* (Say, 1823)**

*Feronia stygica* Say, 1823a: 41. Type locality: «Rumney [Grafton County], N[ew] H[ampshire]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 341), in MCZ [# 33045].

*Omaseus bisigillatus* T.W. Harris, 1828c: 123. Type locality: «Maine» (lectotype label). Lectotype (♀), designated by Bousquet (1999: 139), in MCZ [# 34569]. Synonymy established by Harris (1833: 567), confirmed by Bousquet (1999: 139).

*Feronia picipes* Newman, 1838a: 377. Type locality: «Trenton Falls [Oneida County, New York]» (lectotype label). Lectotype (♂), designated by Bousquet (1999: 139), in BMNH. Synonymy established by LeConte (1870: 399), confirmed by Bousquet (1999: 139). NOTE. LeConte (1873a: 306) noted that “the type of *F. picipes* Newm. in the British Museum belongs to this [*P. stygicus* Say] species, but the description does not agree, and seems to refer rather to *P. submarginatus*; there seems to have been some confusion of labels.”

*Omaseus rugicollis* Haldeman, 1843b: 300. Type locality: «western Penn[sylvania]» (original citation). One possible syntype, a ♂ labeled “[yellow disc] / *P. stygicus* (Say) Lec. rugicollis Hald. [handwritten],” in MCZ (collection LeConte). Synonymy established by LeConte (1853a: 246).

*Pterostichus probus* Casey, 1913: 133. Type locality: «Asheville [Buncombe County], North Carolina» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47053]. Synonymy established by Nicolay and Weiss (1934: 201), confirmed by Lindroth (1966: 492).

*Pterostichus vapidus* Casey, 1913: 134. Type locality: «Adirondack M[oun]t[ain]s, New York» (original citation). Holotype [by monotypy] (♂) in USNM [# 47058]. Synonymy established by Lindroth (1966: 492).

*Euferonia quadrifera* Casey, 1918: 366. Type locality: «Ontario» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47064]. Synonymy established by Nicolay and Weiss (1934: 201), confirmed by Lindroth (1966: 493).

*Euferonia umbonata* Casey, 1918: 368. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♂), designated by Lindroth (1975: 124), in USNM [# 47057]. Synonymy established by Nicolay and Weiss (1934: 201), confirmed by Lindroth (1966: 493).

*Euferonia subaequalis* Casey, 1918: 368. Type locality: «Indiana» (original citation). Lectotype (♀), designated by Lindroth (1975: 124), in USNM [# 47054]. Synonymy established by Nicolay and Weiss (1934: 201), confirmed by Lindroth (1966: 493).

**Distribution.** This species ranges from Maine (Dearborn and Donahue 1993: 5) to central Iowa (O’Rourke et al. 2008: 126), south to “Louisiana” (Nicolay and Weiss 1934: 201) and southwestern Georgia (Fattig 1949: 24), west to northeastern Kansas (Popenoe 1877: 23). The record from “Minnesota” (Bousquet and Larochelle 1993: 174) needs confirmation. Fossil remnants from a Plio-Pleistocene sequence have been unearthed in northwestern Greenland (Böcher 1995: 26).

**Records.** CAN: ON, QC USA: CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV [MN]

### Subgenus *Lenapterus* Berlov, 1996

*Lenapterus* O. Berlov, 1996: 11. Type species: *Lyperopherus vermiculosus* Ménétriés, 1851 by original designation. Etymology (original). From the name of the river Lena and the Greek *pteron* (wing, by extension elytron) or the first two syllables of the generic name *Pterostichus* [*q.v.*] [masculine].

*Galapterus* O. Berlov and Plutenko, 1997: 47. Type species: *Pterostichus galae* Farkač and Plutenko, 1996 by original designation. Synonymy established by Sundukov (2005: 803). Etymology. From the first name of Plutenko's wife and the Greek *pteron* (wing, by extension elytron) or the first two syllables of the generic name *Pterostichus* [*q.v.*] [masculine].

**Diversity.** Eleven species in the arctic, subarctic, and boreal regions of North America (four species) and Asia (ten species, one of them extending to European Russia). Three species are Holarctic.

**Identification.** Lindroth (1966) reviewed the North American species. Budarin (1976) reviewed the world fauna, including two species (*P. mirus* Tschitschérine and *P. rugosus* Gebler) that belong, however, to the subgenus *Metallophilus* Chaudoir. Recently Sundukov (2005) revised all known species and provided a key for their identification.

**Taxonomic Note.** This subgenus has been known for sometimes under the name *Lyperopherus* Motschulsky (e.g., Ball 1960b: 127; Lindroth 1966: 525).

### *Pterostichus agonus* Horn, 1880

*Pterostichus agonus* G.H. Horn, 1880a: 140. Type locality: «Yukon River, Alaska» (original citation). Holotype [by monotypy] in MCZ [# 34414].

*Feronia tschuchtschorum* J.R. Sahlberg, 1885a: 12. Type locality: «Jinretlen; Rirajtinop» (original citation), restricted to «Rirajtinop n[ea]r Pitlekaj, Chuk[o]tchi Penins[ula] [Russia]» by Lindroth (1966: 528). Syntype(s) in NRSS (Lindroth 1966: 528). Synonymy established by Lindroth (1966: 528).

*Pterostichus corallipes* Jedlička, 1937: 44. Type locality: «Mandschurei: Chingan-Mont Buchalu» (original citation). Holotype (♂) in NMP. Synonymy established by Bousquet (1999: 143).

*Pterostichus agonus averenskii* O. Berlov and E. Berlov, 1997: 50. Type locality: «upper part of Kele River at the junction with Kakchin River (1200 m), Verkhoyanskiy Khrebet, Yakutia [= Sakha Republic, Siberia, Russia]» (original citation). Holotype (♀) in Berlov's collection. Synonymy established by Sundulov (2005: 810).

**Distribution.** This Holarctic species is found in the arctic regions of eastern Siberia and northeastern China (Bousquet 2003d: 497) and on this continent from the Seward Peninsula in Alaska to northwestern Northwest Territories (Lindroth 1966: 528).

**Records.** CAN: NT, YT USA: AK – **Holarctic**

***Pterostichus costatus* (Ménétriés, 1851)**

*Lyperopherus costatus* Ménétriés, 1851: 49. Type locality: «Taimyrflusse unter 73¼ ° n. Br. [= Taimura River, Siberia, Russia]» (original citation). Lectotype (♀), designated by Lindroth (1966: 529), in ZMH.

**Distribution.** This Holarctic species ranges from the Yenisei River in Russia (Lindroth 1966: 530) to the Melville Peninsula in northern Nunavut, Canada [see Nielsen et al. 1987: Fig. 18c].

**Records.** CAN: NT, NU, YT USA: AK – **Holarctic**

***Pterostichus punctatissimus* (Randall, 1838)**

*Feronia punctatissima* Randall, 1838a: 3. Type locality: «near the summit of the Blue Mountains [Franklin County, Maine]» (original citation). Holotype [by monotypy] lost.

**Distribution.** This species is found from Newfoundland (Lindroth 1955a: 87) to southeastern Yukon Territory (Lindroth 1966: 527), including northeastern British Columbia (CNC), north to northwestern Northwest Territories, south to central Alberta (Lindroth 1966: 527), northeastern Minnesota (Cook County, CNC), some mountains in New York (Notman 1928: 223), and “Massachusetts” (Wickham 1895a: 186). The record from Cuyahoga County in northern Ohio (Bubna 1902: 193) needs confirmation. Fossil remnants of this species, dated between about 11,700 and 18,100 years B.P., have been unearthed in northeastern Wisconsin, central Minnesota (Schwert 1992: 77), and central and southeastern Iowa (Schwert 1992: 77; Baker et al. 1986: 96).

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, QC, SK, YT USA: MA, ME, MI, MN, NH, NY, VT [OH]

***Pterostichus vermiculosus* (Ménétriés, 1851)**

*Lyperopherus vermiculosus* Ménétriés, 1851: 48. Type locality: «Indega-Bucht [= Indiga Bay, on the Barents Sea coast] des Europäisch-Russischen Eismeeres unter 67°40'N. Br.» (original citation). Lectotype (♀), designated by Lindroth (1966: 528), in ZMH.

*Lyperopherus intricatus* Ménétriés, 1851: 49. Type locality: «Boganida [River, Siberia, Russia]» (original citation). Lectotype (♂), designated by Lindroth (1966: 528), in ZMH. Synonymy established by Lindroth (1966: 528).

*Lyperopherus innuitorum* Brown, 1950a: 231. Type locality: «Kidluit Bay, Richards Island, N[orth]W[est]T[erritories]» (original citation). Holotype (♂) in CNC [#5775]. Synonymy established by Lindroth (1954b: 131).

**Distribution.** This Holarctic species is found in the arctic regions from European Russia to the Melville Peninsula and Southampton Island in eastern Nunavut, Canada (Lindroth 1966: 528). Fossil remnants of this species, dated between about 16,700 and

18,100 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96); others from a Plio-Pleistocene sequence have been found in northwestern Greenland (Böcher 1995: 28).

**Records.** CAN: NT, NU, YT USA: AK – **Holarctic**

### **Subgenus *Metallophilus* Chaudoir, 1838**

*Metallophilus* Chaudoir, 1838: 9. Type species: *Feronia interrupta* Dejean, 1828 by original designation. Etymology (original). From the Greek *metallon* (mine) and *philos* (beloved) [masculine].

*Lyperopherus* Motschulsky, 1844: 156. Type species: *Poecilus rugosus* Gebler, 1823 designated by Lindroth (1966: 525). Synonymy established by Bousquet (1999: 144). Etymology. From the Greek *lyperos* (painful, by extension sad) and *phero* (to bear, carry) [masculine].

*Tundraphilus* O. Berlov, 1996: 12. Type species: *Feronia sublaevis* Sahlberg, 1880 by original designation. Synonymy established by Bousquet (1999: 144). Etymology. From the English name tundra (treeless ecosystem of the arctic regions) and the Greek *philos* (beloved) [masculine].

**Diversity.** Eight species in North America (one Holarctic species) and Palearctic Asia (eight species, one extending to European Russia).

**Taxonomic Note.** According to Bousquet (1999: 145), this group is closely related and possibly paraphyletic in regard to *Myosodus* Fischer von Waldheim, a subgenus of 22 species centered in the Caucasus Mountains. Brinev and Shilenkov (2001) retained *Tundraphilus* as a valid subgenus, listing *P. sublaevis* Sahlberg, *P. orion* Tschitschérine, *P. pfitzenmayeri* Poppius, and *P. kamtschaticus* Motschulsky in it.

### ***Pterostichus sublaevis* (Sahlberg, 1880)**

*Feronia sublaevis* J.R. Sahlberg, 1880: 24. Type locality: «Tolstoinos, in littore arenoso fluminis Jenissej [= Tolstyy Nos, Taymyr Autonomous Okrug, Russia]» (original citation). Holotype [by monotypy] (♂) in NRSS.

*Pterostichus sublaevis* var. *unicoloripes* Poppius, 1910: 335. Type locality: «Chara-Ulach-Gebirgen [= Kharaulakhskiy Khrebet] an der Lena-Mündung, unweit der Insel Tit-ary [northern Siberia]» (original citation). Syntype(s) location unknown (apparently not at ZMH according to Silfverberg's (1987) list of insect types). Synonymy established (as aberration) by Csiki (1930: 678).

*Pterostichus rufofemoralis* Van Dyke, 1926a: 113. Type locality: «Iron Creek, sixty miles north of Nome, Alaska» (original citation). Holotype (♀) in CAS [# 1853]. Synonymy established by Lindroth (1966: 530).

**Distribution.** This Holarctic tundra species is found from the northern part of European Russia (Brinev and Shilenkov 2001) to northwestern Northwest Territories (Lindroth 1966: 531). Fossil remnants of this species, dated between about 16,700 and 18,100 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96).

**Records.** CAN: NT, YT USA: AK – Holarctic

### Subgenus *Abacidus* LeConte, 1863

*Albux* J.E. LeConte, 1849: 26 [*nomen oblitum*, see Bousquet (2008b: 328)]. Type species: *Feronia striata* Dejean, 1828 (= *Pterostichus sculptus* LeConte, 1853) by monotypy. Etymology. Unknown. NOTE. Hardy et al. (1986: 472) argued that the paper in which this name was proposed was written by John Eatton LeConte and not his son, John Lawrence LeConte.

*Abacidus* LeConte, 1863b: 9 [*nomen protectum*]. Type species: *Feronia fallax* Dejean, 1828 designated by Casey (1913: 136). Etymology. From the generic name *Abax* [*q.v.*] and the Latin suffix *-idus* (having the nature of), alluding to the superficial resemblance of the adults to those of *Abax* in which Dejean originally placed the two species known to LeConte [masculine].

*Peristethus* LeConte, 1863b: 9 [junior homonym of *Peristethus* Kaup, 1858]. Type species: *Feronia permunda* Say, 1830 by monotypy. Synonymy established by Casey (1913: 136). Etymology. From the Greek *peri* (around, near) and *stethos* (breast, chest) [masculine].

**Diversity.** Five species in the temperate regions of eastern North America.

**Identification.** Lindroth (1966: 535) provided a key to all species, including also *P. obesulus* LeConte, a species that actually belongs to the subgenus *Gastrosticta*. Sadek (1982) wrote a M.Sc. thesis on the taxonomy of this group.

**Taxonomic Note.** Lindroth (1966: 534), followed recently by Lorenz (2005: 289), treated this group as a distinct genus. Structural characters of the adults and larvae clearly suggest that members of *Abacidus* are congeneric with those of *Pterostichus*. In fact, the group is probably closely related to *Metallophilus* and *Myosodus* (see Bousquet 1999: 148).

#### [*fallax* group]

##### *Pterostichus fallax* (Dejean, 1828)

*Feronia fallax* Dejean, 1828: 391. Type locality: «Amérique septentrionale» (original citation), restricted to «Faison, Duplin Co[unty], North Carolina» by Bousquet (1999: 149). Syntype(s) probably in MHNP.

**Distribution.** This species ranges from east-central Iowa to North Carolina, including southern Michigan (Sadek 1982: 23), south to northern Florida (Peck and Thomas 1998: 20) and “Texas” (Schaupp 1882c: 41).

**Records.** USA: AL, AR, FL, GA, IA, IL, MI, MO, MS, NC, SC, TN, TX

#### [*hamiltoni* group]

##### *Pterostichus hamiltoni* Horn, 1880

*Pterostichus hamiltoni* G.H. Horn, 1880a: 139. Type locality: «near Allegheny City [Allegheny County], Pennsylvania» (original citation). Lectotype (♂), designated by



Bousquet (1999: 149), in MCZ [# 8234]. Etymology. The specific name honors John Hamilton [1827-1897], a physician by profession who had an interest in entomology and ornithology.

**Distribution.** This species is known from scattered localities from Ohio (Purrington et al. 1989: 107; Usis and MacLean 1998: 67) and southwestern Pennsylvania (Horn 1880a: 139; Allegheny, Fayette, and Westmoreland Counties, CMNH) south to northern Georgia (Fattig 1949: 25).

**Records. USA:** GA, MD, OH, PA, WV

**Note.** In the *Zoological Record* for the year 1880, this species is registered (page 23) as “*Pterostichus (Peristethus) maximiliani*.”

[**permundus group**]

***Pterostichus atratus* (Newman, 1838)**

*Feronia atrata* Newman, 1838a: 386. Type locality: «northern states of America» (original citation, see page 388), restricted to «Cleveland [Cuyahoga County], Ohio» by Lindroth (1966: 536). Lectotype (♂), designated by Bousquet (1999: 149), in BMNH.

**Distribution.** This species is found from eastern Maryland (Queen Annes County, Foster F. Purrington pers. comm. 2009) to southern Wisconsin (Sadek 1982: 34), including Pelee Island in southernmost Ontario (Lindroth 1966: 537), south to southern Louisiana (East Baton Rouge Parish, CNC) and the Florida Panhandle (Peck and Thomas 1998: 19).

**Records. CAN:** ON **USA:** AL, FL, GA, IL, IN, KY, LA, MD, MO, MS, NC, OH, PA, SC, TN, VA, WI, WV

***Pterostichus permundus* (Say, 1830)**

*Feronia permunda* Say, 1830b: (6) [3]. Type locality: «Wabash Vall[ey], Richland & Lawrence Co[unties], Ill[inois]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 341), in MCZ [# 33042]. NOTE. «Indiana» was the area originally cited by Say (1830b: (6) [3]).

*Abacidus planifer* Casey, 1913: 136. Type locality: «Indiana» (original citation). Holotype [by monotypy] (♀) in USNM [# 47081]. Synonymy established by Lindroth (1966: 535).

**Distribution.** This species occurs from central New York (Hajek et al. 2007: 880) to southeastern South Dakota (Kirk and Balsbaugh 1975: 23; Ellsbury et al. 1998: 621), north to southernmost Ontario (Bousquet 1987a: 125) and northeastern Michigan, south to northeastern Texas and northeastern Florida (Sadek 1982: 25, Fig. 16). The records from Quebec (Laroche 1975: 31) and “New Mexico” (Bousquet and Laroche 1993: 174) are based on mislabeled specimens or are in error.

**Records. CAN:** ON **USA:** AL, AR, FL, GA, IA, IL, IN, KS, LA, MI, MN, MO, MS, NE, NY, OH, OK, PA, SC, SD, TN, TX, WI

***Pterostichus sculptus* LeConte, 1853**

*Feronia striata* Dejean, 1828: 390 [secondary homonym of *Pterostichus striatus* (Rossi, 1792)]. Type locality: «Amérique septentrionale» (original citation), restricted to «Highlands, Macon Co[unty], North Carolina» by Bousquet (1999: 149). Syntype(s) probably in MHNP.

*Pterostichus sculptus* LeConte, 1853a: 248. Replacement name for *Pterostichus striatus* (Dejean, 1828).

**Distribution.** The range of this species extends from “New York” (Wickham 1895a: 186) to Iowa (Wickham 1888: 82; Jaques and Redlinger 1946: 297), south to eastern Arkansas (Sadek 1982: 31), Alabama (Löding 1945: 16), Georgia (Fattig 1949: 25; House and All 1981: 195; CMNH, MCZ), and South Carolina (Ciegler 2000: 68).

**Records. USA:** AL, AR, GA, IA, MD, NC, NJ, NY, OH, PA, SC, TN

**Subgenus *Orsonjohnsonus* Hatch, 1933**

*Orsonjohnsonus* Hatch, 1933c: 119. Type species: *Pterostichus johnsoni* Ulke, 1889 by original designation. Etymology. From the name and surname of Orson Bennett Johnson (see *Scaphinotus johnsoni*) [masculine].

**Diversity.** One species in the Pacific Northwest.

**Identification.** The species was included in Lindroth’s (1966: 473) monograph.

***Pterostichus johnsoni* Ulke, 1889**

*Pterostichus johnsoni* Ulke, 1889: 59. Type locality: «Oregon» (original citation), herein restricted to Camp Creek, 3.5 miles southeast of Rhododendron, Clackamas County (CNC). Lectotype (♂), designated by Bousquet (1999: 151), in CMNH.

**Distribution.** This species is known from northern Washington to central Oregon (Foltz 2011).

**Records. USA:** OR, WA

**Subgenus *Lamenius* Bousquet, 1999**

*Lamenius* Bousquet, 1999: 151. Type species: *Feronia caudicalis* Say, 1823 by original designation. Etymology (original). Anagram of the generic name *Melanius* [q.v.] [masculine].

**Diversity.** One species in the boreal and temperate regions of North America.

**Identification.** The species was included in Lindroth’s (1966: 500) monograph.

**Taxonomic Note.** This species has been included for a long time with the species of *Melanius* Bonelli.

***Pterostichus caudicalis* (Say, 1823)**

*Feronia caudicalis* Say, 1823a: 56. Type locality: «Arlington [Middlesex County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33031].

*Pterostichus agrestis* Bland, 1865: 381. Type locality: «Colorado Territory» (original citation). Lectotype (♂), designated by Bousquet (1999: 153), in ANSP [# 2702]. Synonymy established by LeConte (1873a: 308), confirmed by Bousquet (1999: 153).

**Distribution.** This species is found from Newfoundland (Lindroth 1955a: 89-90) to the Okanagan Valley in south-central British Columbia, north to Fort Smith in southern Northwest Territories (Lindroth 1966: 500), south to northeastern Nevada (Elko County, CNC), central Colorado (Elias 1987: 632; Wickham 1902: 236), Missouri (Summers 1873: 134), and northern Georgia (Fattig 1949: 27).

**Records.** CAN: AB, BC, MB, NF, NT, ON, QC, SK USA: CO, CT, DC, GA, IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NV, NY, OH, OR, PA, RI, SD, UT, VA, VT, WA, WI, WV, WY

**Subgenus *Eosteropus* Tschitschérine, 1902**

*Eosteropus* Tschitschérine, 1902a: 500. Type species: *Platysma creperum* Tschitschérine, 1902 designated by Bousquet (1984b: 1612). Etymology. From the Greek *eos* (east) and the generic name *Steropus* [masculine].

*Refonia* Casey, 1918: 323. Type species: *Feronia moesta* Say, 1823 by original designation. Synonymy established by Bousquet (1984b: 1612). Etymology. Anagram of the generic name *Feronia* [*q.v.*] [feminine].

**Diversity.** Forty-two species in the arctic, subarctic, boreal, and temperate regions of North America (three species), Palaearctic Asia (34 species), and Europe (five species).

**Identification.** Lindroth (1966: 474-475, 406-497, as *circulosus* and *moestus* groups) treated all three North American species in his review of the Canadian *Pterostichus*.

**[*circulosus* group]*****Pterostichus circulosus* Lindroth, 1966**

*Pterostichus circulosus* Lindroth, 1966: 474. Type locality: «Circle, Alaska» (original citation). Holotype (♂) in MCZ [# 33503].

**Distribution.** This species is known from a few localities in Yukon Territory (Ball and Currie 1997: 451; CNC) and Alaska (Lindroth 1966: 475). The species is also cited, with a question mark, from the Magadan region in eastern Siberia (Budarin 1985: 15).

**Records.** CAN: YT USA: AK

[**moestus group**]***Pterostichus moestus* (Say, 1823)**

*Feronia moesta* Say, 1823a: 42. Type locality: «Asheville [Buncombe County], N[orth] C[arolina]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 341), in MCZ [# 33044].

*Evarthrus perseverus* Motschulsky, 1866: 260. Type locality: «Am[érique] bor[éale]» (original citation). Lectotype (♀), designated by Bousquet (1984a: 2), in ZMMU. Synonymy established by Bousquet (1984a: 2).

**Distribution.** This species occurs from the neighborhood of New York City (Schaupp 1883b: 31; Ulster County, CMNH) to northeastern Ohio (Lee 1994: 60), south along the Appalachian Mountains to northern Georgia (Fattig 1949: 25; CNC) and northwestern South Carolina (Ciegler 2000: 67). The record from “Indiana” (Schrock 1985: 354) needs confirmation. The old records from Ontario and Quebec (see Lindroth 1966: 497) and Lake Superior (LeConte 1853a: 247) were based on misidentified or mislabeled specimens.

**Records. USA:** DC, DE, GA, KY, MD, NC, NJ, NY, OH, PA, SC, VA, WV [IN]

***Pterostichus superciliosus* (Say, 1823)**

*Feronia superciliosa* Say, 1823b: 144. «P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 341), in MCZ [# 34659].

**Distribution.** This species is known from scattered localities from Staten Island, New York (Smith 1910: 205) to northwestern Pennsylvania (Forest County, CMNH), south along the Appalachian Mountains to northeastern Georgia (Fattig 1949: 25). The record from “Michigan” (Wickham 1895a: 185) is in error.

**Records. USA:** GA, MD, NC, NJ, NY, PA, VA, WV

**Subgenus *Monoferonia* Casey, 1918**

*Monoferonia* Casey, 1918: 322, 363. Type species: *Evarthrus mancus* LeConte, 1853 by original designation. Etymology. From the Greek *monos* (one) and the generic name *Feronia* [*q.v.*], probably alluding to the presence of a single discal setigerous puncture on the third elytral interval in these *Feronia* (= *Pterostichus*) species [feminine].

**Diversity.** Four species in the Appalachian region of eastern North America.

**Identification.** Darlington (1932) reviewed the species and provided a key for their identification.

***Pterostichus carolinus carolinus* Darlington, 1932**

*Pterostichus carolinus carolinus* Darlington, 1932: 162. Type locality: «Little Switzerland (about 3,400 feet) [Mitchell County], Black Mountains, N[orth] C[arolina]» (original citation). Holotype (♂) in MCZ [# 16437].

**Distribution.** This subspecies is known from the Black Mountains in western North Carolina (Darlington 1932: 162; Barr 1969: 72) and from northeastern Georgia near the border with South Carolina (Fattig 1949: 21). The record from “Tennessee” (Bousquet and Larochelle 1993: 171) needs confirmation.

**Records. USA:** GA, NC [TN]

***Pterostichus carolinus fumorum* Darlington, 1932**

*Pterostichus carolinus fumorum* Darlington, 1932: 163. Type locality: «between Newfound Gap and Clingman’s Dome (5,000-6,642 feet), Smoky Mountains, along the North Carolina-Tennessee state line» (original citation). Holotype (♂) in MCZ [# 16438].

**Distribution.** This subspecies is endemic to the Great Smoky Mountains along the North Carolina-Tennessee border (Darlington 1932: 163).

**Records. USA:** NC, TN

***Pterostichus diligendus* (Chaudoir, 1868)**

*Feronia diligenda* Chaudoir, 1868b: 334. Type locality: Amérique septentrionale (inferred from title of the paper), restricted to «M[oun]t Holyoke [Hampshire County], Mass[achusetts]» by Lindroth (1966: 469). Holotype [by monotypy] (♂) in MHNP (Lindroth 1966: 469).

*Pterostichus osculans* Casey, 1884b: 2. Type locality not stated. Lectotype (♀), designated by Lindroth (1975: 123), in USNM [# 47115]. Synonymy established by Horn (1885b: 108), confirmed by Lindroth (1966: 469).

*Pterostichus apalachius* G.H. Horn, 1892c: 41. Type locality: «Pen[sylvania]» (syntype labels). Six syntypes in MCZ (collection LeConte). Synonymy established, under the name *P. osculans* Casey, by Casey (1913: 133). NOTE. This name was proposed for *Pterostichus diligendus* (Chaudoir, 1868) *sensu* LeConte (1873a: 305) and credited to LeConte by Horn (1892c). LeConte’s collection includes six syntypes, all labeled “Pen.”

**Distribution.** This species is found along the Appalachian region from southern Quebec (Larochelle 1975: 101) to Kentucky (Powell County, CNC) and northeastern Georgia (Fattig 1949: 23). The records from northwestern Indiana (Wolcott and Montgomery 1933: 126, as *Monoferonia osculans*) and “Illinois” (Schaupp 1882c: 41) need confirmation.

**Records. CAN:** QC **USA:** CT, DC, GA, KY, MA, MD, ME, NC, NH, NJ, NY, OH, PA, VA, VT, WV [IL, IN]

***Pterostichus mancus* (LeConte, 1853)**

*Evarthrus mancus* LeConte, 1853a: 234. Type locality: «Nakutshi Valley, Habersham County, Georgia» (original citation). Lectotype [as type] (♂), designated by Darlington (1932: 161), in MCZ [# 16439].



*Pterostichus mancus plethorus* Darlington, 1932: 161. Type locality: «M[oun]t Mitchell (5,000-6,711 feet), Black Mountains, North Carolina» (original citation). Holotype (♂) in MCZ [# 16436]. Synonymy established by Bousquet (1999: 122).

**Distribution.** This species is known from the Roan, Grandfather, and Black Mountains in North Carolina (Barr 1969: 72) and northern Georgia (Fattig 1949: 23).

**Records. USA:** GA, NC

### *Pterostichus primus* Darlington, 1932

*Pterostichus primus* Darlington, 1932: 159. Type locality: «Deep Creek (Bryson City) (near 2,000 feet) [Swain County], N[orth] C[arolina]» (original citation). Holotype (♂) in MCZ [# 16435].

**Distribution.** This species is apparently endemic to the Great Smoky and Unicoi Mountains along the North Carolina - Tennessee border (Barr 1969: 80).

**Records. USA:** NC, TN

### Subgenus *Cylindrocharis* Casey, 1918

*Cylindrocharis* Casey, 1918: 326. Type species: *Feronia rostrata* Newman *sensu* Casey, 1918 (= *Pterostichus acutipes acutipes* Barr, 1971) by original designation. Etymology. From the Greek *cylindros* (roller, cylinder) and *charis* (grace, beauty), probably alluding to the more or less cylindrical appearance of adults of these nice carabids [feminine].

**Diversity.** Three species in the Appalachian region.

**Identification.** Barr (1971a) revised the species.

### *Pterostichus acutipes acutipes* Barr, 1971

*Pterostichus acutipes acutipes* Barr, 1971a: 7. Type locality: «Round Mountain (2500 feet), easternmost Buncombe County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1341].

**Distribution.** This subspecies occurs in the Appalachians from the Black Mountains in North Carolina to northern Georgia (Barr 1971a: 9). The record from “Kentucky” (Bousquet and Larochelle 1993: 176) refers to *P. acutipes kentuckensis*.

**Records. USA:** GA, NC, SC, TN

### *Pterostichus acutipes kentuckensis* Barr, 1971

*Pterostichus acutipes kentuckensis* Barr, 1971a: 9. Type locality: «Jessamine Creek gorge, 3 miles south of Wilmore, Jessamine County, Kentucky» (original citation). Holotype (♂) in AMNH [# 1342].

**Distribution.** This subspecies is known from a few localities in central Kentucky (Barr 1971a: 11) and southwestern Virginia (Hoffman 1998: 37).

**Records. USA:** KY, VA

***Pterostichus hypogeus* Barr, 1971**

*Pterostichus hypogeus* Barr, 1971a: 11. Type locality: «west side of Big Butt (mountain) in the upper Bearpen Creek basin (4800 feet), Coweeta Hydrologic Laboratory, Macon County, North Carolina» (original citation). Holotype (♂) in AMNH [# 1343].

**Distribution.** This species is known from the Nantahalas to the Snowbird Mountains in Mason and Graham Counties, North Carolina (Barr 1971a: 12).

**Records. USA:** NC

***Pterostichus rostratus* (Newman, 1838)**

*Feronia rostrata* Newman, 1838a: 387. Type locality: «Trenton Falls [Oneida County, New York]» (lectotype label). Lectotype (♂), designated by Lindroth (1966: 457), in BMNH.

*Stereocerus grandiceps* LeConte, 1846b: 336. Type locality: «NovEboraci [= New York]» (original citation). One syntype in MCZ [# 5615] (see LeConte 1853a: 236). Synonymy established by LeConte (1863b: 8), confirmed by Lindroth (1966: 457).

*Cylindrocharis sulcatula* Casey, 1918: 327. Type locality: «probably Indiana» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 47043]. Synonymy established by Van Dyke (1926a: 75), confirmed by Lindroth (1966: 457).

*Cylindrocharis piceata* Casey, 1918: 327. Type locality: «New York» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 47042]. Synonymy established by Van Dyke (1926a: 75), confirmed by Lindroth (1966: 457).

**Distribution.** This species ranges from New Brunswick to southern Ontario (Lindroth 1966: 458), south along the Appalachian Mountains to northeastern Alabama (Löding 1945: 15) and northern Georgia (Fattig 1949: 21), including the higher mountains of Tennessee and North Carolina (Barr 1971a: 7). The records from “Iowa” (Bousquet and Laroche 1993: 176) and southwestern Alabama (Löding 1945: 15) are likely in error.

**Records. CAN:** NB, ON, QC **USA:** AL, CT, DC, GA, KY, MA, MD, ME, NC, NH, NJ, NY, PA, RI, SC, TN, VA, VT, WV

**Subgenus *Leptoferonia* Casey, 1918**

*Leptoferonia* Casey, 1918: 321, 336. Type species: *Feronia angusta* Dejean, 1828 by original designation. Etymology. From the Greek *leptos* (thin, slender) and the generic name *Feronia* [*q.v.*], alluding to the slender shape of adults of these *Feronia* (= *Pterostichus*) species [feminine].

**Diversity.** Twenty-six species in western North America.

**Identification.** Hacker (1968) revised the species. Since then, four new species have been described by Will (2007), one species (*P. rothi*) has been transferred from *Anilloferonia* to this subgenus (Will 2007), and one subspecies (*P. stapedius yosemitensis*) has been raised to species level by Bousquet (1999: 164).

[**fenyesi group**]

***Pterostichus cochlearis* Hacker, 1968**

*Pterostichus cochlearis* Hacker, 1968: 19. Type locality: «Weitchpec-Orick Road (1400 ft.), Humboldt County, Calif[ornia]» (original citation). Holotype (♂) in USNM [# 69601].

**Distribution.** This species is restricted to the Coast Ranges in southwestern Oregon and northwestern California [see Hacker 1968: Fig. 35].

**Records. USA:** CA, OR

***Pterostichus fenyesi fenderi* Hacker, 1968**

*Pterostichus fenyesi fenderi* Hacker, 1968: 18. Type locality: «2 miles northwest of Petrolia (200 ft.), Humboldt County, Calif[ornia]» (original citation). Holotype (♂) in USNM [# 69600].

**Distribution.** This subspecies is found from the Eel River in Humboldt County southwards to Mendocino County, California [see Hacker 1968: Fig. 35].

**Records. USA:** CA

***Pterostichus fenyesi fenyesi* Csiki, 1930**

*Pterostichus ovicollis* Schaeffer, 1910: 393 [secondary homonym of *Pterostichus ovicollis* (Reitter, 1884)]. Type locality: «California» (original citation), herein restricted to 9 miles northwest of Blocksburg, Humboldt County (see Hacker 1968: 18). Holotype (♀) in USNM [# 42498].

*Pterostichus fenyesi* Csiki, 1930: 582. Replacement name for *Pterostichus ovicollis* Schaeffer, 1910.

**Distribution.** This subspecies is known only from Humboldt County, north of Eel River, in northwestern California [see Hacker 1968: Fig. 35] and from southwestern Oregon (Curry County, James R. LaBonte pers. comm. 2009).

**Records. USA:** CA, OR

[**fuchsi group**]

***Pterostichus angustus* (Dejean, 1828)**

*Feronia angusta* Dejean, 1828: 328. Type locality: «Californie» (original citation), herein restricted to Montgomery Woods State Park, Mendocino County (see Hacker 1968: 29). Holotype [by monotypy] (♂) probably in MHNP.

*Pterostichus linearis* LeConte, 1853a: 239. Type locality: «San Francisco [California]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5606]. Synonymy established by LeConte (1857c: 8), confirmed by Hacker (1968: 28).

*Pterostichus crucialis* Casey, 1913: 126. Type locality: «S[an]ta Cruz M[oun]t[ain]s, California» (original citation). Lectotype (♂), designated by Bousquet (1999: 165), in USNM [# 47047]. Synonymy established by Van Dyke (1926a: 75), confirmed by Hacker (1968: 28).

**Distribution.** This species is found in western California from near Mount Shasta in Siskiyou County south to the Monterey area in Monterey County [see Hacker 1968: Fig. 38].

**Records. USA:** CA

### *Pterostichus enyo* Will, 2007

*Pterostichus enyo* Will, 2007: 55. Type locality: «12 mi[les] W[est] Weaverville, 2.3-6.8 mi[les] N[orth] on FR 421 (1700-2000 ft.), Trinity Co[unty], California» (original citation). Holotype (♀) in AMNH.

**Distribution.** This species is known only from the holotype collected in northwestern California.

**Records. USA:** CA

### *Pterostichus fuchsi* Schaeffer, 1910

*Pterostichus fuchsi* Schaeffer, 1910: 392. Type locality: «California» (original citation), herein restricted to 8 miles west of Willits, Mendocino County (see Hacker 1968: 22). Holotype (♀) in USNM [# 42501].

*Leptoferonia fugax* Casey, 1918: 337 [secondary homonym of *Pterostichus fugax* (Morawitz, 1862)]. Type locality: «California» (original citation). Lectotype (♂), designated by Bousquet (1999: 170), in USNM [# 47050]. Synonymy established by Van Dyke (1926a: 75), confirmed by Hacker (1968: 21).

*Pterostichus fugiens* Csiki, 1930: 582. Replacement name for *Pterostichus fugax* (Casey, 1918).

**Distribution.** This species is restricted to the Coast Ranges in Mendocino and Sonoma Counties, California [see Hacker 1968: Fig. 36].

**Records. USA:** CA

### *Pterostichus humilis* Casey, 1913

*Pterostichus humilis* Casey, 1913: 128. Type locality: «Hoopa Valley of the Trinity River, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 171), in USNM [# 47051].

*Leptoferonia larvalis* Casey, 1918: 337. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 171), in USNM [# 47052]. Synonymy established by Hacker (1968: 27).

**Distribution.** This species ranges along the Coast Ranges from southern Oregon southwards to Humboldt County in northern California [see Hacker 1968: Fig. 37].

**Records. USA:** CA, OR

***Pterostichus lobatus* Hacker, 1968**

*Pterostichus lobatus* Hacker, 1968: 23. Type locality: «3 miles south of Rockport (800 ft.), Mendocino County, Calif[ornia]» (original citation). Holotype (♂) in USNM [# 69603].

**Distribution.** This species is found along the Pacific Coast of California south of the Eel River in Humboldt County to the mouth of the Navarro River in Mendocino County [see Hacker 1968: Fig. 37].

**Records. USA:** CA

***Pterostichus marinensis* Hacker, 1968**

*Pterostichus marinensis* Hacker, 1968: 22. Type locality: «2 miles northwest of Pan Toll Camp, west slope of Mount Tamalpais (1700 ft.), Marin County, Calif[ornia]» (original citation). Holotype (♂) in USNM [# 69602].

**Distribution.** This species is, as far as known, restricted to a small area along the Pacific Coast from the Tomales Bay to the north side of the Pacific entrance of the San Francisco Bay [see Hacker 1968: Fig. 36].

**Records. USA:** CA

***Pterostichus mattolensis* Hacker, 1968**

*Pterostichus mattolensis* Hacker, 1968: 24. Type locality: «4 miles south of Honeydew (1500 ft.), Humboldt County, Calif[ornia]» (original citation). Holotype (♂) in USNM [# 69604].

**Distribution.** This species is restricted to the Coast Ranges in southern Humboldt County and northern Mendocino County, California [see Hacker 1968: Fig. 37].

**Records. USA:** CA

***Pterostichus trinitensis* Hacker, 1968**

*Pterostichus trinitensis* Hacker, 1968: 26. Type locality: «8 miles northeast of Zenia (3500 ft.), Trinity County, Calif[ornia]» (original citation). Holotype (♂) in USNM [# 69605].

**Distribution.** This species is found in southwestern Humboldt, southwestern Trinity, and northern Mendocino Counties in the Coast Ranges, northwestern California [see Hacker 1968: Fig. 37].

**Records. USA:** CA



**[hatchi group]*****Pterostichus blodgettensis* Will, 2007**

*Pterostichus blodgettensis* Will, 2007: 50. Type locality: «Bacon Cr[ee]k n[ear] Loop R[oa]d (1250 m), Blodgett Experimental Forest, El Dorado Co[unty], California» (original citation). Holotype (♂) in EMEC.

**Distribution.** This species is known only from the holotype.

**Records. USA:** CA

***Pterostichus hatchi* Hacker, 1968**

*Pterostichus hatchi* Hacker, 1968: 31. Type locality: «2 miles southwest of Ganns (6500 ft.), Calaveras County, Calif[ornia]» (original citation). Holotype (♂) in USNM [# 69606].

**Distribution.** This species is restricted to a small area of the Sierra Nevada in Calaveras, El Dorado, and Tuolumne Counties, east-central California [see Hacker 1968: Fig. 39].

**Records. USA:** CA

***Pterostichus stapedius* Hacker, 1968**

*Pterostichus stapedius stapedius* Hacker, 1968: 32. Type locality: «Beasore Meadows (6700 ft.), Madera County, Calif[ornia]» (original citation). Holotype (♂) in USNM [# 69607].

**Distribution.** This species is restricted to the Sierra Nevada from the Yosemite National Park to near King Canyon National Park, California [see Hacker 1968: Fig. 39].

**Records. USA:** CA

***Pterostichus yosemitensis* Hacker, 1968**

*Pterostichus stapedius yosemitensis* Hacker, 1968: 34. Type locality: «½ mile north of Crane Flat Ranger Station (6100 ft.), Tuolumne County, Calif[ornia]» (original citation). Holotype (♂) in USNM [# 69608].

**Distribution.** This species is restricted to a small area of the Sierra Nevada in Tuolumne County, California [see Hacker 1968: Fig. 39].

**Records. USA:** CA

**Note.** This taxon has been considered a subspecies of *P. stapedius* by Hacker (1968: 34) but regarded as a valid species by Bousquet (1999: 164).

**[inanis group]*****Pterostichus caligans* Horn, 1891**

*Pterostichus caligans* G.H. Horn, 1891: 32. Type locality: «Sylvania [= Camp Meeker, Sonoma County], Cal[ifornia]» (original citation). Lectotype (♀), designated by Bousquet (1999: 167), in MCZ [# 34425].

**Distribution.** This species is restricted to the Coast Ranges of California from Mendocino County to southern Sonoma County, east to western Napa County [see Hacker 1968: Fig. 38].

**Records. USA:** CA

***Pterostichus deino* Will, 2007**

*Pterostichus deino* Will, 2007: 54. Type locality: «Deer C[ree]k Meadow [Tehama County], Cal[ifornia]» (original citation). Holotype (♀) in CAS.

**Distribution.** This species is known from two localities in Tehama and Butte Counties in northern California.

**Records. USA:** CA

***Pterostichus idahoae* Csiki, 1930**

*Pterostichus elongatus* Schaeffer, 1910: 391 [secondary homonym of *Pterostichus elongatus* (Duftschmid, 1812)]. Type locality: «Moscou M[oun]t[ain]s [Latah County], Idaho» (original citation). Holotype (♀) in USNM [# 42496].

*Pterostichus idahoae* Csiki, 1930: 582. Replacement name for *Pterostichus elongatus* Schaeffer, 1910.

**Distribution.** This species is found in northern Idaho and western Montana (Hacker 1968: 39).

**Records. USA:** ID, MT

***Pterostichus inanis* Horn, 1891**

*Pterostichus inanis* G.H. Horn, 1891: 32. Type locality: «Nev[ada]» (lectotype label), herein restricted to Reno, Washoe County (see Hacker 1968: 41). Lectotype (♂), designated by Bousquet (1999: 172), in MCZ [# 34424].

**Distribution.** This species is known from “Washington” to northern California along the Coast Ranges, from the Sierra Nevada, and from Reno in northwestern Nevada (Hacker 1968: 41). Hacker (1968: 41) implied that the species occurs in British Columbia but the record needs confirmation.

**Records. USA:** CA, NV, OR, WA [BC]

***Pterostichus pemphredo* Will, 2007**

*Pterostichus pemphredo* Will, 2007: 52. Type locality: «Bacon Cr[ee]k n[ear] Loop R[oad] (1250 m), Blodgett Experimental Forest, El Dorado Co[unty], California» (original citation). Holotype (♀) in EMEC.

**Distribution.** This species is known only from the type locality.

**Records. USA:** CA

**[inopinus group]*****Pterostichus infernalis* Hatch, 1936**

*Pterostichus infernalis* Hatch, 1936: 705. Type locality: «Devils L[a]k[e] [Lincoln County], Ore[gon]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species ranges from northwestern Oregon, as far east as the eastern slopes of the Coast Ranges, southwards to northwestern California [see Hacker 1968: Fig. 34].

**Records. USA:** CA, OR

***Pterostichus inopinus* (Casey, 1918)**

*Leptoferonia inopina* Casey, 1918: 338. Type locality: «Josephine Co[unty], Oregon» (original citation), restricted to «Golden» by Hacker (1968: 11). Lectotype (♂), designated by Bousquet (1999: 172), in USNM [# 47048].

**Distribution.** This species is restricted to western Oregon, as far north as Mount Hood National Forest, and northwestern California [see Hacker 1968: Fig. 32]. The record from “Washington” in Bousquet and Larochelle (1993: 179) is based on two specimens from Yakima County which Hacker (1968: 11) regarded as mislabeled.

**Records. USA:** CA, OR

***Pterostichus pumilus pumilus* Casey, 1913**

*Pterostichus longicollis* LeConte, 1853a: 239 [secondary homonym of *Pterostichus longicollis* (Duftschmid, 1812)]. Type locality: «Oregon» (original citation), herein restricted to Bull Run, Clackamas County (see Casey 1913: 127). Lectotype (♀), designated by Bousquet (1999: 178), in MCZ [# 5613].

*Feronia oregona* Chaudoir, 1868b: 335 [secondary homonym of *Pterostichus oregonus* LeConte, 1861]. Type locality: «Orégon» (original citation). Holotype [by monotypy] (♀) location unknown (possibly in MHNP). Synonymy established by LeConte (1873a: 304).

*Pterostichus pumilus* Casey, 1913: 127 (as *pumilis*). Type locality: «Clackamas Co[unty], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 123), in USNM [# 47049]. Synonymy established by Van Dyke (1926a: 75), confirmed by Lindroth (1966: 471). NOTE. The incorrect subsequent spelling *pumilus*, introduced by Casey (1914: 356), is in prevailing usage and attributed to the publication of the original spelling; therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Micromaseus longicollis* Casey, 1924: 75 [secondary homonym of *Pterostichus longicollis* (Duftschmid, 1812) and *Pterostichus longicollis* LeConte, 1853]. Type locality: «Seattle [King County], Washington» (original citation). Holotype [by monotypy] (♂) in USNM [# 47073]. Synonymy established by Hatch (1953: 112), confirmed by Lindroth (1966: 471).

*Pterostichus oregonis* Csiki, 1930: 582. Replacement name for *Pterostichus longicollis* LeConte, 1853.

**Distribution.** This subspecies ranges from southwestern British Columbia, including Vancouver Island (Lindroth 1966: 471), southwards to the Green Peter Mountain (Hacker 1968: 13) in the Oregon Cascades [see Hacker 1968: Fig. 33].

**Records.** CAN: BC (VCI) USA: OR, WA

***Pterostichus pumilus willamettensis* Hacker, 1968**

*Pterostichus pumilus willamettensis* Hacker, 1968: 13. Type locality: «hills east of the Willamette Valley 5 miles north of Mabel (700 ft.), Linn County, Oreg[on]» (original citation). Holotype (♂) in USNM [# 69599].

**Distribution.** This subspecies is endemic to the Willamette Valley and surrounding foothills in western Oregon [see Hacker 1968: Fig. 33].

**Records.** USA: OR

**[rothi group]**

***Pterostichus rothi* (Hatch, 1951)**

*Anilloferonia rothi* Hatch, 1951: 117. Type locality: «Mary's Peak, Benton Co[unty], Ore[gon]» (original citation). Holotype (♀) in CAS [# 8158]. Etymology. The specific name was proposed for Vincent Daniel Roth [1924-1997] who run for a long period the South Western Research Station of the American Museum of Natural History in the Chiricahua Mountains, Arizona. Roth was interested in spiders.

**Distribution.** This species is known from four sites in Lincoln and Benton Counties in western Oregon (Brenner 2005).

**Records.** USA: OR

**[sphodrinus group]**

***Pterostichus beyeri* Van Dyke, 1926**

*Pterostichus beyeri* Van Dyke, 1926a: 71. Type locality: «Bitter Root Mountains, Montana» (original citation). Holotype (♂) in CAS [# 1823]. Etymology. The specific name honors Gustav Beyer [1840-1924], a fur manufacturer but also a naturalist and insect collector. Beyer was a founding member of the New York Entomological Society.

*Pterostichus idahoensis* Hatch, 1936: 706. Type locality: «Pierce [Clearwater County], Id[aho]» (original citation). Holotype (♀) in USNM. Synonymy established by Hatch (1953: 112).

**Distribution.** This species is known from a few specimens collected in northern Idaho and along the western edge of Montana (Hacker 1968: 36; see Will and Gill 2008: Fig. 15).

**Records.** USA: ID, MT



***Pterostichus sphodrinus* LeConte, 1863**

*Pterostichus sphodrinus* LeConte, 1863c: 10. Type locality: «Nebraska [Territory]» (original citation). Lectotype (♂), designated by Bousquet (1999: 180), in CMNH (collection Ulke).

*Monoferonia idahoanus* Casey, 1924: 78. Type locality: «Moscow M[oun]t[ain] [Latah County], Idaho» (original citation). Holotype [by monotypy] (♂) in USNM [# 47114]. Synonymy established by Darlington (1932: 158), confirmed by Lindroth (1966: 470).

**Distribution.** This species is found in the Rocky Mountains in southern Alberta, southeastern British Columbia (Lindroth 1966: 470-471), northeastern Washington, northern Idaho (Hatch 1953: 112), and western Montana (Russell 1968: 59; Edwards 1975: 55; Hansen et al. 2009: 353). The record from “Alaska” (Erwin et al. 1977: 4.33; Bousquet and Larochelle 1993: 182) is probably in error.

**Records.** CAN: AB, BC USA: ID, MT, WA

[*incertae sedis*]

***Pterostichus falli* Van Dyke, 1926**

*Pterostichus falli* Van Dyke, 1926a: 73. Type locality: «east side of the hills east of Hollywood, Los Angeles County, California» (original citation). Holotype (♂) in CAS [# 1824].

**Distribution.** This species is actually known only from the type locality (Hacker 1968: 37) in southern California.

**Records.** USA: CA

**Subgenus *Anilloferonia* Van Dyke, 1926**

*Anilloferonia* Van Dyke, 1926a: 115. Type species: *Anilloferonia testacea* Van Dyke, 1926 by original designation. Etymology. From the Greek *an* (without), *illoz* (eyes), and the generic name *Feronia*, referring to the absence of eyes (“eyes wanting”) in adults of these *Feronia* (= *Pterostichus*) species [feminine].

**Diversity.** Three species in the Pacific Northwest are currently recognized.

**Identification.** Hatch (1953) provided a key for the identification of the species.

**Taxonomic Note.** *Pterostichus rothi* has been included within this subgenus by most authors but recent molecular data analyses (Will and Gill 2008: 115) suggest that the species is most closely related to members of *Leptoferonia* Casey.

***Pterostichus lanei* (Hatch, 1935)**

*Anilloferonia lanei* Hatch, 1935: 116 [secondary homonym of *Pterostichus lanei* Van Dyke, 1926]. Type locality: «Seaside [Clatsop County], Ore[gon]» (original citation). Holotype (♂) in USNM.



**Distribution.** This taxon is limited to the Coast Ranges in northwestern Oregon (James R. LaBonte pers. comm. 1994).

**Records. USA:** OR

**Note.** The name *Pterostichus lanei* (Hatch, 1935) is a secondary homonym of *P. (Pseudoferonina) lanei* Van Dyke, 1926. James R. LaBonte (pers. comm. 2012) is planning to propose a replacement name for *P. lanei* Hatch.

### ***Pterostichus malkini* (Hatch, 1953)**

*Anilloferonia malkini* Hatch, 1953: 119. Type locality: «Charleston, Coos Co[unty], Ore[gon]» (original citation). Holotype (♀) in USNM. Etymology. The specific name was proposed for Borys Malkin [1917-2009], ethnologist, naturalist, collector, photographer, and filmmaker (a documentary). Malkin, a Polish immigrant to the United States, collected beetles in the Philippines, New Guinea, Australia, Europe, Africa, and across the United States. He sold his North American beetle collection to the Field Museum of Natural History in June 1959.

**Distribution.** This taxon is confined to the Coast Ranges in southwestern Oregon (James R. LaBonte pers. comm. 1994).

**Records. USA:** OR

### ***Pterostichus testaceus* (Van Dyke, 1926)**

*Anilloferonia testacea* Van Dyke, 1926a: 116. Type locality: «Yakima Indian Forest Reserve on the east side of Mount Adams (about 4000 feet), Washington» (original citation). Holotype (♀) in CAS [# 1855].

**Distribution.** This species is confined to the Cascade Range in Washington and Oregon (James R. LaBonte pers. comm. 1994).

**Records. USA:** OR, WA

### **Subgenus *Hypherpes* Chaudoir, 1838<sup>8</sup>**

*Hypherpes* Chaudoir, 1838: 8. Type species: *Feronia castanea* Dejean, 1828 designated by Bousquet (1984a: 4). Etymology. Uncertain, but more likely from the Greek *ypherpo* (to creep on secretly) rather than from the Greek *hypo* (under, beneath), *phero* (to bear, carry), and the Latin *pes* (foot) [masculine]. The name was proposed by Johann Friedrich Eschscholtz and made available by Chaudoir.

*Haplocoelus* Chaudoir, 1838: 8. Type species: *Feronia tristis* Dejean, 1828 by original designation. Synonymy established by Csiki (1930: 578). Etymology (original). From the Greek *haplo-* (simple, single) and *coilos* (hollow, by extension sulcus,

<sup>8</sup> Several new synonyms are proposed in this subgenus. All are based on a manuscript written by Serge Laplante in the 1990s originating from a study of the type specimens of all species then considered valid and the specimens in the CNC. The new synonymies should be credited to him.

stria, impression), possibly alluding to the single laterobasal impression on each side of the pronotum of the adult [masculine].

*Brachystilus* Chaudoir, 1838: 10. Type species: *Feronia californica* Dejean, 1828 by original designation. Synonymy established implicitly by LeConte (1853a: 238), explicitly by Csiki (1930: 579). Etymology (original). From the Greek *brachys* (short) and *stylos* (pillar, column, by extension support) [masculine]. NOTE. Chaudoir (1838) used two different spellings for this taxon: *Brachystilus* (page 10) and *Brachystylus* (page 17). Bousquet and Laroche (1993: 176) acted as First Revisers and selected *Brachystilus* as the original spelling, so that the name *Brachystylus* Schönherr, 1845, a valid taxon in Curculionidae, would not enter in homonymy.

*Holciophorus* LeConte, 1853a: 249. Type species: *Feronia atra* Dejean, 1828 (= *Feronia lama* Ménétriés, 1843) by monotypy. Synonymy established by Van Dyke (1926a: 73). Etymology. Uncertain, possibly from the Greek *holcio* (rudder) and *phoro* (to bear, carry) [masculine].

*Gonoderus* Motschulsky, 1859a: 149. Type species: *Feronia adoxa* Say, 1823 designated by Lindroth (1966: 467). Synonymy established by Csiki (1930: 578).

*Hammatomerus* Chaudoir, 1868b: 337. Type species: *Feronia morionides* Chaudoir, 1868 by monotypy. Synonymy established by Van Dyke (1926a: 73). Etymology. From the Greek *hammatos* (knot, noose, cord) and *meros* (part, by extension segment) [masculine].

*Pheryphes* Casey, 1920: 186. Type species: *Pterostichus tarsalis* LeConte, 1873 designated by Bousquet (1984a: 4). Synonymy established by Bousquet and Laroche (1993: 176). Etymology. Anagram of the generic name *Hypherpes* [q.v.] [masculine].

**Diversity.** Sixty species in eastern (two species) and western (58 species) North America.

**Identification.** Casey (1913) reviewed most of the species then known (under *plancatus*, *californicus*, *menetriesi*, *congestus*, and *adoxus* groups) but his key is very difficult to use. A taxonomic revision of the species is much needed.

**Taxonomic Note.** Bousquet (1999) combined members of *Leptoferonia*, *Anilloferonia*, and *Hypherpes* into a single subgeneric taxon. Based on molecular sequence data, Will and Gill (2008) recovered these groups as monophyletic and suggested to recognize them as distinct subgenera.

#### [adoxus group]

#### *Pterostichus adoxus* (Say, 1823)

*Feronia adoxa* Say, 1823a: 46. Type locality: «M[oun]t Wachusett [Worcester County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 340), in MCZ [# 33052].

*Pterostichus reiectus* LeConte, 1853a: 236. Type locality: «New York» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5612]. Synonymy established by LeConte (1873a: 314).

*Hypherpes sufflatus* Casey, 1920: 187. Type locality: «probably Indiana» (original citation). Holotype [by monotypy; designated lectotype by Perrault (1973a: 39)] (♀) in USNM [# 47040]. Synonymy established by Lindroth (1966: 467).

**Distribution.** This species ranges from Cape Breton Island (Bousquet 1987d: 105) to northern Minnesota (Petrice et al. 2002: 9), south along the Appalachian Mountains at least to eastern Tennessee (Carter and Morgan Counties, CMNH) and northwestern South Carolina (Ciegler 2000: 66). The records from Georgia (Fattig 1949: 21), northern Alabama (Löding 1945: 15), and Iowa (Wickham 1911b: 6; King 1914: 321) need confirmation since they could refer to *P. tristis*; that from “Wyoming” (Wickham 1896c: 132) is in error.

**Records.** CAN: NB, NS (CBI), ON, QC USA: CT, DC, DE, IN, KY, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, SC, TN, VA, VT, WI, WV [AL, GA, IA]

### *Pterostichus tristis* (Dejean, 1828)

*Feronia tristis* Dejean, 1828: 324. Type locality: «Amérique septentrionale» (original citation), herein restricted to Nakutshi Valley, Habersham County, Georgia (see LeConte, 1853a: 236, as *P. sustentus*). Lectotype, designated by Perrault (1973a: 39), in MHNP.

*Feronia interfector* Newman, 1838a: 387. Type locality: «northern states of America» (original citation, see page 388). Syntype(s) probably lost (Lindroth 1966: 467). Synonymy established by Perrault (1973a: 39).

*Pterostichus sustentus* LeConte, 1853a: 236. Type locality: «Nakutshi Valley, Habersham County, Georgia» (original citation). Lectotype (♀), designated by Perrault (1973a: 39), in MCZ [# 5611]. Synonymy established by Perrault (1973a: 39).

*Pterostichus subarcuatus* LeConte, 1853a: 238. Type locality: «New York» (original citation). Lectotype (♀), designated by Perrault (1973a: 39), in MCZ [# 5618]. Synonymy established by Perrault (1973a: 39).

*Gonoderus cordicollis* Motschulsky, 1859a: 149. Type locality: «Etats-Unis» (original citation). Lectotype (♂), designated by Bousquet and Laroche (1993: 14), in ZMMU. Synonymy established by Bousquet and Laroche (1993: 14).

*Pterostichus zephyrus* Casey, 1884b: 2. Type locality not stated. Holotype [by monotypy; designated lectotype by Perrault (1973a: 39)] (♂) in USNM [# 47041]. Synonymy established by Perrault (1973a: 39).

*Pterostichus tetricula* Casey, 1913: 130. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♀), designated by Perrault (1973a: 39), in USNM [# 47039]. Synonymy established by Perrault (1973a: 39).

**Distribution.** This species has a similar distribution pattern than the preceding one ranging from Cape Breton Island (Bousquet 1987d: 105) to northern Minnesota (Petrice et al. 2002: 9), south to east-central Iowa (Iowa County, MCZ), Tennessee in the Great Smokies (CNC, MCZ), Georgia (Perrault 1973a: 37), and northwestern South Carolina (Ciegler 2000: 68). One old specimen labeled “La.” (MCZ) is probably mislabeled.

**Records.** CAN: NB, NS (CBI), ON, PE, QC USA: CT, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV

[**amethystinus group**]

***Pterostichus amethystinus* Mannerheim, 1843**

*Pterostichus amethystinus* Mannerheim, 1843: 201. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Syntype(s) location unknown (Lindroth 1966: 464).

*Pterostichus amethystinus novellus* Casey, 1913: 102. Type locality: Hydesville, Valley of Eel River, Humboldt County, California (lectotype label according to Lindroth 1975: 123). Lectotype (♂), designated by Lindroth (1975: 123), in USNM [# 46981]. Synonymy established by Hatch (1936: 701), confirmed by Lindroth (1966: 464).

*Pterostichus amethystinus metlakatlae* Casey, 1913: 102. Type locality: «Metlakatla, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 123), in USNM [# 46983]. Synonymy established by Hatch (1936: 701), confirmed by Lindroth (1966: 464).

*Pterostichus jejunus* Casey, 1913: 104. Type locality: «probably California» (original citation). Holotype [by monotypy] (♀) in USNM [# 46986]. Synonymy established by Lindroth (1966: 464).

*Hypherpes stoicus* Casey, 1924: 68. Type locality: «Inverness [probably Inverness Passage], British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 123), in USNM [# 46980]. Synonymy established by Hatch (1936: 701), confirmed by Lindroth (1966: 464).

**Distribution.** This species is found along the Pacific Coast from the Yakutat Bay in southeastern Alaska (Lindroth 1966: 465) to Mendocino County in California (Van Dyke 1919b: 5).

**Records.** CAN: BC (QCI, VCI) USA: AK, CA, OR, WA

***Pterostichus obsidianus* Casey, 1913**

*Pterostichus obsidianus* Casey, 1913: 102. Type locality: «Monterey [Monterey County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 175), in USNM [# 46982].

**Distribution.** This species is known only from the lectotype collected in coastal California.

**Records.** USA: CA

**Note.** The lectotype of *P. obsidianus* Casey is structurally similar to and possibly conspecific with members of *P. scutellaris* LeConte.

***Pterostichus scutellaris* LeConte, 1873**

*Pterostichus scutellaris* LeConte, 1873a: 312. Type locality: «California» (original citation). Lectotype (♂), designated by Bousquet (1999: 179), in MCZ [# 5607].

**Distribution.** I have seen this species from Marin and Fresno Counties in California (CNC); according to Van Dyke (1919b: 5), it extends south to Monterey County in California. The syntype studied by Lindroth (1966: 462) is not conspecific with the lectotype.

**Records. USA:** CA

[**arcanus group**]

***Pterostichus arcanus* Casey, 1913**

*Pterostichus arcanus* Casey, 1913: 103. Type locality: «S[an]ta Cruz M[oun]t[ain]s, California» (original citation). Lectotype (♂), designated by Bousquet (1999: 166), in USNM [# 46985].

**Distribution.** This species is known only from the lectotype collected in the Coast Ranges of California.

**Records. USA:** CA

[**castaneus group**]

***Pterostichus castaneus* (Dejean, 1828)**

*Feronia castanea* Dejean, 1828: 326. Type locality: «détroit de Norfolk [= Sitka Sound, Baranof Island, Alaska] sur la côte nord-ouest de l'Amérique septentrionale» (original citation). Syntype(s) location unknown (possibly in MHNP and MCZ, see Lindroth 1966: 465).

*Feronia brunnea* Dejean, 1828: 327. Type locality: «Californie» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by LeConte (1873a: 312), confirmed by Lindroth (1966: 465).

*Feronia sejungenda* Chaudoir, 1868b: 336. Type locality: «Californie» (original citation). One syntype [2 ♀ originally cited] in MHNP. Synonymy established with doubt, under the name *P. brunneus* (Dejean), by Tschitschérine (1900c: 467), herein confirmed. NOTE. Tschitschérine (1900c: 467) wrote that this taxon was probably a synonym of the true *P. brunneum*. I have seen one of the two syntypes, a damage specimen in Chaudoir's collection in MHNP missing the abdomen, the posterior legs and most of the remaining tarsi. The specimen matches those of *P. castaneus* (Dejean) in all its external characters.

*Pterostichus wrangelli* Casey, 1913: 131. Type locality: «Fort Wrangell, Alaska» (original citation). Holotype [by monotypy] (♂) in USNM [# 47000]. Synonymy established by Casey (1918: 325), confirmed by Lindroth (1966: 466).

*Hypherpes terracensis* Casey, 1924: 68. Type locality: «Terrace, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 123), in USNM [# 46984]. Synonymy established by Hatch (1953: 110), confirmed by Lindroth (1966: 466).

**Distribution.** This species ranges from the southeastern coast of Alaska (Lindroth 1966: 466) to “California” (Dejean 1828: 327, as *Feronia brunnea*; Chaudoir 1868b:



336, as *Feronia sejungenda*), east to southeastern British Columbia (Lindroth 1966: 466) and “Idaho” (Van Dyke 1924a: 8).

**Records.** CAN: BC (QCI, VCI) USA: AK, CA, ID, OR, WA

***Pterostichus tuberculofemoratus* Hatch, 1936**

*Pterostichus tuberculo-femoratus* Hatch, 1936: 701. Type locality: «Crater L[ake] [Klamath County], Ore[gon]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from a few localities in southern Oregon (Hatch 1936: 702).

**Records.** USA: OR

[**castanipes group**]

***Pterostichus castanipes* (Ménétriés, 1843)**

*Feronia castanipes* Ménétriés, 1843: 59. Type locality: «Rio del Sacramento [= Sacramento River], Californie» (original citation). Lectotype (♀), designated by Bousquet (1999: 168), in ZMH.

*Pterostichus contractus* LeConte, 1851: 182. Type locality: «San Jose [Santa Clara County, California]» (original citation). Lectotype (♂), designated by Bousquet (1999: 168), in MCZ [# 83]. Synonymy established by LeConte (1873a: 304).

*Pterostichus gregalis* Casey, 1913: 121. Type locality: «Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 171), in USNM [# 47027]. **New synonymy** (Serge Laplante pers. comm. 1998).

**Distribution.** At present, this species is known only from the Coast Ranges in north and central California. The record from Utah (Knowlton and Wood 1947: 94) is no doubt in error.

**Records.** USA: CA

[**congestus group**]

***Pterostichus congestus* (Ménétriés, 1843)**

*Feronia congesta* Ménétriés, 1843: 59. Type locality: «Californie» (original citation), herein restricted to Anderson Valley, Mendocino County (see Casey, 1913: 105, as *P. brevisculus*). Lectotype (♀), designated by Bousquet (1999: 168), in ZMH.

*Brachystylus curtipennis* Motschulsky, 1859a: 148. Type locality: «St. Francisco [California]» (original citation). Lectotype (♀), designated by Bousquet and Laroche (1993: 12), in ZMMU. Synonymy established by Bousquet and Laroche (1993: 12).

*Pterostichus brevisculus* Casey, 1913: 105. Type locality: «Anderson Valley, Mendocino Co[unty], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 166), in USNM [# 46992]. **New synonymy** (Serge Laplante pers. comm. 1998).

*Pterostichus brevisculus mimus* Casey, 1913: 105. Type locality: «Sonoma Co[unty], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 166), in USNM [# 46990]. **New synonymy** (Serge Laplante pers. comm. 1998).

*Pterostichus plutonicus* Casey, 1913: 106. Type locality: «coast regions north of San Francisco, California» (original citation). Lectotype (♂), designated by Bousquet (1999: 177), in USNM [# 46991]. **New synonymy** (Serge Laplante pers. comm. 1998).

**Distribution.** This species is found along the Coast Ranges from Oregon (Lane County, CNC) to southern California (Fall 1901a: 44).

**Records. USA:** CA, OR

### *Pterostichus crenicollis* LeConte, 1873

*Pterostichus crenicollis* LeConte, 1873a: 311. Type locality: «Washington Territory and Vancouver» (original citation), restricted to «Wash[ington]» by Lindroth (1966: 460). Lectotype (♂), designated by Bousquet (1999: 169), in MCZ [# 5602].

*Pterostichus rectilatus* Casey, 1913: 106. Type locality: «Clackamas Co[unty], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 46996]. Synonymy established by Hatch (1953: 111), confirmed by Lindroth (1966: 460).

*Pterostichus pugetanus* Casey, 1913: 107. Type locality: «Clackamas Co[unty], Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 122), in USNM [# 46995]. Synonymy established by Casey (1918: 328), confirmed by Lindroth (1966: 460).

**Distribution.** This species is restricted to the Coast Ranges and adjacent areas from the Gulf Coast of Alaska (Lindroth 1966: 460) to northwestern California (Notman 1929b: 222; Will and Gill 2008: 123).

**Records. CAN:** BC (QCI, VCI) **USA:** AK, CA, OR, WA

### *Pterostichus suffusus* Casey, 1913

*Pterostichus suffusus* Casey, 1913: 106. Type locality: «Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 181), in USNM [# 46993].

*Pterostichus cuneatulus* Casey, 1913: 108. Type locality: «Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 169), in USNM [# 46998]. **New synonymy** (Serge Laplante pers. comm. 1998).

**Distribution.** As far as known, this species is found along the Coast Ranges in northern California.

**Records. USA:** CA

**[craterensis group]*****Pterostichus craterensis* (Hatch, 1949)**

*Platysma craterense* Hatch, 1949a: 80. Type locality: «Crater L[ake] [Klamath County], Ore[gon]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from a few specimens collected in Klamath County, southern Oregon.

**Records. USA:** OR

**[ecarinatus group]*****Pterostichus ecarinatus* Hatch, 1936**

*Pterostichus ecarinatus* Hatch, 1936: 702. Type locality: «Waha [Nez Perce County], Id[aho]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is found along the Rocky Mountains and their foothills in western Alberta, eastern British Columbia (Lindroth 1966: 466), northeastern Washington, northern Idaho (Hatch 1953: 109), and western Montana (Russell 1968: 58; Edwards 1975: 54; Will and Gill 2008: 123).

**Records. CAN:** AB, BC **USA:** ID, MT, WA

**[gracilior group]*****Pterostichus annosus* Casey, 1913**

*Pterostichus annosus* Casey, 1913: 122. Type locality: «California» (original citation). Holotype [by monotypy] (♂) in USNM [# 47030].

**Distribution.** This species is known only from the holotype.

**Records. USA:** CA

***Pterostichus baldwini* (Casey, 1924)**

*Hypherpes baldwini* Casey, 1924: 70. Type locality: «Baldwin Lake (8600 ft.) [San Bernardino County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 166), in USNM [# 47035].

**Distribution.** This species is known only from the San Bernardino Mountains in southern California.

**Records. USA:** CA

***Pterostichus esuriens* Casey, 1913**

*Pterostichus esuriens* Casey, 1913: 122. Type locality: «Hermitage and Guallala, Mendocino Co[unty], California» (original citation), restricted to «Hermitage» by Bousquet (1999: 169). Lectotype (♀), designated by Bousquet (1999: 169), in USNM [# 47033].

**Distribution.** This species is known only from two specimens collected in Mendocino County, California.

**Records. USA:** CA

### ***Pterostichus gracilior* LeConte, 1873**

*Brachystylus longicollis* Motschulsky, 1859a: 147 [secondary homonym of *Pterostichus longicollis* (Duftschmid, 1812)]. Type locality: «Cap de l'Amiral Drak[e] [= Drakes Head, Marin County, California]» (original citation). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976).

*Pterostichus gracilior* LeConte, 1873a: 304. Replacement name for *Pterostichus longicollis* (Motschulsky, 1859).

**Distribution.** This species seems to be confined to the mountains of southern California (Fall 1901a: 44). The records from “Oregon,” “Nevada,” and “Nebraska” (Schaupp 1882c: 41) are probably in error.

**Records. USA:** CA

### ***Pterostichus hornii* LeConte, 1873**

*Pterostichus hornii* LeConte, 1873a: 313. Type locality: «S[outh]E[ast] Sierras of California» (original citation), herein restricted to near Fort Tejon, Kern County (see Van Dyke 1927a: 196). Holotype [by monotypy] (♀) in MCZ [# 5610]. Etymology. The specific name honors George Henry Horn [1840-1897], long-time friend of J.L. LeConte. An obstetrician by profession, Horn devoted his leisure to taxonomic studies of North American beetles. Along with his mentor LeConte, he coauthored in 1883 the *Classification of the Coleoptera of North America* which was a stepping-stone for the development of coleopterology on this continent.

**Distribution.** This species is known from a few localities in the southern parts of the Sierra Nevada. The record from Baja California (Horn 1894: 308) needs confirmation.

**Records. USA:** CA

### ***Pterostichus lacertus* Casey, 1913**

*Pterostichus lacertus* Casey, 1913: 123. Type locality: «Hydesville, Valley of Eel River, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 173), in USNM [# 47038].

**Distribution.** This species is known only from the lectotype collected in northwestern California.

**Records. USA:** CA

### ***Pterostichus mercedianus* (Casey, 1918)**

*Hypherpes mercedianus* Casey, 1918: 335. Type locality: «Merced Creek [Mariposa County], California» (original citation). One syntype in USNM [# 47031].



*Hypherpes protensipennis* Casey, 1918: 336. Type locality: «Berkeley [Alameda County], Cal[ifornia]» (lectotype label). Lectotype (♂), designated by Bousquet (1999: 177), in USNM [# 47029]. **New synonymy** (Serge Laplante pers. comm. 1998).

**Distribution.** This species is known from the Coast Ranges and Sierra Nevada in central California.

**Records. USA:** CA

***Pterostichus panticulatus* Casey, 1913**

*Pterostichus panticulatus* Casey, 1913: 124. Type locality: «with scarcely a doubt from California» (original citation). Holotype [by monotypy] (♀) in USNM [# 47034].

**Distribution.** This species is known only from the holotype.

**Records. USA:** CA

***Pterostichus pergracilis* (Casey, 1920)**

*Hypherpes pergracilis* Casey, 1920: 187. Type locality: «Olancho, Inyo Co[unty], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 177), in USNM [# 47032].

**Distribution.** This species is known only from the lectotype.

**Records. USA:** CA

***Pterostichus protensiformis* (Casey, 1924)**

*Hypherpes protensiformis* Casey, 1924: 70. Type locality: «Berkeley [Alameda County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 177), in USNM [# 47016].

**Distribution.** This species is known only from the type locality in western California.

**Records. USA:** CA

***Pterostichus sierranus* Casey, 1913**

*Pterostichus sierranus* Casey, 1913: 124. Type locality: «Lake Tahoe and Merced Cr[eeke], California» (original citation), restricted to «Lake Tahoe [Placer County]» by Bousquet (1999: 180). Lectotype (♀), designated by Bousquet (1999: 180), in USNM [# 47028].

**Distribution.** This species is known only from Placer (Casey 1913: 124) and Tuolumne Counties (Dajoz 2007: 17) in the Sierra Nevada.

**Records. USA:** CA

**Note.** Casey (1913) based the description of this species on two specimens, one from Lake Tahoe, the other from Merced Creek. The specimen from Merced Creek was



later (Casey 1918: 335) considered a distinct species which Casey named *Hypherpes mercedianus*.

### ***Pterostichus sponsor* Casey, 1913**

*Pterostichus sponsor* Casey, 1913: 123. Type locality: «Monterey [Monterey County], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 180), in USNM [# 47037].

**Distribution.** This species is known only from the lectotype collected in west-central California.

**Records. USA:** CA

### ***Pterostichus spraguei* LeConte, 1873**

*Pterostichus spraguei* LeConte, 1873a: 313. Type locality: «Nevada» (original citation). Lectotype (♂), designated by Bousquet (1999: 181), in MCZ [# 5609]. Etymology. The specific name was proposed for Philip Shaw Sprague [1829-1874], an active member of the Boston Society of Natural History. Sprague started collecting beetles in his 30s and his collection went to the Boston Society.

**Distribution.** Besides the lectotype, I have seen one specimen, probably of this species, from Mono County, California (CNC). The species was also reported from Zion National Park, Utah, by Tanner (1928: 270).

**Records. USA:** CA, NV [UT]

### **[herculaneus group]**

### ***Pterostichus herculaneus* Mannerheim, 1843**

*Pterostichus herculaneus* Mannerheim, 1843: 201. Type locality: «insula Sithka [= Baranof Island, Alaska]» (original citation), which is probably incorrect (Lindroth 1966: 463). Syntype(s) location unknown (Lindroth 1966: 463).

*Pterostichus scenicus* Casey, 1913: 103. Type locality: «British Columbia» (original citation). Holotype [by monotypy] (♀) in USNM [# 46987]. Synonymy established by Hatch (1953: 108), confirmed by Lindroth (1966: 464).

**Distribution.** This species ranges from northwestern Montana (Russell 1968: 58) to Vancouver Island (Lindroth 1966: 464), south to the Coast Ranges in southwestern Oregon (Niwa and Peck 2002: 787) and Tuolumne County in the Sierra Nevada (Will and Gill 2008: 123). The record from southeastern Colorado (Wickham 1902: 235) is likely in error.

**Records. CAN:** BC (VCI) **USA:** CA, ID, MT, OR, WA

### ***Pterostichus laborans* Casey, 1913**

*Pterostichus laborans* Casey, 1913: 116. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 173), in USNM [# 47020].



**Figure 31.** *Badister neopulchellus* Lindroth. This nicely colored licinine was first recognized by Carl Lindroth when he realized that the *Badister pulchellus* of authors included two species, this one which is transcontinental and relatively commonly collected and *B. pulchellus*, a much rarer species restricted to the eastern parts of the continent. With the advent of molecular tools, there is little doubt that several of our carabid species will eventually be showed to be complexes of species that cannot be separated with confidence based on morphology alone.

*Pterostichus tahoensis* Casey, 1913: 113. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 181), in USNM [# 47011]. **New synonymy** (Serge Laplante pers. comm. 1998).

*Hypherpes placerensis* Casey, 1918: 334. Type locality: «Placer Co[unty], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 177), in USNM [# 47015]. **New synonymy** (Serge Laplante pers. comm. 1998).

**Distribution.** This species is known only from the Lake Tahoe area in the Sierra Nevada, California.

**Records. USA:** CA

### *Pterostichus lattini* LaBonte, 2006

*Pterostichus lattini* LaBonte, 2006: 204. Type locality: «Marys Peak (1092 m), Benton Co[unty], Or[egon]» (original citation). Holotype (♂) in CAS [# 18122].

**Distribution.** This species is known from the Cascade Range and Coast Ranges of western Oregon [see LaBonte 2006: Fig. 5].

**Records. USA:** OR

### *Pterostichus neobrunneus* Lindroth, 1966

*Pterostichus neobrunneus* Lindroth, 1966: 462. Type locality: «Oliver, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CNC [# 9224].

**Distribution.** This species occurs west of the Rocky Mountains from southern British Columbia, including Vancouver Island (Lindroth 1966: 463), to northern Oregon (Hatch 1953: 109, as *P. brunneus*).

**Records. CAN:** BC (VCI) **USA:** OR, WA

**Note.** Prior to Lindroth (1966), this species was reported in the literature under the name *P. brunneus* (Dejean, 1828).

### *Pterostichus occultus* Casey, 1913

*Pterostichus occultus* Casey, 1913: 112. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 176), in USNM [# 47009].

**Distribution.** This species is known only from the lectotype collected in northern California.

**Records. USA:** CA

### *Pterostichus planctus* LeConte, 1853

*Pterostichus planctus* LeConte, 1853a: 239. Type locality: «Sac[ramento] [Sacramento County, California]» (lectotype label). Lectotype (♀), designated by Bousquet (1999: 177), in MCZ [# 5603].



**Distribution.** This species is known from “Oregon” (LeConte 1853a: 239) and a few localities in the Sierra Nevada (Fall 1901a: 45).

**Records. USA:** CA, OR

***Pterostichus protractus* LeConte, 1860**

*Pterostichus protractus* LeConte, 1860: 319. Type locality: «Jasper House [= Jasper, Alberta]» (original citation). Lectotype (♂), designated by Bousquet (1999: 178), in MCZ [# 5604].

*Pterostichus inornatus* Bland, 1865: 381. Type locality: «Colorado Territory» (original citation). Lectotype (♂), designated by Bousquet (1999: 178), in ANSP [# 2701]. Synonymy established by LeConte (1873a: 303), confirmed by Bousquet (1999: 178).

*Pterostichus fontinalis* Casey, 1913: 110. Type locality: «Yellowstone Park, Wyoming» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 47004]. Synonymy established by Lindroth (1966: 463).

*Pterostichus zunianus* Casey, 1913: 111. Type locality: «New Mexico» (original citation). Lectotype (♂), designated by Bousquet (1999: 183), in USNM [# 47005]. **New synonymy** (Serge Laplante pers. comm. 1998).

*Hypherpes vivax* Casey, 1918: 333. Type locality: «Yellowstone Park, Wyoming» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 47007]. Synonymy established by Lindroth (1966: 463).

*Hypherpes intectus* Casey, 1918: 333. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Bousquet (1999: 173), in USNM [# 47006]. **New synonymy** (Serge Laplante pers. comm. 1998).

*Hypherpes provensis* Casey, 1924: 69. Type locality: «Provo Cañon [Utah County], Utah» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 123), in USNM [# 47017]. Synonymy established by Lindroth (1966: 463).

*Hypherpes utensis* Casey, 1924: 69. Type locality: «Provo Cañon [Utah County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 123), in USNM [# 47010]. Synonymy established by Lindroth (1966: 463).

**Distribution.** This species occurs from the foothills of the Rocky Mountains in south-central Alberta to the Kootenay River drainage in southeastern British Columbia (Lindroth 1966: 463), south to the Sierra Nevada in California (Fall 1901a: 45; Papp 1978: 167), northern Arizona (Apache and Coconino Counties, CNC), and the Sangre de Cristo Mountains in New Mexico (Fall and Cockerell 1907: 158; Casey, 1913: 111, as *P. zunianus*). The record from Baja California (Horn 1894: 308) is suspect; that from “Nebraska” (Schaupp 1882c: 40) needs confirmation.

**Records. CAN:** AB, BC **USA:** AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY [NE]

***Pterostichus vandykei* Schaeffer, 1910**

*Pterostichus van dykei* Schaeffer, 1910: 392. Type locality: «Moscou M[oun]t[ain]s, Idaho» (original citation). Lectotype (♀), designated by Erwin and House (1978: 247), in USNM [# 42497].

**Distribution.** This species is known from northern Idaho and adjacent eastern Washington (Hatch 1953: 109).

**Records. USA:** ID, WA

***Pterostichus ybousqueti* Berlov, 1999**

*Pterostichus parens* Casey, 1913: 112 [secondary homonym of *Pterostichus parens* (Tschitschérine, 1897)]. Type locality: «Siskiyou Co[unty], Cal[ifornia]» (lectotype label). Lectotype (♂), designated by Bousquet (1999: 176), in USNM [# 47008].

*Pterostichus ybousqueti* O. Berlov, 1999: 60. Replacement name for *Pterostichus parens* Casey, 1913.

**Distribution.** This species is known only from Siskiyou County in northern California.

**Records. USA:** CA

**[illustris group]**

***Pterostichus illustris* LeConte, 1851**

*Pterostichus illustris* LeConte, 1851: 182. Type locality: «S[an] D[iego] [San Diego County, California]» (lectotype label). Lectotype (♂), designated by Bousquet (1999: 172), in MCZ [# 82].

**Distribution.** As far as known, this species seems to be restricted to southwestern California.

**Records. USA:** CA

**Note.** This name has been listed as a junior synonym of *P. congestus* Ménétriés by LeConte (1858a: 28; 1873a: 304) but, as pointed out by Bousquet and Laroche (1993: 18), it applies to a distinct species.

**[inermis group]**

***Pterostichus inermis* Fall, 1901**

*Pterostichus inermis* Fall, 1901a: 211. Type locality: «foot-hill cañons of the Sierras near Pomona [Los Angeles County, California]» (original citation). Lectotype (♂), designated by Bousquet (1999: 172), in MCZ [# 23873].

**Distribution.** This species is known so far only from southwestern California.

**Records. USA:** CA

***Pterostichus miscellus* Casey, 1913**

*Pterostichus miscellus* Casey, 1913: 115. Type locality: «S[an]ta Barbara [Santa Barbara County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 175), in USNM [# 47019].



**Distribution.** This very distinct species is still known only from the lectotype collected at Santa Barbara along the coast of California.

**Records. USA:** CA

[*isabellae* group]

***Pterostichus canallatus* Casey, 1913**

*Pterostichus canallatus* Casey, 1913: 120. Type locality: «S[an]ta Barbara [Santa Barbara County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 167), in USNM [# 47026].

**Distribution.** This species is known only from the type locality in southwestern California.

**Records. USA:** CA

***Pterostichus gliscans* Casey, 1913**

*Pterostichus gliscans* Casey, 1913: 119. Type locality: «San Clemente Island [Los Angeles County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 170), in USNM [# 47025].

**Distribution.** This species is known only from the original specimens collected in San Clemente Island, part of the Channel Islands, in the Pacific Ocean along the coast of southern California.

**Records. USA:** CA (CHI)

***Pterostichus isabellae* LeConte, 1851**

*Pterostichus isabellae* LeConte, 1851: 182. Type locality: «S[an]ta Isabel [San Bernardino County, California]» (original citation), cited from «'Bill Williams' Ranch' in the mountains east of San Diego» by LeConte (1853a: 237). Lectotype (♂), designated by Bousquet (1999: 173), in MCZ [# 84].

**Distribution.** According to Fall (1901b: 44), this species is “common and widely diffuse” in southern California.

**Records. USA:** CA (CHI)

***Pterostichus jacobinus* Casey, 1913**

*Pterostichus jacobinus* Casey, 1913: 118. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 173), in USNM [# 47024].

**Distribution.** This species is known yet only from San Diego County in southwestern California.

**Records. USA:** CA

***Pterostichus ovalipennis* Casey, 1913**

*Pterostichus ovalipennis* Casey, 1913: 119. Type locality: «between Indio and Colton [probably in Riverside County], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 177), in USNM [# 47023].

**Distribution.** This species is known only from the lectotype collected in southwestern California.

**Records. USA:** CA

**[lama group]*****Pterostichus lama* (Ménétriés, 1843)**

*Feronia atra* Dejean, 1828: 339 [secondary homonym of *Pterostichus ater* (Sahlberg, 1817)]. Type locality: «Californie» (original citation), herein restricted to Lake Tahoe, Placer County (see Casey, 1913: 97, as *Holciophorus pollens*). Syntype(s) probably in MHNP (Lindroth 1966: 458).

*Feronia lama* Ménétriés, 1843: 60. Type locality: «Californie» (original citation), herein restricted to Lake Tahoe, Placer County (see Casey, 1913: 97). Syntype(s) location unknown (Lindroth 1966: 458). Synonymy established by LeConte (1853a: 250).

*Percus aterrimus* Motschulsky, 1845b: 341. Type locality: «Californie» (original citation). Holotype [by monotypy] (♂) location unknown (possibly in ZMMU though not listed in Keleinikova 1976). Synonymy established by Motschulsky (1845b: 341).

*Holciophorus vancouveri* Casey, 1913: 97. Type locality: «Victoria, Vancouver Island [British Columbia]» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 46974]. Synonymy established by Hatch (1953: 107), confirmed by Lindroth (1966: 458).

*Holciophorus pollens* Casey, 1913: 97. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 122), in USNM [# 46975]. Synonymy established by Lindroth (1966: 458).

*Holciophorus cephalus* Casey, 1913: 98. Type locality: «California» (original citation). Holotype [by monotypy] (♂) in USNM. Synonymy established, under the name *P. pollens* (Casey), by Casey (1924: 68).

*Holciophorus domitor* Casey, 1913: 98. Type locality not stated. Lectotype (♂), designated by Lindroth (1975: 122), in USNM. Synonymy established by Lindroth (1966: 458).

**Distribution.** This large species is found from the Queen Charlotte Islands (Kavanaugh 1992: 70) south to southern California (Fall 1901a: 44, as *P. ater*; Will and Gill 2008: 124), including Washoe County in northwestern Nevada (La Rivers 1946: 102, as *Feronia ater*).

**Records. CAN:** BC (QCI, VCI) **USA:** CA, NV, OR, WA

**[lassulus group]*****Pterostichus lassulus* (Casey, 1920)**

*Hypherpes lassulus* Casey, 1920: 186. Type locality: «Olancho, Inyo Co[unty], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 174), in USNM [# 46999].

**Distribution.** This species is known only from the lectotype collected in eastern California.

**Records. USA:** CA

**[menetriesii group]*****Pterostichus menetriesii* LeConte, 1873**

*Pterostichus menetriesii* LeConte, 1873a: 304. Type locality: «Cal[ifornia]» (lectotype label). Lectotype (♀), designated by Bousquet (1999: 175), in MCZ [# 34326]. Etymology. The specific name was proposed for Edouard Ménétriés [1802-1861], the leading Russian entomologist of his time. Born in France, Ménétriés worked at the Museum of the Jardin des Plantes under Cuvier and Latreille before acting as conservator of rarities at the Zoological Museum in the Imperial Academy of Sciences in Saint Petersburg. He described many North American beetles collected in Alaska and northern California by various Russian expeditions. His collection is in the Zoological Institute in Saint Petersburg.

**Distribution.** This species is found along the Coast Ranges in central California (Marin, San Mateo, and San Francisco Counties, Will and Gill 2008: 125, CNC). It was also reported from Santa Rosa Island in the Pacific Ocean (Fall 1901a: 44).

**Records. USA:** CA (CHI)

**[morionides group]*****Pterostichus morionides* (Chaudoir, 1868)**

*Feronia morionides* Chaudoir, 1868b: 337. Type locality: «Californie» (original citation). Syntype(s) [2 originally cited] probably in MHNP.

**Distribution.** This species is found along the northern (Siskiyou County, CNC) and central parts of the Sierra Nevada (Will and Gill 2008: 118, 125).

**Records. USA:** CA

**Note.** In analyses using molecular data sequences, this species was consistently positioned as the sister-group to {*P. adoxus* + *P. tristis*} which occur in eastern North America (Will and Gill 2008: 118).

**[nigrocaeruleus group]*****Pterostichus brachylobus* Kavanaugh and LaBonte, 2006**

*Pterostichus brachylobus* Kavanaugh and LaBonte, 2006: 217. Type locality: «Neskowin Creek at Neskowin Campground, Tillamook County, Oregon» (original citation). Holotype (♂) in CAS [# 18121].

**Distribution.** This species is known only along the coast in central Oregon [see Kavanaugh and LaBonte 2006: Fig. 14].

**Records. USA:** OR

***Pterostichus nigrocaeruleus* Van Dyke, 1926**

*Pterostichus nigrocaeruleus* Van Dyke, 1926a: 70. Type locality: «back of Port Angeles [Clallam County], Washington» (original citation). Holotype (♂) in CAS [# 1821].

**Distribution.** This species is found along the Pacific Coast from Vancouver Island to northern California (Lindroth 1966: 467).

**Records. CAN:** BC (VCI) **USA:** CA, OR, WA

[**restrictus group**]

***Pterostichus luscus* (Casey, 1918)**

*Hypherpes luscus* Casey, 1918: 332. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Bousquet (1999: 179), in USNM [# 47003].

**Distribution.** This species is yet known only from the lectotype.

**Records. USA:** CO

**Note.** This name has been listed in synonymy with *P. restrictus* (Casey) by Erwin et al. (1977: 4.36), based on Armin (1963: 220) unpublished thesis. However, I believe the name probably applies to a distinct species.

***Pterostichus restrictus* (Casey, 1918)**

*Pterostichus longulus* LeConte, 1873a: 312 [secondary homonym of *Pterostichus longulus* (Reiche and Saulcy, 1856)]. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Bousquet (1999: 179), in MCZ [# 5605].

*Hypherpes restrictus* Casey, 1918: 331. Type locality: «Boulder Co[unty], Col[orado]» (lectotype label). Lectotype (♂), designated by Bousquet (1999: 179), in USNM [# 47001]. Synonymy established by Erwin et al. (1977: 4.36) based on Armin (1963: 220) unpublished thesis.

*Hypherpes elumbis* Casey, 1918: 332. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♀) in USNM [# 47002]. Synonymy established by Erwin et al. (1977: 4.36) based on Armin (1963: 220) unpublished thesis.

*Pterostichus restrictus* var. *lecontellus* Csiki, 1930: 581. Replacement name for *Pterostichus restrictus* var. *longulus* LeConte, 1873.

**Distribution.** This species is found along the Rocky Mountains from southern Montana (Hatch 1933a: 7) to northern New Mexico (Snow 1885: 67; Fall and Cockerell 1907: 157).

**Records. USA:** CO, MT, NM, WY

## [setosus group]

***Pterostichus setosus* Hatch, 1951**

*Pterostichus setosus* Hatch, 1951: 116. Type locality: «Wrangle Gap, Rogue R[iver] N[ational] F[orest] [Jackson County], Ore[gon]» (original citation). Holotype (♂) in USNM.

**Distribution.** This very distinct species is known only from southwestern Oregon (Hatch 1951: 116; Niwa and Peck 2002: 787).

**Records. USA:** OR

## [tarsalis group]

***Pterostichus serripes* (LeConte, 1875)**

*Holciophorus serripes* LeConte, 1875c: 169. Type locality: «Yosemite Valley [Mariposa County], Cal[ifornia]» (original citation). Lectotype (♂), designated by Bousquet (1999: 180), in MCZ [# 5600].

**Distribution.** This species is known so far only from the Yosemite Valley in the Sierra Nevada, California.

**Records. USA:** CA

***Pterostichus tarsalis* LeConte, 1873**

*Pterostichus tarsalis* LeConte, 1873a: 311. Type locality: «Lake Tahoe Valley [Placer County], Sierra Nevada [California]» (original citation). Lectotype (♂), designated by Bousquet (1999: 181), in MCZ [# 5601].

*Pterostichus sequoiarum* Casey, 1913: 101. Type locality: «Big Trees [Calaveras County], California» (original citation). Lectotype (♀), designated by Bousquet and Laroche (1993: 17), in USNM [# 46979]. Synonymy established by Bousquet and Laroche (1993: 17).

*Hypherpes spissitarsis* Casey, 1918: 329. Type locality: «Lake Tahoe [Placer County], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 46978]. Synonymy established by Bousquet and Laroche (1993: 14).

**Distribution.** This species is known for sure only from the Sierra Nevada, California. The record from “Oregon” (Schaupp 1882c: 40) needs confirmation.

**Records. USA:** CA [OR]

## [vicinus group]

***Pterostichus algidus* LeConte, 1853**

*Feronia valida* Dejean, 1828: 325 [primary homonym of *Feronia concinna* var. *valida* Dejean, 1828 (page 293)]. Type locality: «détroit de Norfolk [= Sitka Sound, Baranof Island, Alaska] sur la côte nord-ouest de l'Amérique septentrionale» (original citation). Syntype(s) in MHNP.



- Pterostichus algidus* LeConte, 1853a: 238. Type locality: «Oregon» (original citation). Lectotype (♀), designated by Bousquet (1999: 164), in MCZ [# 7398]. Synonymy established by LeConte (1873a: 303), confirmed by Bousquet (1999: 164).
- Pterostichus humboldti* Casey, 1913: 114. Type locality: «Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 171), in USNM [# 47012]. **New synonymy** (Serge Laplante pers. comm. 1998).
- Pterostichus bucolicus* Casey, 1913: 115. Type locality: «Humboldt Co[unty], California» (original citation for the lectotype). Lectotype (♂), designated by Bousquet (1999: 167), in USNM [# 47018]. **New synonymy** (Serge Laplante pers. comm. 1998).
- Hypherpes innatus* Casey, 1918: 328. Type locality: «Canada, west of the Rocky M[oun]t[ain]s» (original citation). Lectotype (♀), designated by Lindroth (1975: 122), in USNM [# 46989]. Synonymy established by Lindroth (1966: 460).
- Hypherpes responsor* Casey, 1918: 330. Type locality: «Victoria, Vancouver Island [British Columbia]» (original citation). Lectotype (♀), designated by Lindroth (1975: 122), in USNM [# 46997]. Synonymy established by Hatch (1953: 108), confirmed by Lindroth (1966: 460).
- Hypherpes kansanus* Casey, 1918: 330. Type locality: «Kansas (probably western)» (original citation), which is incorrect. Lectotype (♂), designated by Bousquet (1999: 173), in USNM [# 46988]. **New synonymy** (Serge Laplante pers. comm. 1998).
- Hypherpes anthrax* Casey, 1918: 331. Type locality: «Vancouver Island [British Columbia]» (original citation). Lectotype (♀), designated by Lindroth (1975: 122), in USNM [# 46994]. Synonymy established by Lindroth (1966: 460).

**Distribution.** This species ranges along the Pacific Coast from southern Alaska (Lindroth 1966: 462) to northern California (Fall 1901a: 45; Casey, 1913: 114, as *P. humboldti*).

**Records.** CAN: BC (QCI, VCI) USA: AK, CA, OR, WA

### *Pterostichus barbarinus* Casey, 1913

*Pterostichus barbarinus* Casey, 1913: 116. Type locality: «S[an]ta Barbara [Santa Barbara County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 166), in USNM [# 47022].

**Distribution.** This species is known only from the type locality in southwestern California.

**Records.** USA: CA

### *Pterostichus californicus* (Dejean, 1828)

*Feronia californica* Dejean, 1828: 222. Type locality: «Californie» (original citation), herein restricted to Hoopa Valley, Humboldt County (see Casey 1913: 114, as *P. cupidus*). Syntype(s) probably in MHNP.

*Pterostichus simplex* LeConte, 1851: 181. Type locality: «San Jose [Santa Clara County, California]» (lectotype label). Lectotype (♀), designated by Bousquet (1999: 167), in MCZ [# 81]. Synonymy established by LeConte (1857c: 8).

*Brachystylus amplicollis* Motschulsky, 1859a: 146. Type locality: Californie (inferred from title of the paper). Lectotype (♀), designated by Bousquet (1999: 167), in MCZ [# 8233]. Synonymy established by LeConte (1873a: 304).

*Brachystylus parallelus* Motschulsky, 1859a: 147 [*nomen dubium*]. Type locality: «St. Francisco [San Francisco County, California]» (original citation). Lectotype (♂), designated by Bousquet and Larochelle (1993: 13), in ZMMU. Synonymy established with doubt by Bousquet and Larochelle (1993: 13).

*Pterostichus cupidus* Casey, 1913: 114. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 167), in USNM [# 47014]. Synonymy established by Erwin et al. (1977: 4.36), confirmed by Bousquet (1999: 167).

*Pterostichus diabolus* Casey, 1913: 120. Type locality: «M[oun]t Diablo [Contra Costa County], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 169), in USNM [# 47036]. **New synonymy** (Serge Laplante pers. comm. 1998).

**Distribution.** As far as known, the range of this species extends along the Coast Ranges of California from Humboldt County (Casey 1913: 114, as *P. cupidus*) to Santa Clara County (LeConte 1851: 181, as *P. simplex*).

**Records. USA:** CA

### *Pterostichus ordinarius* Casey, 1913

*Pterostichus ordinarius* Casey, 1913: 116. Type locality: «North Fork, Madera Co[unty], California» (original citation). Lectotype (♂), designated by Bousquet (1999: 176), in USNM [# 47021].

**Distribution.** This species is known only from the original specimens collected at the type locality in the Sierra Nevada.

**Records. USA:** CA

### *Pterostichus vicinus* Mannerheim, 1843

*Pterostichus vicinus* Mannerheim, 1843: 200. Type locality: «California» (original citation). Lectotype (♂), designated by Bousquet (1999: 183), in ZMH.

*Hypherpes alamedae* Casey, 1918: 334. Type locality: «Alameda [Alameda County], California» (original citation). Lectotype (♀), designated by Bousquet (1999: 164), in USNM [# 47013]. **New synonymy** (Serge Laplante pers. comm. 1998).

**Distribution.** This species seems to be restricted to the Coast Ranges in California. Fall (1901b: 44) statement that the species is “common in the Sierras and throughout the region [i.e., southern California] to the west” needs confirmation.

**Records. USA:** CA

### Subgenus *Cryobius* Chaudoir, 1838

*Cryobius* Chaudoir, 1838: 11. Type species: *Poecilus ventricosus* Eschscholtz, 1823 by original designation. Etymology (original). From the Greek *cryos* (cold) and *bios* (life), alluding to the cold habitat where these species live [masculine].

*Haptoderus* Chaudoir, 1838: 10. Type species: *Feronia spadicea* Dejean, 1828 (= *Feronia pumilio* Dejean, 1828) by original designation. Synonymy established by Bousquet (1999: 183). Etymology (original). From the Greek *hapto* (fasten to, by extension to apply) and *dere* (neck, by extension pronotum) [masculine].

*Pseudorthomus* Chaudoir, 1838: 12, 19. Type species: *Feronia amaroides* Dejean, 1828 by original designation. Synonymy established by Bousquet (1999: 183). Etymology (original). From the Greek *pseudos* (fallacy, lie) and the generic name *Orthomus* [masculine].

*Pseudocryobius* Motschulsky, 1850a: ix. Type species: *Feronia nivalis* Sahlberg, 1844 designated by Bousquet (1984a: 4). Synonymy established by Poppius (1906b: 7). Etymology (original). From the Greek *pseudos* (fallacy, lie) and the generic name *Cryobius* [*q.v.*] [masculine].

*Abaxodes* Gistel, 1857: 31. Type species: *Feronia abaxoides* Dejean, 1828 designated by Strand (1917: 76). Etymology. From the generic name *Abax* [*q.v.*] and the Greek *-odes* (likeness) [masculine].

*Orites* Schaum, 1858: 442, 463. Type species: *Platysma negligens* Sturm, 1824 by monotypy. Synonymy established by Schatzmayr (1942: 77). Etymology. From the Greek *oreites* (mountaineer) [masculine].

*Pyreneorites* Jeannel, 1937b: 11, 16. Type species: *Feronia pusilla* Dejean, 1828 by original designation. Synonymy established by Bousquet (1999: 183). Etymology. From the geographical name Pyrenees and the generic name *Orites* [*q.v.*] [masculine].

*Euhaptoderus* Jeanne, 1969: 33. Type species: *Carabus unctulatus* Duftschmid, 1812 by original designation. Synonymy established by Bousquet (1999: 183). Etymology. From the Greek *eu* (agreeable, original, primitive) and the generic name *Haptoderus* [*q.v.*] [masculine].

*Iberoderus* Jeanne, 1969: 34. Type species: *Feronia nemoralis* Graells, 1851 by original designation. Synonymy established by Bousquet (1999: 183). Etymology. From the geographic name Iberia (the Iberian Peninsula) and the Greek *dere* (neck, by extension pronotum) [masculine].

*Crybiopterus* O. Berlov, 1997: 36. Type species: *Argutor brevicornis* Kirby, 1837 by original designation. Synonymy established by Bousquet (1999: 183). Etymology. From the Greek *cryos* (cold), *bios* (life), and *pteron* (wing, by extension elytron) [masculine].

**Diversity.** About 115 species in the arctic, subarctic, and boreal regions of North America (23 species) and the Palearctic Region (about 100 species). Several species are Holarctic.

**Identification.** Ball (1966a) revised the North American species which he arrayed in three groups. Since then, two new species have been described, one (*P. haftorni*) by Lindroth (1969a) which has been subsequently synonymized, the other one (*P. woodi*) by Ball and Currie (1997), and several species related to *P. planus* have been downgraded to subspecies of *P. bryanti* by Ball and Currie (1997). Species identifications are difficult in part because of the important intraspecific variation observed in most species.

**Taxonomic Note.** Lorenz (2005: 275) listed *Parahaptoderus* Jeanne as a junior synonym of *Cryobius*. However, the taxon, which is composed of three European species of which one extends to Turkey, is probably not closely related to *Cryobius* (see Bousquet 1999: 187).

[**brevicornis group**]

***Pterostichus brevicornis brevicornis* (Kirby, 1837)**

*Argutor brevicornis* Kirby, 1837: 31. Type locality: «Lat. 65° [= apparently region of Great Bear Lake, Northwest Territories]» (original citation), restricted to «Good Hope, N[orth]W[est] T[erritories]» by Ball (1966a: 105). Lectotype (♂), designated by Ball (1966a: 105), in BMNH.

*Feronia subtilis* R.F. Sahlberg, 1844: 35. Type locality: circa Okhotsk, Khabarovsk Kray, Siberia, Russia (inferred from introduction and title of the paper). Lectotype [as holotype] (♀), designated by Ball (1966a: 105), in ZMH. Synonymy established by Ball (1966a: 105).

*Cryobius fastidiosus* Mannerheim, 1853: 131. Type locality: «ad sinum Woskresenk [= Resurrection Bay] peninsulae Kenai [Alaska]» (original citation). Lectotype (♂), designated by Silfverberg (1987: 16), in ZMH. Synonymy established by Lindroth (1954b: 131).

*Pseudocryobius quinquepunctatus* Motschulsky, 1860: 93. Type locality: «Kamtschatka [Russia]» (original citation). One syntype in ZMMU (Keleinikova 1976: 213). Synonymy established by Ball (1966a: 105).

*Feronia fragilis* Mäklin, 1878: 20. Type locality: «Sopotschnaja Korga (71°40' n. lat.) [Siberia, Russia]» (original citation). Syntype(s) location unknown. Synonymy established by Ball (1966a: 105). NOTE. The lectotype selected by Ball (1966a: 105), apparently in ZMH though not listed in Silfverberg's (1987) type list, is labeled "Waigatsch" (= Vaygach Island in Siberia) and is probably not a syntype.

*Feronia infima* Mäklin, 1878: 20 [primary homonym of *Feronia infima* Chaudoir, 1868]. Type locality: «Jenisej, nemligen åtminstone från Mesenkin åt söder ända nedom 61 breddgraden [Russia]» (original citation). Syntype(s) location unknown (possibly in NRSS). Synonymy established, under the name *P. fastidiosus* (Mannerheim), by Poppius (1906b: 192), confirmed by Lindroth (1954b: 132).

*Feronia arctica* J.R. Sahlberg, 1880: 31. Replacement name for *Feronia infima* Mäklin, 1878.

*Feronia epipleuralis* J.R. Sahlberg, 1885b: 49. Type locality: Port Clarence, Alaska (inferred from title of the paper). Syntype(s) [3 originally cited] in ZMH. Synonymy



established, under the name *P. fastidiosus* (Mannerheim), by Poppius (1906b: 192), confirmed by Ball (1966a: 105).

*Platysma aquilonium* Tschitschérine, 1904: 125. Type locality: «insula Kolgujev: Bugrino-Stanovishtshe [in Barents Sea, Russia]» (original citation). Syntype(s) [2 ♂ originally cited] probably in ZILR. Synonymy established, under the name *P. fastidiosus* (Mannerheim), by Poppius (1906b: 192).

*Cryobius carbo* Poppius, 1906b: 182. Type locality not stated. Lectotype (♀), designated by Ball (1966a: 105), in ZMH. Synonymy established by Ball (1966a: 105).

*Cryobius fastidiosus minusculus* Poppius, 1906b: 199. Type locality: «Bulkur, Unterste Lena [Yakutia, Siberia, Russia]» (original citation). Lectotype (♀), designated by Ball (1966a: 105), in ZMH. Synonymy established by Ball (1966a: 105).

*Cryobius delicatus* Casey, 1918: 375. Type locality: «S[ain]t Paul Island, Alaska» (original citation). Lectotype [as holotype] (♂), designated by Ball (1966a: 89), in USNM [# 47079]. **New synonymy.** NOTE. Ball (1966a) retained this name for a subspecies of *P. brevicornis* endemic to the Bering Sea Islands but, as pointed out by himself (Ball 1966a: 121) and Lindroth (1966: 523), there are no constant structural character states between the two forms and intermediate specimens are known. Based on these facts, I prefer not to retain this form as a valid subspecies.

**Distribution.** This Holarctic subspecies ranges from the Kola Peninsula in northern European Russia eastwards to Newfoundland (Ball 1966a: 119); the species is represented by isolated populations in the Gaspé Peninsula, Maine, New Hampshire, Vermont, New York, Michigan (Ball 1966a: 119–121), northeastern Minnesota (Cook County, CNC), and northern Wyoming (Big Horn County, FFPC) [see Ball and Currie 1997: Fig. 4]. The record from northern Colorado (Armin 1963: 217) is likely in error. Fossil remnants, older than 33,000 years B.P., have been unearthed in southwestern Ontario (Warner et al. 1988: 37); others from a Plio-Pleistocene sequence have been found in northwestern Greenland (Böcher 1995: 28).

**Records.** CAN: AB, BC, LB, MB, NF, NT, NU, ON, QC, YT USA: AK, ME, MI, MN, NH, NY, VT, WY – **Holarctic**

**Note.** The subspecies *P. brevicornis yasudai* Morita is endemic to the island of Hokkaidō, Japan.

### *Pterostichus empetricola* (Dejean, 1828)

*Feronia empetricola* Dejean, 1828: 331. Type locality: «île d'Ounalaschka, l'une des îles Aleutiennes [Alaska]» (original citation for the lectotype). Lectotype (♀), designated by Ball (1966a: 122), in MHNP.

*Cryobius ruficollis* Mannerheim, 1853: 131. Type locality: «insula Afognak [Alaska]» (original citation). Holotype [by monotypy; designated lectotype by Ball (1966a: 122)] (♀) in MHNP. Synonymy established by Poppius (1906b: 65), confirmed by Ball (1966a: 122).



*Cryobius rotundicollis* Mannerheim, 1853: 132 [secondary homonym of *Pterostichus rotundicollis* (Duftschmid, 1812)]. Type locality: «insula Atkha [= Atka Island, Aleutian Islands, Alaska]» (original citation). Holotype [by monotypy] in ZILR. Synonymy established by Ball (1966a: 122).

*Cryobius pacificus* Poppius, 1906b: 184. Type locality: «Sibir[ia] or[ientali] [Russia]» (lectotype label). Lectotype (♀), designated by Ball (1966a: 122), in ZMH. Synonymy established by Ball (1966a: 122).

*Pterostichus globicollis* Csiki, 1930: 654. Replacement name for *Pterostichus rotundicollis* (Mannerheim, 1853).

**Distribution.** This Holarctic species ranges from the Kuril and Commander Islands (Eremin 1998: 298) on the east coast of Asia to southern Yukon Territory, including Kodiak and Aleutian Islands, south to west-central British Columbia (Lemieux and Lindgren 2004: 562) [see Ball 1963: Fig. 3].

**Records.** CAN: BC, YT USA: AK – **Holarctic**

**Note.** Lindroth (1966: 524) stated that the taxonomic status of this taxon as a distinct species from *P. brevicornis* Kirby is questionable. Ball (1966a: 123) evoked the fact that the taxon may be regarded as a “parthenogenetic race” of *P. brevicornis*. Both authors concluded that this taxon is parthenogenetic since, as far as known, no males have been found to date that could be associated with it. This is also the case for the Asian specimens studied by Eremin (1998).

### *Pterostichus mandibularoides* Ball, 1966

*Pterostichus mandibularoides* Ball, 1966a: 125. Type locality: «Anderson R[iver] delta, Northwest Territories» (original citation). Holotype (♂) in CNC [# 9232].

**Distribution.** This species is found from the western shore of Hudson Bay in Nunavut westwards to the coast of the Bering Sea in Alaska, southwards to northeastern British Columbia and northwestern Alberta (UASM) [see Nielsen et al. 1987: Fig. 18b].

**Records.** CAN: AB, BC, NT, NU, YT USA: AK

### *Pterostichus nivalis* (Sahlberg, 1844)

*Feronia nivalis* R.F. Sahlberg, 1844: 37. Type locality: «monte Morikan [Okhotsk, Khabarovsk Kray, Russia]» (original citation). Lectotype (♀), designated by Bousquet (1999: 191), in ZMH.

*Feronia thulensis* J.R. Sahlberg, 1885a: 18. Type locality: «Irkajpi [Chukchi Peninsula, Russia]» (original citation for the lectotype). Lectotype (♂), designated by Ball (1966a: 129), in NRSS. Synonymy established by Ball (1966a: 128).

**Distribution.** The range of this Holarctic species extends from eastern Siberia (Ball 1966a: 131) eastwards to east-central Yukon Territory (Dempster Highway Mi 35, CNC), south to the Alaska Peninsula [see Ball 1963: Fig. 3].

**Records.** CAN: YT USA: AK – **Holarctic**

## [pinguedineus group]

***Pterostichus arcticola* (Chaudoir, 1868)**

*Feronia arcticola* Chaudoir, 1868b: 339. Type locality: «Groenland» (original citation), which is incorrect (Ball 1966a: 29); «Labrador» selected by Ball (1966a: 29), herein restricted to Hopedale (see Ball 1966a: 35). Lectotype (♂), designated by Ball (1966a: 29), in MHNP.

*Feronia labradorensis* Chaudoir, 1868b: 340. Type locality: «Labrador» (original citation). Holotype [by monotypy] (♂) in MHNP. Synonymy established by Ball (1966a: 29).

**Distribution.** This species ranges from the Labrador coast and Baffin Island to central Alaska, south at least to central British Columbia (Summit Lake, CNC); isolated on the Adirondack Mountains of New York, the White Mountains of New Hampshire, and the Shickshock Mountains in Gaspé Peninsula [see Ball 1963: Fig. 8; Nielsen et al. 1987: Fig. 17d; Ball and Currie 1997: Fig. 2]. Fossil remnants of this species, dated between about 16,700 and 18,100 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96).

**Records.** CAN: BC, LB, MB, NT, NU, QC, YT USA: AK, ME, NH, NY

***Pterostichus auriga* Ball, 1962**

*Pterostichus auriga* Ball, 1962: 14. Type locality: «Crowbill Mountain, Cape Thompson, Alaska» (original citation). Holotype (♂) in MCZ [# 31311].

**Distribution.** This species is known from two localities along the west coast of Alaska (Ball 1966a: 82).

**Records.** USA: AK

***Pterostichus barryorum* Ball, 1962**

*Pterostichus barryorum* Ball, 1962: 17. Type locality: «Delta Islands, Anderson R[iver], Northwest Territories» (original citation). Holotype (♂) in CNC [# 9230].

**Distribution.** This species ranges from northwestern Nunavut and central Northwest Territories westwards to northeastern Alaska (Ball 1962: 19). The record from McMurray in northern Alberta (Ball 1966a: 49), based upon a single specimen, has been rejected by Ball and Currie (1997: 476). Fossil remnants of this species, dated between about 16,700 and 20,530 years B.P., have been unearthed in southeastern and northeastern Iowa (Baker et al. 1986: 96; Schwert 1992: 77; Woodman et al. 1996: 17).

**Records.** CAN: NT, NU, YT USA: AK

***Pterostichus bryanti biocryus* Ball, 1962**

*Pterostichus biocryus* Ball, 1962: 10. Type locality: «Crowbill Mountain, Cape Thompson, Alaska» (original citation). Holotype (♂) in MCZ [# 31309].

**Distribution.** This subspecies is known only from the type locality in the arctic tundra and from the “Alpine interior Alaska” (Matthews 1974b: 1365).

**Records. USA:** AK

***Pterostichus bryanti bryanti* (Van Dyke, 1951)**

*Feronia bryanti* Van Dyke, 1951: 27. Type locality: «Aklavik, Mackenzie Delta, Northwest Territor[ies]y» (original citation). Holotype (♂) in CAS [# 6197].

**Distribution.** This subspecies is known only from a few localities in the arctic from northwestern Northwest Territories (Ball 1966a: 66) to Prudhoe Bay in Alaska, including the Richardson Mountains in Yukon Territory (Ball and Currie 1997: 489).

**Records. CAN:** NT, YT **USA:** AK

***Pterostichus bryanti bryantoides* Ball, 1962**

*Pterostichus bryantoides* Ball, 1962: 11. Type locality: «141 Meridian, 69-20 [= 69°20'N, 141°W], Alaska [near the Yukon Territory border]» (original citation). Holotype (♂) in USNM.

**Distribution.** This subspecies is known for sure only from Kotzebue on the Seward Peninsula (Matthews 1974b: 1365) and the type locality in northeastern Alaska. The record from “Yukon Territory” (Ball and Currie 1997: 452) could not be confirmed.

**Records. USA:** AK [YT]

***Pterostichus bryanti cacumenis* Ball, 1966**

*Pterostichus cacumenis* Ball, 1966a: 67. Type locality: «Eagle Summit, Mile 108.5, Steese Highway, Alaska» (original citation). Holotype (♀) in MCZ [# 31310].

*Pterostichus haftorni* Lindroth, 1969a: 1118. Type locality: «M[oun]t Harper, S[outh] E[ast] Fairbanks, Alaska» (original citation). Holotype (♂) in MCZ [# 35351]. Synonymy established by Ball and Currie (1997: 486). Etymology. The specific name was proposed for the Norwegian ornithologist and biologist Svein Haftorn [1925-2003] who collected the original two specimens.

**Distribution.** This subspecies is known from a few localities between Yukon River and Fairbanks in the Yukon-Tanana Highlands in Alaska (Ball and Currie 1997: 486).

**Records. USA:** AK

***Pterostichus bryanti stantonensis* Ball, 1966**

*Pterostichus stantonensis* Ball, 1966a: 66. Type locality: «Stanton, Wood Bay, Northwest Territories» (original citation). Holotype (♀) in CNC [# 9372].

**Distribution.** This subspecies is known only from the type locality located at the mouth of the Anderson River along the northwestern coast of Northwest Territories (Ball and Currie 1997: 486).

**Records. CAN:** NT

***Pterostichus bryanti tiliaceoradix* Ball, 1962**

*Pterostichus tiliaceoradix* Ball, 1962: 8. Type locality: «Savage River (2660 feet), M[oun]t McKinley National Park [Alaska]» (original citation). Holotype (♂) location unknown (not located in USNM as on 27 September 2006).

**Distribution.** This subspecies is known only from a few localities in central Alaska (Lindroth 1966: 515).

**Records. USA:** AK

***Pterostichus chipewyan* Ball, 1962**

*Pterostichus chipewyan* Ball, 1962: 24. Type locality: «Churchill, Manitoba» (original citation). Holotype (♂) in CNC [# 9090].

**Distribution.** This species is found from the Hudson Bay coast in northern Ontario to northeastern British Columbia, north to central Northwest Territories [see Ball 1963: Fig. 9].

**Records. CAN:** AB, BC, MB, NT, ON

***Pterostichus gerstlensis* Ball, 1962**

*Pterostichus gerstlensis* Ball, 1962: 22. Type locality: «Big Gerstle R[iver], mi[le] 1393, Alaska Highway, Alaska» (original citation). Holotype (♂) in MCZ [# 31305].

**Distribution.** This species is known only from eastern and central Alaska [see Ball 1963: Fig. 8].

**Records. USA:** AK

***Pterostichus hudsonicus* LeConte, 1863**

*Pterostichus hudsonicus* LeConte, 1863c: 11. Type locality: «Hudson's Bay Territory» (original citation), restricted to «Coppermine, Northwest Territories [= Nunavut]» by Bousquet (1999: 190). Lectotype (♂), designated by Ball (1966a: 49), in MCZ [# 5651].

**Distribution.** The range of this species extends from the Hudson Bay area in Nunavut to Kuskokwim Bay on the western coast of Alaska, south to northeastern British Columbia [see Ball 1963: Fig. 9] and northern Alberta (Birch Mountains, Gerald J. Hilchie pers. comm. 2009, determination of George E. Ball). The records from northern Colorado (Wickham 1902: 236; Armin 1963: 218) are likely in error.

**Records. CAN:** AB, BC, NT, NU, YT **USA:** AK

***Pterostichus kotzebuei* Ball, 1962**

*Pterostichus kotzebuei* Ball, 1962: 19. Type locality: «Kotzebue, Alaska» (original citation). Holotype (♂) in MCZ [# 31304].

**Distribution.** This species is known from the Dempster Highway in Yukon Territory (UASM) to the Seward Peninsula in western Alaska [see Ball 1963: Fig. 8].

**Records.** CAN: YT USA: AK

***Pterostichus parasimilis* Ball, 1962**

*Pterostichus parasimilis* Ball, 1962: 6. Type locality: «Umiat, Alaska» (original citation). Holotype (♂) in MCZ [# 31307].

**Distribution.** This Holarctic species is known from the Kamchatka Peninsula, several islands in the Bering Sea, mainland Alaska, and the Ogilvie Mountains in western Yukon Territory [see Ball 1963: Fig. 4].

**Records.** CAN: YT USA: AK – **Holarctic**

***Pterostichus pinguedineus* (Eschscholtz, 1823)**

*Poecilus pinguedineus* Eschscholtz, 1823: 106. Type locality: «Unalaschka [Aleutian Islands, Alaska]» (original citation). Syntype(s) probably in ZILR. NOTE. This species was also made available the same year, under the name *Poecilus pinguedinis*, by an illustration in Fischer von Waldheim (1823: plate 19, figure 7).

*Feronia frigida* Dejean, 1828: 334. Type locality: «Kamschatka [Russia]» (original citation). Lectotype (♀), designated by Ball (1966a: 70), in MHNP. Synonymy established by Ball (1966a: 70).

*Argutor mandibularis* Kirby, 1837: 31. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Lectotype [as type] (♂), designated by Ball (1966a: 70), in BMNH. Synonymy established by Ball (1966a: 70).

*Feronia subsinuosa* Chaudoir, 1868b: 339. Type locality: «Kadjak [Island, Alaska]» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Ball (1966a: 70).

*Feronia diplogma* Chaudoir, 1868b: 340. Type locality: «côte nord-ouest de l'Amérique du Nord» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Ball (1966a: 70).

*Feronia stuxbergi* Mäklin, 1878: 17. Type locality: «Krestowskoj [Taimyr Autonomous Okrug, Siberia, Russia]» (lectotype label). Lectotype (♂), designated by Ball (1966a: 70), in ZMH. Synonymy established by Ball (1966a: 70). Etymology. The specific name honors the Swedish explorer and naturalist Anton Julius Stuxberg [1849-1902] who took part to the Arctic zoological expeditions with Adolf Erika Nordenskiöld in 1875-1876 and 1878-1879. Stuxberg worked at the geological museum in Göteborg until his death.

*Feronia despecta* J.R. Sahlberg, 1885a: 14. Type locality: «Pitlekaj [Chukchi Peninsula, Russia]» (lectotype label). Lectotype (♀), designated by Ball (1966a: 70), in NRSS. Synonymy established by Ball (1966a: 70).



- Feronia sulcipennis* J.R. Sahlberg, 1885a: 15. Type locality: «Pitlekaj [Chukchi Peninsula, Russia]» (original citation). Holotype [by monotypy] (♀) in NRSS. Synonymy established by Ball (1966a: 71).
- Feronia laeviuscula* J.R. Sahlberg, 1885a: 16 [secondary homonym of *Pterostichus longicollis* var. *laeviusculus* Letzner, 1852]. Type locality: «Nunamo, S[ain]t Lawrence Bay [Chukchi Peninsula, Siberia, Russia]» (original citation). Holotype [by monotypy] (♀) in NRSS. Synonymy established by Ball (1966a: 71).
- Feronia splendida* J.R. Sahlberg, 1885b: 49. Type locality: Port Clarence, Alaska (inferred from title of the paper). Holotype [by monotypy] (♀) in NRSS. Synonymy established by Ball (1966a: 71).
- Cryobius subnitidulus* Poppius, 1906b: 62. Type locality: «Insel Kadjak [Alaska]» (original citation). Syntype(s) [2 originally cited] in ZMH (Poppius 1906b: 64). Synonymy established, under the name *P. subsinuosus* (Chaudoir), by Poppius (1908a: 2).
- Cryobius holmbergi* Poppius, 1906b: 70. Type locality: «Insel Kadjak [Alaska]» (original citation). Holotype [by monotypy] (♀) in ZMH. Synonymy established by Ball (1966a: 71).
- Cryobius incognitus* Poppius, 1906b: 91. Type locality: «Amer[ica] ross[ica]» (original citation). Holotype [by monotypy] (♀) in ZILR. Synonymy established by Ball (1966a: 71).
- Cryobius stuxbergi* var. *fortestriatus* Poppius, 1906b: 103. Type locality: «Briochowskiostroff, Fl[umen] Jenissej, arktisch Sibirien [Russia]» (original citation). Holotype [by monotypy] (♀) in ZMH. Synonymy established by Ball (1966a: 71).
- Cryobius stuxbergi repandus* Poppius, 1906b: 104. Type locality: «Lena infer[ior] [Yakutia, Siberia, Russia]» (lectotype label). Lectotype (♀), designated by Ball (1966a: 71), in ZMH. Synonymy established by Ball (1966a: 71).
- Cryobius alaskensis* Poppius, 1906b: 116. Type locality: «Insel Kadjak, Alaska» (original citation). Syntype(s) [4 originally cited] in ZILR. Synonymy established by Ball (1966a: 71).
- Pterostichus montanellus* Poppius, 1907: 21. Type locality: «White Mountains [New Hampshire]» (original citation). Two syntypes [2 originally cited] in ZMHB (Lindroth 1966: 518) and ZMH (Silfverberg 1987: 20). Synonymy established by Ball (1966a: 71).
- Pterostichus beringensis* Poppius, 1908b: 4. Type locality: «St. Lawrence Bai [Chukchi Peninsula, Russia]» (original citation). Holotype [by monotypy] location unknown. Synonymy established by Bousquet (2003d: 492).
- Cryobius beringi* Casey, 1918: 374. Type locality: «S[ain]t Paul Island, Alaska» (original citation). Lectotype [as holotype] (♀), designated by Ball (1966a: 71), in USNM [# 47078]. Synonymy established by Ball (1966a: 71).
- Cryobius washingtoni* Casey, 1920: 190. Type locality: «White M[oun]t[ain]s, New Hampshire» (original citation). Lectotype (♀), designated by Ball (1966a: 71), in USNM [# 47075]. Synonymy established by Ball (1966a: 71).
- Pterostichus anadyricus* Csiki, 1930: 651. Replacement name for *Pterostichus laeviusculus* (Sahlberg, 1885).

**Distribution.** This Holarctic species ranges from the Yenisei River in Siberia eastwards to the Mackenzie River delta in western Northwest Territories; isolated on the top of some mountains in New England and on the Shickshock Mountains of the Gaspé Peninsula, Quebec [see Ball 1963: Fig. 5]. The record from Wyoming (Lavigne 1977: 47) is in error. Fossil remnants of this species, dated between about 12,000 and 18,100 years B.P., have been unearthed in central and southeastern Iowa (Schwert 1992: 77; Baker et al. 1986: 96) and northeastern Pennsylvania (Barnosky et al. 1988: 178); others, older than 33,000 years B.P., have been found in southwestern Ontario (Warner et al. 1988: 37).

**Records.** CAN: NT, QC, YT USA: AK, ME, NH, VT – **Holarctic**

**Note.** *Platysma poppiusianum* Jacobson, 1907 (a replacement name for *P. insulicola* Poppius, 1906) was listed as a junior synonym of this species by Ball (1966a: 71), as a junior synonym of *P. subgibbus* (Motschulsky, 1860) by Kryzhanovskij et al. (1975: 137), and treated as a valid species by Eremin (1990) and Kryzhanovskij et al. (1995: 102).

### *Pterostichus planus* (Sahlberg, 1885)

*Feronia plana* J.R. Sahlberg, 1885b: 50. Type locality: Port Clarence, Alaska (inferred from title of the paper). Lectotype (♀), designated by Lindroth (1969a: 1118), in ZMLS.

*Feronia blaisdelli* Van Dyke, 1943: 24. Type locality: «Nome, Alaska» (original citation). Holotype (♂) in CAS [# 5304]. Synonymy established by Ball (1966a: 69).

**Distribution.** This species is known only from a few localities in the Seward Peninsula, western Alaska [see Ball 1963: Fig. 6].

**Records.** USA: AK

### *Pterostichus similis* Mannerheim, 1852

*Pterostichus similis* Mannerheim, 1852: 296. Type locality: «insula St. Georgii [Pribilof Islands, Alaska]» (original citation). Lectotype (♂), designated by Ball (1966a: 53), in ZMH.

*Cryobius quadricollis* Mannerheim, 1853: 133. Type locality: «insula St. Georgii [Pribilof Islands, Alaska]» (original citation). Holotype [by monotypy] probably in ZILR. Synonymy established by LeConte (1873a: 310).

**Distribution.** This species is found from eastern Siberia to the Dempster Highway in Yukon Territory (UASM), including several islands of the Bering Sea [see Ball 1963: Fig. 4].

**Records.** CAN: YT USA: AK – **Holarctic**

**Note.** Matthews (1974b: 1365) remarked that some specimens of this species have anomalous male genitalia. He interpreted this condition as either *P. similis* “is dimorphic in certain genital characters” or that it “includes two species” as currently defined.

***Pterostichus soperi* Ball, 1966**

*Pterostichus soperi* Ball, 1966a: 26. Type locality: «Aklavik, N[orth]w[est] T[erritories]» (original citation). Holotype (♂) in CAS [# 9316]. Etymology. This species was named after the Canadian Joseph Dewey Soper [1893-1982], arctic explorer, zoologist, and prolific author. Soper, as biologist for the Canadian Wildlife Service, made important contributions to the knowledge of arctic birds and mammals and to arctic geography.

**Distribution.** This species is known from the Norton Sound Inlet in western Alaska to the Coronation Gulf in northern Nunavut (Ball 1966a: 28-29).

**Records.** CAN: NT, NU, YT USA: AK

***Pterostichus surgens* LeConte, 1878**

*Pterostichus surgens* LeConte, 1878a: 449. Type locality: «Alma (10,000 ft.) [Park County], Col[orado]» (lectotype label). Lectotype (♂), designated by Ball (1966a: 24), in MCZ [# 5652].

**Distribution.** This species is found along the Rocky Mountains from southern Alberta to Utah and Colorado (Ball 1966a: 26).

**Records.** CAN: AB USA: CO, MT, UT, WY

***Pterostichus tareumiut* Ball, 1962**

*Pterostichus tareumiut* Ball, 1962: 15. Type locality: «Point Barrow, Alaska» (original citation). Holotype (♂) in MCZ [# 31306].

**Distribution.** This Holarctic species is known in North America along the arctic coast from western Alaska to north-central Nunavut, and from Victoria and Banks Islands; in the Palearctic Region the species is known only from the northern Bering Sea Coast (Ball 1966a: 47).

**Records.** CAN: NT, NU, YT USA: AK – **Holarctic**

***Pterostichus woodi* Ball and Currie, 1997**

*Pterostichus woodi* Ball and Currie, 1997: 487. Type locality: «km. 155, Dempster H[igh]w[ay], Yukon [Territory]» (original citation). Holotype (♂) in CNC [# 23110]. Etymology. The specific name was proposed for Donald Monty Wood [1933-], dipterist at Agriculture and Agri-Food Canada (Canadian National Collection of Insects) who collected most of the specimens of the type series.

**Distribution.** This species is known only from the Ogilvie Mountains in Yukon Territory.

**Records.** CAN: YT

[**ventricosus group**]***Pterostichus caribou* Ball, 1962**

*Pterostichus caribou* Ball, 1962: 3. Type locality: «Eskimo Point, Northwest Territories [= Nunavut]» (original citation). Holotype (♂) in CNC [# 9094].

**Distribution.** This species ranges from northern Alaska to the western shores of the Hudson Bay in northern Manitoba and Southampton Island in Nunavut [see Ball 1963: Fig. 2; Nielsen et al. 1987: Fig. 18a]; isolated in eastern Ohio (Uzis and MacLean 1998: 67). Fossil remnants of this species, dated between about 16,700 and 21,500 years B.P., have been unearthed in north-central Illinois (Garry et al. 1990: 394) and east-central Iowa (Baker et al. 1986: 96).

**Records.** CAN: MB, NT, NU, YT USA: AK, OH

***Pterostichus riparius* (Dejean, 1828)**

*Feronia riparia* Dejean, 1828: 332. Type locality: «détroit de Norfolk [= Norfolk Sound, Baranof Island, Alaska] sur la côte nord-ouest de l'Amérique du Nord [Alaska]» (original citation). Holotype [by monotypy; designated lectotype by Ball (1966a: 83)] (♀) in MHNP.

*Omaseus fuscoaeneus* Chaudoir, 1835: 448. Type locality: «Détroit de Norfolk [= Norfolk Sound, Baranof Island, Alaska]» (original citation). Syntype(s) location unknown. Synonymy established by LeConte (1869b: 248).

*Cryobius fatuus* Mannerheim, 1853: 130. Type locality: «Kadjak [Alaska]» (lectotype label). Lectotype (♂), designated by Bousquet (1999: 193), in ZMH. Synonymy established by Tschitschérine (1891: 143), confirmed by Ball (1966a: 83).

*Cryobius breviusculus* Casey, 1918: 375 [secondary homonym of *Pterostichus breviusculus* (Sahlberg, 1844)]. Type locality: «S[ain]t Paul Island, Alaska» (original citation). Lectotype [as holotype] (♀), designated by Ball (1966a: 84), in USNM [# 47077]. Synonymy established by Ball (1966a: 84).

*Pterostichus laevilatus* Notman, 1919b: 231. Type locality: «Golden, B[ritish] C[olumbia]» (original citation). Holotype [by monotypy] (♀) in USNM [# 75390]. Synonymy established by Hatch (1953: 114).

*Cryobius patulus* Casey, 1920: 190. Type locality: «Stickine River Cañon, British Columbia» (original citation). Lectotype [as holotype], designated by Ball (1966a: 84), in USNM [# 47076]. Synonymy established by Hatch (1953: 114), confirmed by Ball (1966a: 84).

*Pterostichus caseyi* Csiki, 1930: 652. Replacement name for *Pterostichus breviusculus* (Casey, 1918).

**Distribution.** This species ranges from central Alaska to eastern Alberta, including western Northwest Territories, south to west-central Montana, northern Idaho, and northern Oregon [see Ball 1963: Fig. 2]. The records from northern Colorado (Packard 1877: 811; Wickham 1902: 236; Armin 1963: 218; Elias 1987: 632, as *P. fatuus*)

need confirmation. Fossil remnants from a Plio-Pleistocene sequence have been unearthed in northwestern Greenland (Böcher 1995: 28).

**Records.** CAN: AB, BC (QCI), NT, YT USA: AK, ID, MT, OR, WA [CO]

***Pterostichus ventricosus ventricosus* (Eschscholtz, 1823)**

*Poecilus ventricosus* Eschscholtz, 1823: 106. Type locality: «Unalaschka [Aleutian Islands, Alaska]» (original citation). Two syntypes in ZMH (Silfverberg 1987: 26). NOTE. This species was also made available the same year by an illustration in Fischer von Waldheim (1823: plate 19, figure 6).

*Platysma borealis* Ménétriés, 1851: 50 [secondary homonym of *Pterostichus borealis* (Zetterstedt, 1828)]. Type locality: «Taimyrsee bei 74½° n. Br[eite]; Boganida [Russia]» (original citation). Syntypes location unknown (possibly in ZMH). Synonymy established by Ball (1966a: 89).

*Omaseus rufiscapus* Mannerheim, 1853: 126. Type locality: «insula Kadjak [Alaska]» (original citation). Syntype(s) probably in MHNP (see Chaudoir 1868b: 341). Synonymy established by Ball (1966a: 89).

*Cryobius hyperboreus* Mannerheim, 1853: 127. Type locality: «insula St. Georgii [Pribilof Islands, Alaska]» (original citation). Holotype [by monotypy] (♀) in ZMH. Synonymy established, under the name *P. subexaratus* (Mannerheim), by Poppius (1906b: 31), confirmed by Ball (1966a: 88).

*Cryobius subexaratus* Mannerheim, 1853: 128. Type locality: «insula Unalaschka [Alaska]» (original citation for the lectotype). Lectotype (♂), designated by Bousquet (1999: 194), in ZMH. Synonymy established by Ball (1966a: 88).

*Cryobius vindicatus* Mannerheim, 1853: 129. Type locality: «oris meridionali et occidentali insulae Kadjak [Alaska]» (original citation). Lectotype (♂), designated by Bousquet (1999: 194), in ZMH. Synonymy established by Ball (1966a: 89).

*Cryobius subcaudatus* Mannerheim, 1853: 132. Type locality: «ad rivulos fl[umen] Tschunuktnu peninsulae Kenai [Alaska]» (original citation). Lectotype (♀), designated by Ball (1966a: 89), in ZMH. Synonymy established by Ball (1966a: 89). NOTE. Brown (1952: 340) noted that based on Mannerheim's map (1853: plate 2), «Tschunuktnu» River is either Resurrection Creek or Sixmile Creek and that these flow into Turnagain Arm of Cook Inlet and Sunrise respectively.

*Feronia quadrangularis* J.R. Sahlberg, 1885a: 20. Type locality: «Pitlekaj [Chukchi Peninsula, Siberia]» (original citation). Holotype [by monotypy] (♂) in ZMH. Synonymy established by Ball (1966a: 88).

*Feronia rugifera* Tschitschérine, 1891: 141. Type locality: «île d'Ounalaschka [Aleutian Islands, Alaska]» (original citation). Holotype [by monotypy] (♀) probably in ZILR. Synonymy established by Ball (1966a: 88).

*Feronia ventricosa* var. *brevicollis* Tschitschérine, 1891: 142 [secondary homonym of *Feronia brevicollis* (LeConte, 1846)]. Type locality not stated. Syntype(s) location unknown (possibly in ZMMU). Synonymy established by Ball (1966a: 88).



*Feronia borealis* var. *gracilior* Tschitschérine, 1896b: 376. Type locality: «Novaja Zemlja [= Novaya Zemlya, Russia]» (original citation). Syntype(s) [3 originally cited] in ZILR. Synonymy established, under the name *P. borealis* (Ménétriés), by Poppius (1906b: 97).

*Pterostichus vegae* Poppius, 1906b: 39. Type locality: «Tschuktschen-Halbinsel bei Jinretlen, NO Sibirien [Russia]» (original citation). Holotype [by monotypy] (♀) in NRSS (Ball 1966a: 88). Synonymy established by Ball (1966a: 88).

*Cryobius czekanowskii* Poppius, 1906b: 46. Type locality: «Fl[umen] Jenissej: Tolstoinos [=Tolstyy Nos, Taymyr Autonomous Okrug, Russia]» (original citation for the lectotype). Lectotype [as holotype] (♀), designated by Ball (1966a: 89), in ZMH. Synonymy established by Ball (1966a: 89).

*Cryobius sedakowi* Poppius, 1908a: 3. Type locality: «Bureja-Fluss, Ost-Sibirien [Russia]» (original citation). Holotype [by monotypy] (♂) in MHNP (collection Chaudoir). Synonymy established by Ball (1966a: 89).

*Platysma ventricosum* var. *aleutorum* Lutshnik, 1915c: 427. Replacement name for *Platysma ventricosum* var. *brevicolle* (Tschitschérine, 1891).

*Cryobius otariidinus* Casey, 1918: 374. Type locality: «S[ain]t Paul Island, Alaska» (original citation), which is probably incorrect (Ball 1966a: 89). Lectotype [as holotype] (♀), designated by Ball (1966a: 89), in USNM [# 47080]. Synonymy established by Ball (1966a: 89).

*Pterostichus boreus* Csiki, 1930: 652. Replacement name for *Pterostichus borealis* (Ménétriés, 1851).

**Distribution.** This Holarctic species ranges from Novaya Zemlya in the Arctic Ocean off the coast of European Russia east to Franklin Bay on the coast of Northwest Territories, south in the Nearctic Region to central Northwest Territories and Umnak Island in the Aleutian Islands [see Ball 1963: Fig. 2]. Fossil remnants of this species, dated between about 16,700 and 20,530 years B.P., have been unearthed in northeastern and southeastern Iowa (Schwert 1992: 77; Baker et al. 1986: 96; Woodman et al. 1996: 17); others, older than 33,000 years B.P., have been found in southwestern Ontario (Warner et al. 1988: 37).

**Records.** CAN: NT, YT USA: AK – **Holarctic**

**Note.** The subspecies *P. ventricosus nechaevi* Lafer and Kuznetsov is endemic to Sakhalin Island and *P. ventricosus paludosus* (Sahlberg) (junior synonym: *P. tungusicus* Poppius) to southeastern Siberia (Ball 1966a: 101).

## Genus *CYCLOTRACHELUS* Chaudoir, 1838

*Cyclotrachelus* Chaudoir, 1838: 27. Type species: *Feronia tenebricosa* Dejean, 1828 (= *Molops faber* Germar, 1824) by monotypy. Etymology (original). From the Greek *cyclos* (circle) and *trachelos* (neck, by extension pronotum), alluding to the rounded shape of the pronotum (“*corselet arrondi*”) of the adults in the hands of Chaudoir [masculine].

**Diversity.** Forty-five species in the temperate and subtropical regions of North America with one species (*P. substriatus*) extending into northern Mexico.

**Identification.** Freitag (1969) revised the species. Since the publication of his revision, a replacement name has been proposed for *C. obsoleta* and two subspecies are raised to species level in this publication.

**Taxonomic Note.** This genus, certainly one of the most characteristic pterostichine elements in North America, could be closely related to *Molops* Bonelli (Freitag 1969), whose species inhabit the mountains of Europe and Turkey, or to the *Sterocorax* complex (*Sterocorax* Ortuño, *Paleocorax* Ortuño, *Iberopus* Ortuño), a clade endemic to the Iberian Peninsula and currently included within the genus *Pterostichus* Bonelli (see Bousquet 1999: 198). Based on molecular sequence data, Will and Gill (2008: 113) found that the genus *Pterostichus* was monophyletic if *Cyclotrachelus* were included in the genus and recommended to treat *Cyclotrachelus* as a subgenus of *Pterostichus*.

### Subgenus *Cyclotrachelus* Chaudoir, 1838

*Cyclotrachelus* Chaudoir, 1838: 27. Type species: *Feronia tenebricosa* Dejean, 1828 (= *Molops faber* Germar, 1824) by monotypy.

*Fortax* Motschulsky, 1866: 246. Type species: *Feronia morio* Dejean, 1828 (= *Pterostichus dejeanellus* Csiki, 1930) designated by Freitag (1969: 101). Synonymy established by Bousquet (1999: 199). Etymology. From the Latin *fortax* (carrier, bearer) [masculine].

*Ferestria* Leng, 1915: 576. Type species: *Broscus laevipennis* LeConte, 1846 by original designation. Synonymy established, under the name *Fortax* Motschulsky, by Csiki (1930: 674). Etymology. Possibly from the Latin *fero* (to bear, carry) and *stria* (groove, stria) [feminine].

**Diversity.** Eighteen species, most restricted to the Coastal and Gulf Plains.

#### [*approximatus* group]

### *Cyclotrachelus approximatus* (LeConte, 1846)

*Broscus approximatus* LeConte, 1846b: 354. Type locality: «Pennsylvania» (original citation). Lectotype (♀), designated by Freitag (1969: 106), in MCZ [# 5628].

**Distribution.** This species is restricted to a small area from “Pennsylvania” (LeConte 1846b: 354) to North Carolina [see Freitag 1969: Fig. 126]. The record from Georgia (Fattig 1949: 24) needs confirmation.

**Records. USA:** DC, MD, NC, PA, VA [GA]

### *Cyclotrachelus freitagii* Bousquet, 1993

*Feronia obsoleta* Say, 1830b: (5) [3] [primary homonym of *Feronia obsoleta* Say, 1823]. Type locality: «Cades Cove, Blount [Blount County], Tenn[essee]» (neotype label).

Neotype (♂), designated by Lindroth and Freitag (1969: 340), in MCZ [# 33046].

NOTE. «Indiana» was the area originally cited by Say (1830b: (5) [3]).

*Cyclotrachelus freitagii* Bousquet [in Bousquet and Larochelle], 1993: 10. Replacement name for *Cyclotrachelus obsoletus* (Say, 1830).

**Distribution.** The range of this species extends from West Sister Island (Ohio) in the Western Basin of Lake Erie (Will et al. 1995: 62) to northeastern Illinois, south to southern Alabama and northern Georgia [see Freitag 1969: Fig. 126]. The record from Missouri (Summers 1873: 134) needs confirmation.

**Records. USA:** AL, GA, IL, IN, KY, MI, MS, NC, OH, SC, TN, VA [MO]

### *Cyclotrachelus iuvenis* (Freitag, 1969)

*Evarthrus iuvenis* Freitag, 1969: 107. Type locality: «24 miles north of Roanoke [Roanoke County], Virginia» (original citation). Holotype (♂) in MCZ [# 31591].

**Distribution.** This species is known from a small area in west-central and southern West Virginia (Roane and Raleigh Counties, CMNH), western Virginia, and North Carolina [see Freitag 1969: Fig. 126].

**Records. USA:** NC, VA, WV

### [faber group]

### *Cyclotrachelus faber* (Germar, 1824)

*Molops faber* Germar, 1824: 23. Type locality: «Kentucky» (original citation), which is probably incorrect (Freitag 1969: 125); Gainesville, Alachua County, Florida (see Freitag 1969: 126) herein selected. Syntype(s) probably lost.

*Feronia tenebricosa* Dejean, 1828: 301. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 14). Synonymy established by LeConte (1846b: 353), confirmed by Lindroth (1955b: 14).

*Cyclotrachelus roticollis* Casey, 1918: 349. Type locality: «Dunedin [Pinellas County], Florida» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 125), in USNM [# 47108]. Synonymy established by Freitag (1969: 125).

*Cyclotrachelus fallaciosus* Casey, 1924: 77. Type locality: «Dunedin [Pinellas County], Florida» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 125), in USNM [# 47109]. Synonymy established by Freitag (1969: 125).

**Distribution.** This species is found in southern Georgia and Florida including the Keys [see Freitag 1969: Fig. 129]. The record from northwestern South Carolina (Kirk 1970: 11) is probably in error.

**Records. USA:** FL, GA

### *Cyclotrachelus levifaber* (Freitag, 1969)

*Evarthrus levifaber* Freitag, 1969: 123. Type locality: «Camden [Kershaw County], S[outh] C[arolina]» (original citation). Holotype (♀) in MCZ [# 31592].

**Distribution.** This species is known only from a few specimens collected in “North Carolina,” northern South Carolina, and “Georgia” [see Freitag 1969: Fig. 129].

**Records. USA:** GA, NC, SC

***Cyclotrachelus parafaber* (Freitag, 1969)**

*Evarthrus parafaber* Freitag, 1969: 122. Type locality: «Mobile [Mobile County], Ala[bama]» (original citation). Holotype (♂) in CAS [# 813].

**Distribution.** This species is known only from several specimens collected at the type locality in southern Alabama [see Freitag 1969: Fig. 129].

**Records. USA:** AL

**[laevipennis group]**

***Cyclotrachelus dejeanellus* (Csiki, 1930)**

*Feronia morio* Dejean, 1828: 302 [secondary homonym of *Pterostichus morio* (Duftschmid, 1812)]. Type locality: «Amérique septentrionale» (original citation), restricted to «Alma [Bacon County], Georgia» by Freitag (1969: 102). Lectotype [as type], designated by Freitag (1969: 102), in MHNP.

*Pterostichus dejeanellus* Csiki, 1930: 674. Replacement name for *Pterostichus morio* (Dejean, 1828).

*Evarthrus taurus* Van Dyke, 1943: 25. Type locality: «near Punta Gorda [Charlotte County], Florida» (original citation). Holotype (♂) in CAS [# 5306]. Synonymy established by Freitag (1969: 102).

**Distribution.** This species ranges from southern Georgia to southwestern Florida [see Freitag 1969: Fig. 125]. The record from Alabama (Löding 1945: 16) needs confirmation.

**Records. USA:** FL, GA [AL]

***Cyclotrachelus hernandensis* (Van Dyke, 1943)**

*Evarthrus hernandensis* Van Dyke, 1943: 26. Type locality: «near Brooksville, Hernando County, Florida» (original citation). Holotype (♂) in CAS [# 5308].

**Distribution.** This species is known from a few localities in the western parts of the Florida Peninsula [see Freitag 1969: Fig. 125].

**Records. USA:** FL

***Cyclotrachelus laevipennis* (LeConte, 1846)**

*Broscus laevipennis* LeConte, 1846b: 354. Type locality: «Georgia» (original citation), restricted to «Clayton, Rabun County» by Bousquet (1999: 201). Lectotype (♀), designated by Freitag (1969: 103), in MCZ [# 5627].

*Evarthrus acutus* LeConte, 1853a: 231. Type locality: «Louisiana» (original citation). Lectotype (♀), designated by Freitag (1969: 104), in MCZ [# 5626]. Synonymy established by Freitag (1969: 104).

*Ferestria nanula* Casey, 1918: 364. Type locality: «Mobile [Mobile County], Alabama» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 104), in USNM [# 47111]. Synonymy established by Freitag (1969: 104).

*Ferestria simiola* Casey, 1920: 192. Type locality: «Mobile [Mobile County], Alabama» (original citation). Holotype [by monotypy] (♀) in USNM [# 47112]. Synonymy established by Freitag (1969: 104).

*Ferestria castigata* Casey, 1920: 192. Type locality: «Mobile [Mobile County], Alabama» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 104), in USNM [# 47110]. Synonymy established by Freitag (1969: 104).

*Ferestria bullata* Casey, 1920: 193. Type locality: «Mobile [Mobile County], Alabama» (original citation). Holotype [by monotypy] (♀) in USNM [# 47113]. Synonymy established by Freitag (1969: 104).

**Distribution.** This species inhabits the Gulf Plain and southern Piedmont Plateau from South Carolina to the Florida Panhandle and “Louisiana” (LeConte 1853a: 231, as *Evarthrus acutus*) [see Freitag 1969: Fig. 125].

**Records. USA:** AL, FL, GA, LA, MS, SC

#### [ovulum group]

#### *Cyclotrachelus alabamensis* (Casey, 1920)

*Evarthrus constrictus* Bates, 1882a: 80 [secondary homonym of *Evarthrus constrictus* (Say, 1823)]. Type locality: «Mexico» (original citation), which is likely incorrect. Holotype [by monotypy] (♀) in BMNH.

*Evarthrinus alabamensis* Casey, 1920: 198. Type locality: «Allen [= Allenville, Mobile County], Alabama» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 117), in USNM [# 47136]. Synonymy established by Freitag (1969: 117).

*Evarthrinus lilliputicus* Casey, 1920: 199. Type locality: «Mobile [Mobile County], Alabama» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 117), in USNM [# 47137]. Synonymy established by Freitag (1969: 117).

*Pterostichus batesellus* Csiki, 1930: 671. Replacement name for *Pterostichus constrictus* (Bates, 1882).

**Distribution.** This species is known only from Mobile County in southwestern Alabama (Freitag 1969: 118). The record from “Mississippi” (Bousquet and Larochelle 1993: 186) was based on a misidentified specimen (Drew A. Hildebrandt pers. comm. 2007).

**Records. USA:** AL



***Cyclotrachelus macrovulum* (Freitag, 1969)**

*Evarthrus macrovulum* Freitag, 1969: 119. Type locality: «Mobile [Mobile County], Ala[bama]» (original citation). Holotype (♂) in CAS [# 9814].

**Distribution.** This species is known only from southern Alabama, southern Mississippi (Drew A. Hildebrandt pers. comm. 2007), and east-central (West Feliciana Parish, LSAM) and southern Louisiana [see Freitag 1969: Fig. 128].

**Records. USA:** AL, LA, MS

***Cyclotrachelus ovulum* (Chaudoir, 1868)**

*Feronia ovulum* Chaudoir, 1868b: 332. Type locality: «Georgetown, Caroline du Sud» (original citation), which according to Freitag (1969: 119) is probably in error for Georgetown, Georgia. Holotype [by monotypy] (♀) in MHNP.

**Distribution.** This species is known from southern Georgia and northern Florida [see Freitag 1969: Fig. 128].

**Records. USA:** FL, GA

***Cyclotrachelus texensis* (Freitag, 1969)**

*Evarthrus texensis* Freitag, 1969: 121. Type locality: «12 mi[les] W[est] Kirbyville, Tyler Co[unty], Texas» (original citation). Holotype (♂) in MCZ [# 35349].

**Distribution.** This species is known from a few specimens collected in eastern Texas [see Freitag 1969: Fig. 128].

**Records. USA:** TX

***Cyclotrachelus vinctus* (LeConte, 1853)**

*Evarthrus vinctus* LeConte, 1853a: 232. Type locality: «Nakutshi valley, Habersham Co[unty], Georgia» (original citation). Lectotype (♀), designated by Freitag (1969: 115), in MCZ [# 5623].

**Distribution.** This species is found in a small area including eastern Tennessee, southwestern North Carolina, northwestern South Carolina, and northeastern Georgia [see Freitag 1969: Fig. 128].

**Records. USA:** GA, NC, SC, TN

**[spoliatus group]*****Cyclotrachelus brevoorti* (LeConte, 1846)**

*Feronia brevoorti* LeConte, 1846b: 352. Type locality: «Alabama» (original citation), restricted to «Mobile, Mobile County» by Bousquet (1999: 200). Lectotype (♂), designated by Freitag (1969: 114), in MCZ [# 5625]. Etymology. This species was named for James Carson Brevoort [1818-1887], a wealthy American collector.

**Distribution.** This species is found along the Coastal Plain from South Carolina to central Mississippi [see Freitag 1969: Fig. 127].

**Records. USA:** AL, FL, GA, MS, SC

***Cyclotrachelus fucatus* (Freitag, 1969)**

*Evarthrus fucatus* Freitag, 1969: 111. Type locality: «Leesburg, Cherokee Co[unty], Ala[bama]» (original citation). Holotype (♂) in UMAA.

**Distribution.** This species ranges from southwestern Pennsylvania to southwestern Illinois (Union County, CNC), south to northern Alabama and northwestern Georgia [see Freitag 1969: Fig. 127].

**Records. USA:** AL, GA, IL, KY, OH, PA, TN, WV

***Cyclotrachelus spoliatus* (Newman, 1838)**

*Feronia spoliata* Newman, 1838a: 386. Type locality: «northern states of America» (original citation, see page 388), restricted to «Southern Pines [Moore County], N[orth] C[arolina]» by Freitag (1969: 113). Lectotype [as type] (♂), designated by Freitag (1969: 113), in BMNH.

*Evarthrus rotundatus* LeConte, 1853a: 230. Type locality: «Athens [Clarke County], Georgia» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5624]. Synonymy established by Freitag (1969: 113). NOTE. The specimen labeled “Va / rotundatus 2” and designated lectotype by Freitag (1969: 113) is not a syntype.

*Evarthrinus pinorum* Casey, 1920: 198. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 113), in USNM [# 47135]. Synonymy established by Freitag (1969: 113).

**Distribution.** This species is found in a small area from the District of Columbia south to southern South Carolina [see Freitag 1969: Fig. 127] including northeastern Georgia (LeConte 1853a: 230). The records from “New York” (Leng and Beutenmüller 1893: 138, as *Pterostichus rotundatus*) and northern Alabama (Löding 1945: 15) need confirmation.

**Records. USA:** DC, GA, NC, SC, VA [AL, NY]

***Cyclotrachelus unicolor* (Say, 1823)**

*Feronia unicolor* Say, 1823a: 40. Type locality: «Upson Co[unty], G[eorgi]a» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 340), in MCZ [# 33049].

**Distribution.** This species is restricted to the Coastal Plain and southern Piedmont from South Carolina (Ciegler 2000: 71) to northeastern Alabama, south to the Florida Panhandle [see Freitag 1969: Fig. 127]. The record from North Carolina (Brimley 1938: 119) needs confirmation.

**Records. USA:** AL, FL, GA, SC [NC]

### Subgenus *Evarthrus* LeConte, 1853

*Evarthrus* LeConte, 1853a: 226, 227. Type species: *Feronia sigillata* Say, 1823 designated by Casey (1918: 322). Etymology. From the Greek *ev* (original, primitive, by extension simple) and *arthron* (joint), possibly alluding to the simple (i.e., non carinate) basal antennomeres (“*antennae articulis basalibus simplicibus*”) of the adult [masculine].

*Anaferonia* Casey, 1918: 341. Type species: *Feronia constricta* Say, 1823 by original designation. Synonymy established by Freitag (1969: 126). Etymology. From the Greek prefix *ana-* (up, back, again) and the generic name *Feronia* [*q.v.*] [feminine].

*Megasteropus* Casey, 1918: 350. Type species: *Megasteropus gigas* Casey, 1918 by original designation. Synonymy established by Freitag (1969: 126). Etymology. From the Greek *megas* (large) and the generic name *Steropus* [masculine].

*Eumolops* Casey, 1918: 351. Type species: *Eumolops sexualis* Casey, 1918 (= *Evarthrus torvus torvus* LeConte, 1863) by original designation. Synonymy established by Freitag (1969: 127). Etymology. From the Greek *eu* (agreeable, primitive) and the generic name *Molops* [masculine].

*Evarthrinus* Casey, 1918: 357. Type species: *Eumolops decepta* Casey, 1918 designated by Freitag (1969: 127). Synonymy established by Freitag (1969: 127). Etymology. From the generic name *Evarthrus* [*q.v.*] and the Latin suffix *-inus* (pertaining to) [masculine].

*Evarthrops* Casey, 1920: 194. Type species: *Evarthrus furtivus* LeConte, 1853 designated by Freitag (1969: 127). Synonymy established by Freitag (1969: 127). Etymology. From the generic name *Evarthrus* [*q.v.*] and the Greek suffix *-ops* (having the appearance of) [masculine].

**Diversity.** Twenty-seven species are known.

#### [*blatchleyi* group]

##### *Cyclotrachelus blatchleyi* (Casey, 1918)

*Evarthrus blatchleyi* Casey, 1918: 360. Type locality: «Dunedin [Pinellas County], Florida» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 131), in USNM [# 47122]. Etymology. The specific name honors Willis Stanley Blatchley [1859-1940], geologist and naturalist in the true sense of the word, author of several books on Coleoptera, Hemiptera, and Orthoptera.

**Distribution.** This species ranges from southern Georgia to southwestern Florida [see Freitag 1969: Fig. 131].

**Records. USA:** FL, GA

##### *Cyclotrachelus floridensis* (Freitag, 1969)

*Evarthrus floridensis* Freitag, 1969: 132. Type locality: «Winter Park [Orange County], Fl[orid]a» (original citation). Holotype (♂) in MCZ [# 31593].

**Distribution.** This species is endemic to a small area in the eastern part of central Florida [see Freitag 1969: Fig. 131].

**Records. USA:** FL

[**gigas group**]

***Cyclotrachelus gigas* (Casey, 1918)**

*Megasteropus gigas* Casey, 1918: 350. Type locality: «Texas» (original citation), restricted to «Victoria, Victoria County» by Bousquet (1999: 206). Lectotype [as holotype] (♀), designated by Freitag (1969: 165), in USNM [# 47123].

**Distribution.** This species is known from two localities in southeastern Texas [see Freitag 1969: Fig. 136].

**Records. USA:** TX

***Cyclotrachelus heros* (Say, 1823)**

*Feronia heros* Say, 1823b: 145. Type locality: «Tex[as]» (neotype label), restricted to «Dallas, Dallas County» by Bousquet (1999: 207). Neotype (♂), designated by Lindroth and Freitag (1969: 340), in MCZ [# 33048]. NOTE. «the Arkansa» was the area originally cited by Say (1823b: 145).

**Distribution.** This species is known from southeastern Oklahoma south to Comal County, Texas [see Freitag 1969: Fig. 136]. The record from «Arkansas» (Freitag 1969: 167) derives from the locality originally cited by Say (1823b: 145) which possibly refer to the Arkansas Territory. Prior to 1825, this territory included, besides Arkansas, all of the present state of Oklahoma. It could also refer to the Arkansas River which flows through Colorado, southern Kansas, northeastern Oklahoma, and Arkansas. The record from southeastern Kansas (Knaus 1907: 233) needs confirmation.

**Records. USA:** OK, TX [KS]

***Cyclotrachelus sallei* (LeConte, 1873)**

*Evarthrus sallei* LeConte, 1873a: 319. Type locality: United States of America (inferred from title of the paper); restricted to «Texas» by Freitag (1969: 165), and to «Dallas, Dallas County» by Bousquet (1999: 208). Lectotype (♂), designated by Freitag (1969: 165), in MCZ [# 5663].

**Distribution.** This species is known only from eastern Texas [see Freitag 1969: Fig. 136].

**Records. USA:** TX

[**gravesi group**]

***Cyclotrachelus gravesi* (Freitag, 1969)**

*Evarthrus gravesi* Freitag, 1969: 167. Type locality: «Pearl (Jackson), Rankin Co[unty], Miss[issippi]» (original citation). Holotype (♀) in MCZ [# 35350].

**Distribution.** This species is known from the holotype and four specimens collected in Hinds County in southern Mississippi (Drew A. Hildebrandt pers. comm. 2009).

**Records. USA:** MS

[**hypherpiformis group**]

***Cyclotrachelus hypherpiformis* (Freitag, 1969)**

*Evarthrus hypherpiformis* Freitag, 1969: 145. Type locality: «Prairies [= possibly Prairie Lakes], s[outh] Demopolis, Marengo Co[unty], Alabama» (original citation). Holotype (♂) in UMAA.

**Distribution.** This species is known only from a few specimens collected in western Alabama and northeastern Mississippi [see Freitag 1969: Fig. 132].

**Records. USA:** AL, MS

[**incisus group**]

***Cyclotrachelus incisus* (LeConte, 1846)**

*Feronia incisa* LeConte, 1846b: 345. Type locality: «ad Rocky Mountains» (original citation), restricted to «Iowa City, Johnson County, Iowa» by Bousquet (1999: 207). Lectotype (♂), designated by Freitag (1969: 127), in MCZ [# 5620].

*Feronia lixa* LeConte, 1846b: 346. Type locality: «ad Rocky Mountains» (original citation), cited from «near Long's Peak [Boulder County, Colorado]» by LeConte (1853a: 232). Lectotype (♀), designated by Freitag (1969: 127), in MCZ [# 5622]. Synonymy established by LeConte (1873a: 319), confirmed by Freitag (1969: 127).

*Feronia abdominalis* LeConte, 1846b: 347. Type locality: «ad Rocky Mountains» (original citation), cited from «near Long's Peak [Boulder County, Colorado]» by LeConte (1853a: 232). Lectotype (♂), designated by Freitag (1969: 128), in MCZ [# 5621]. Synonymy established by LeConte (1873a: 319), confirmed by Freitag (1969: 128).

*Anaferonia distincta* Casey, 1918: 342. Type locality: «Iowa» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 128), in USNM [# 47103]. Synonymy established by Freitag (1969: 128).

*Anaferonia iowana* Casey, 1918: 347. Type locality: «Iowa» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 128), in USNM [# 47107]. Synonymy established by Freitag (1969: 128).

*Anaferonia fausta* Casey, 1918: 348. Type locality: «Pennsylvania» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 128), in USNM [# 47104]. Synonymy established by Freitag (1969: 128).

**Distribution.** This species is found from southwestern Pennsylvania to southeastern South Dakota, south to southern Colorado (Miller and Peairs 2008: 34; LeConte



1879d: 500; Wickham 1902: 236), Oklahoma, and central Arkansas [see Freitag 1969: Fig. 130]. The records from South Carolina (Kirk 1970: 11; Ciegler 2000: 70) are probably in error; that from “Kentucky” (Bousquet and Laroche 1993: 188) needs confirmation.

**Records. USA:** AR, CO, IA, IL, IN, KS, MO, NE, OH, OK, PA, SD, VA [KY]

***Cyclotrachelus whitcombi* (Freitag, 1969)**

*Evarthrus whitcombi* Freitag, 1969: 129. Type locality: «Hot Springs [Garland County], Ark[ansas]» (original citation). Holotype (♂) in CAS [# 9815]. Etymology. The specific name was proposed in honor of Willard Hall Whitcomb [1915-2002], entomologist and teacher who made important contributions in the field of terrestrial arthropod biology.

**Distribution.** This species is known from a few localities in eastern Oklahoma, southern Arkansas, and northwestern Louisiana (Natchitoches Parish, LSAM) [see Freitag 1969: Fig. 130].

**Records. USA:** AR, LA, OK

[**seximpressus group**]

***Cyclotrachelus alabamiae* (Van Dyke, 1926)**

*Evarthrus vagans alabamiae* Van Dyke, 1926a: 118. Type locality: «near Mobile [Mobile County], Alabama» (original citation). Holotype (♂) in CAS [# 1858].

**Distribution.** This species is restricted to the Gulf Coastal Plain from southwestern Alabama to eastern Texas, north to southern Arkansas [see Freitag 1969: Fig. 132]. Freitag (1969: 142) suggested that the specimens labeled from Clay County in northeastern Kansas and Lawrence County in northeastern Arkansas are probably mislabeled.

**Records. USA:** AL, AR, LA, MS, TX [KS]

***Cyclotrachelus engelmani* (LeConte, 1853)**

*Evarthrus engelmani* LeConte, 1853a: 228. Type locality: «Texas» (original citation), restricted to «Cuero, DeWitt County» by Bousquet (1999: 206). Lectotype (♂), designated by Freitag (1969: 142), in MCZ [# 5655]. Etymology. The species name was proposed for George Engelmann [1809-1884], physician and eminent botanist. Born in Germany, Engelmann immigrated to the United States and settled in Saint Louis. LeConte originally spelled his name “Engelman.”

*Evarthrus engelmanni* Freitag, 1969: 142. Unjustified emendation of *Evarthrus engelmani* LeConte, 1853.

**Distribution.** This species is found only in eastern Texas (Freitag 1969: 143, Fig. 132).

**Records. USA:** TX

***Cyclotrachelus nonnitens* (LeConte, 1873)**

*Evarthrus nonnitens* LeConte, 1873a: 320. Type locality: «Red River, Louisiana» (original citation). Holotype [by monotypy; designated lectotype by Freitag (1969: 144)] (♀) in MCZ [# 5656].

*Evarthrus enormis* Casey, 1918: 361. Type locality: «Houston [Harris County], Texas» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 144), in USNM [# 47125]. Synonymy established by Freitag (1969: 144).

**Distribution.** This species is found along the Gulf Coastal Plain from eastern Texas and southern Arkansas to western Mississippi [see Freitag 1969: Fig. 132]. The record from northwestern South Carolina (Kirk 1970: 11) is in error.

**Records. USA:** AR, LA, MS, TX

***Cyclotrachelus seximpressus* (LeConte, 1846)**

*Feronia seximpressa* LeConte, 1846b: 350. Type locality: «ad Rocky Mountains, prope Long's Peak [Boulder County, Colorado]» (original citation), which is improbable, herein restricted to Lake Texoma State Park, Marshall County, Oklahoma (see Freitag 1969: 141). Lectotype (♂), designated by Freitag (1969: 139), in MCZ [# 5653].

*Evarthrus rubripes* Casey, 1918: 359. Type locality: «S[ain]t Louis, Missouri» (original citation for the lectotype). Lectotype [as holotype] (♂), designated by Freitag (1969: 140), in USNM [# 47121]. Synonymy established by Freitag (1969: 140).

**Distribution.** This species is found west of the Appalachians Mountains from southwestern Pennsylvania to eastern Nebraska, north to southern Wisconsin and southeastern Minnesota, south to east-central Texas and southern Mississippi (Walthall County, Paul K. Lago pers. comm. 2009) [see Freitag 1969: Fig. 132].

**Records. USA:** AR, IA, IL, IN, KS, MI, MN, MO, MS, NE, OH, OK, PA, TX, WI

**[sigillatus group]*****Cyclotrachelus convivus* (LeConte, 1853)**

*Evarthrus conviva* LeConte, 1853a: 229. Type locality: «Alabama» (original citation), restricted to «Mobile, Mobile County» by Bousquet (1999: 206). Holotype [by monotypy; designated lectotype by Freitag (1969: 137)] (♂) in MCZ [# 5654].

*Evarthrus basilaris* Motschulsky, 1866: 261. Type locality: «Mobile [Mobile County, Alabama]» (original citation). Lectotype (♂), designated by Bousquet (1984a: 2), in ZMMU. Synonymy established by Bousquet (1984a: 2).

*Evarthrus sigillatus parallelus* Casey, 1918: 359. Type locality: «Indiana» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 137), in USNM [# 47119]. Synonymy established by Freitag (1969: 137).

**Distribution.** This species ranges from southwestern Pennsylvania to the Mississippi River in western Illinois, south to southeastern Louisiana and southern Alabama

[see Freitag 1969: Fig. 131]. The record from South Carolina (Kirk 1970: 11; Ciegler 2000: 70) is probably in error.

**Records. USA:** AL, AR, IL, IN, KY, LA, MO, MS, OH, PA, TN, WV

### *Cyclotrachelus sigillatus* (Say, 1823)

*Feronia sigillata* Say, 1823a: 42. Type locality: «Phila[delphia] [Philadelphia County], P[ennsylvani]a» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 340), in MCZ [# 33047]. NOTE. «Germantown [Pennsylvania]» was the area originally cited by Say (1823a: 43).

*Feronia vidua* Dejean, 1828: 278. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 15). Synonymy established by LeConte (1846b: 350), confirmed by Lindroth (1955b: 15).

*Feronia americana* Dejean, 1828: 392. Type locality: «Amérique septentrionale» (original citation). Lectotype [as type] (♂), designated by Freitag (1969: 133), in MHNP. Synonymy established by Freitag (1969: 133).

*Feronia orbata* Newman, 1838a: 386. Type locality: «northern states of America» (original citation, see page 388). Lectotype [as type] (♀), designated by Freitag (1969: 133), in BMNH. Synonymy established by Freitag (1969: 133).

*Evarthrus nimius* Motschulsky, 1866: 260. Type locality: «Ohio» (original citation), which is incorrect. Lectotype (♀), designated by Bousquet (1984a: 3), in ZMMU. Synonymy established by Bousquet (1984a: 3).

*Evarthrus brevipennis* Casey, 1918: 360. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 133), in USNM [# 47120]. Synonymy established by Freitag (1969: 133).

*Evarthrus montanus* Van Dyke, 1926a: 116 [secondary homonym of *Pterostichus montanus* (Motschulsky, 1844)]. Type locality: «base of the Black Mountains, North Carolina» (original citation). Holotype (♂) in CAS [# 1856]. Synonymy established by Freitag (1969: 133).

*Pterostichus carolinensis* Csiki, 1930: 673. Replacement name for *Pterostichus montanus* (Van Dyke, 1926).

**Distribution.** This species is found along the Appalachians, Piedmont Plateau, and Coastal Plain from Massachusetts to the Florida Panhandle and eastern Alabama [see Freitag 1969: Fig. 131]. The records from southeastern Louisiana (Summers 1874a: 80, as *Evarthrus americanus*), Missouri (Summers 1873: 134, as *Evarthrus orbatus*), "Iowa" (Wickham 1911b: 6; King 1914: 321; Jaques and Redlinger 1946: 297, as *Evarthrus orbatus*), and Ohio (Dury 1902: 113; Walker 1957: 270, as *Evarthrus americanus*) are in error.

**Records. USA:** AL, DC, DE, FL, GA, MA, MD, NC, NJ, NY, PA, SC, TN, VA, WV

### *Cyclotrachelus sinus* (Freitag, 1969)

*Evarthrus sinus* Freitag, 1969: 136. Type locality: «Alabama Port, Mobile Co[unty], Ala[bama]» (original citation). Holotype (♂) in MCZ [# 31594].

**Distribution.** This species is known from a few localities in southern Alabama and southern Mississippi [see Freitag 1969: Fig. 131].

**Records. USA:** AL, MS

[**sodalis group**]

***Cyclotrachelus alternans* (Casey, 1920)**

*Evarthrus alternans* Casey, 1920: 196. Type locality: «Keokuk [Lee County], Iowa» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 153), in USNM [# 47131].

**Distribution.** This species ranges from northwestern Wisconsin to northeastern South Dakota, south to central Missouri [see Freitag 1969: Fig. 134]. The record from “North Dakota” (Bousquet and Laroche 1993: 187) needs confirmation.

**Records. USA:** IA, IL, MN, MO, SD, WI [ND]

***Cyclotrachelus furtivus* (LeConte, 1853)**

*Evarthrus furtivus* LeConte, 1853a: 234. Type locality: «Lake superior» (original citation), which is incorrect; «Virginia» selected by Freitag (1969: 152), restricted to «Mount Vernon, Fairfax County» by Bousquet (1999: 206). Holotype [by monotypy; designated lectotype by Freitag (1969: 152)] (♂) in MCZ [# 5662].

**Distribution.** The range of this species extends from southern Pennsylvania and New Jersey to central Virginia [see Freitag 1969: Fig. 133]. The records from Ohio (Everly 1927: 155; Everly 1938: 141), “Michigan” (Leng 1920: 57), Indiana (Blatchley 1910: 101), North Carolina (Brimley 1938: 199), and Georgia (Fattig 1949: 22) are probably in error.

**Records. USA:** DC, MD, NJ, PA, VA, WV

***Cyclotrachelus iowensis* (Freitag, 1969)**

*Evarthrus iowensis* Freitag, 1969: 154. Type locality: «Iowa City [Johnson County], Iowa» (original citation). Holotype (♂) in USNM [# 69820].

**Distribution.** This species is known from a few localities in southeastern Minnesota, Iowa, and eastern South Dakota [see Freitag 1969: Fig. 134].

**Records. USA:** IA, MN, SD

***Cyclotrachelus lodingi* (Van Dyke, 1926)**

*Evarthrus lodingi* Van Dyke, 1926a: 118. Type locality: «Monte Sano, Madison County, Alabama» (original citation). Holotype (♂) in CAS [# 1860].

**Distribution.** This species is restricted to Tennessee and northern Alabama [see Freitag 1969: Fig. 133].

**Records. USA:** AL, TN



**Note.** This form has been treated as a subspecies of *C. sodalis* (LeConte) by Freitag (1969) but I believe it should be regarded as a distinct species based on the character states listed by Freitag (1969: 148).

***Cyclotrachelus parasodalis* (Freitag, 1969)**

*Evarthrus parasodalis* Freitag, 1969: 150. Type locality: «Washington Co[unty], Ark[ansas]» (original citation). Holotype (♂) in MCZ [# 31608].

**Distribution.** This species is known only from Arkansas [see Freitag 1969: Fig. 133].

**Records. USA:** AR

***Cyclotrachelus sodalis colossus* (LeConte, 1846)**

*Feronia colossus* LeConte, 1846b: 343. Type locality: «Missouri» (original citation), cited from «near the Kansas River» by LeConte (1853a: 233), restricted to «Lathrop, Clinton County» by Bousquet (1999: 209). Lectotype (♂), designated by Freitag (1969: 146), in MCZ [# 5658].

*Feronia corax* LeConte, 1846b: 347. Type locality: «ad Rocky Mountains» (original citation), cited from «near Long's Peak [Boulder County, Colorado]» by LeConte (1853a: 229). Lectotype (♂), designated by Freitag (1969: 146), in MCZ [# 5661]. Synonymy established by LeConte (1873a: 318), confirmed by Freitag (1969: 146).

**Distribution.** This subspecies is found west of the Mississippi River from southeastern Minnesota (Gandhi et al. 2005: 926), western Iowa and eastern Nebraska south to southern Kansas and central Missouri [see Freitag 1969: Fig. 133]. At least one specimen simply labeled from Arkansas is known (Freitag 1969: 150). The records from southern Wisconsin (Rauterberg 1885: 15) and northern Colorado (LeConte 1853a: 229, as *F. corax*) need confirmation; that from southeastern Louisiana (Summers 1874a: 80) is probably in error.

**Records. USA:** IA, KS, MN, MO, NE [AR, CO, WI]

***Cyclotrachelus sodalis sodalis* (LeConte, 1846)**

*Feronia sodalis* LeConte, 1846b: 349. Type locality: «Pennsylvania» (original citation), restricted to «Pittsburgh, Allegheny County» by Bousquet (1999: 209). Lectotype (♂), designated by Freitag (1969: 146), in MCZ [# 5659].

*Feronia vagans* LeConte, 1846b: 349 [primary homonym of *Feronia vagans* Dejean, 1831]. Type locality: «provinciis occidentalibus» (original citation), cited from «Ohio» by LeConte (1853a: 229). Lectotype (♂), designated by Freitag (1969: 147), in MCZ [# 5664]. Synonymy established by Freitag (1969: 147).

*Evarthrus fatuus* LeConte, 1853a: 233. Type locality: «Iowa» (original citation). Holotype [by monotypy; designated lectotype by Freitag (1969: 147)] (♂) in MCZ [# 5060]. Synonymy established by LeConte (1873a: 318), confirmed by Freitag



(1969: 147). NOTE. LeConte (1853a: 233) reported that the sole specimen he had was a female.

*Evarthrus licinoides* Motschulsky, 1866: 261. Type locality: «Am[érique] bor[éale]» (original citation). Lectotype (♀), designated by Bousquet (1984a: 3), in ZMMU. Synonymy established by Bousquet (1984a: 3).

*Eumolops sulcata* Casey, 1918: 355. Type locality: «Florida» (original citation), which is probably incorrect (Freitag 1969: 147). Lectotype [as holotype] (♂), designated by Freitag (1969: 147), in USNM [# 47134]. Synonymy established by Freitag (1969: 147).

*Evarthrinus retractus* Casey, 1920: 197. Type locality: «probably Indiana» (original citation). Holotype [by monotypy] (♀) in USNM [# 47132]. Synonymy established by Freitag (1969: 147).

*Evarthrinus inflatipennis* Casey, 1924: 78. Type locality: «near Chicago [Cook County], northern Illinois» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 147), in USNM [# 47133]. Synonymy established by Freitag (1969: 147).

**Distribution.** This subspecies ranges from southwestern Vermont (Bell and Nielsen 1978: 8) to northeastern Minnesota, including southernmost Ontario, south to northeastern Mississippi and eastern Tennessee [see Freitag 1969: Fig. 133]. The record from northwestern Missouri (Freitag 1969: 149) probably refers to *C. sodalis colossus*.

**Records.** CAN: ON USA: IA, IL, IN, KY, MI, MN, MS, NJ, NY, OH, PA, TN, VA, VT, WI

### [substriatus group]

#### *Cyclotrachelus constrictus* (Say, 1823)

*Feronia constricta* Say, 1823b: 147. Type locality: «Colo[rado] Spr[ings] [El Paso County], Col[orado]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 340), in MCZ [# 33050]. NOTE. «the Arkansa river near the rocky mountains» was the area originally cited by Say (1823b: 148).

*Feronia ovipennis* LeConte, 1846b: 345. Type locality: «ad Rocky Mountains» (original citation). Lectotype (♀), designated by Freitag (1969: 158), in MCZ [# 5619]. Synonymy established by LeConte (1873a: 319), confirmed by Freitag (1969: 158).

*Anaferonia vernicata* Casey, 1918: 344. Type locality: «Alamogordo [Otero County], New Mexico» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 159), in USNM [# 47105]. Synonymy established by Freitag (1969: 159).

*Anaferonia pimalis* Casey, 1918: 345. Type locality: «Arizona» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 147), in USNM [# 47106]. Synonymy established by Freitag (1969: 159).

*Anaferonia pudica* Casey, 1918: 346. Type locality: «Texas» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 147), in USNM [# 47101]. Synonymy established by Freitag (1969: 159).



**Figure 32.** *Geopinus incrassatus* (Dejean). This species is a good illustration of the fact that overall morphological similarity is not always a good indicator of close relationship. It was described by Dejean in the genus *Daptus* which currently includes five species in the Palearctic Region. John Lawrence LeConte recognized its distinctness and proposed a new genus for it but still most taxonomists interested in harpalines thought it was closely related to daptines. However, several small structural details of the adults and larvae suggest that the species is simply an aberrant member of the genus *Anisodactylus* and is not closely related to daptines.

*Anaferonia papago* Casey, 1918: 346. Type locality: «Arizona» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 147), in USNM [# 47102]. Synonymy established by Freitag (1969: 159).

**Distribution.** This species ranges from southeastern South Dakota and western Iowa south to central Texas, west to central Arizona [see Freitag 1969: Fig. 134].

**Records. USA:** AZ, CO, IA, KS, NE, NM, OK, SD, TX

### *Cyclotrachelus substriatus* (LeConte, 1846)

*Feronia substriata* LeConte, 1846b: 344. Type locality: «ad Rocky Mountains» (original citation), restricted to «Sterling, Logan County, Colorado» by Bousquet (1999: 210). Lectotype (♀), designated by Freitag (1969: 156), in MCZ [# 5616].

*Evarthrus latebrosus* LeConte, 1853a: 233. Type locality: «Missouri Territory; Illinois» (original citation), restricted to «Missouri Territory» by Freitag (1969: 156). Lectotype (♂), designated by Freitag (1969: 156), in MCZ [# 5617]. Synonymy established by LeConte (1873a: 319), confirmed by Freitag (1969: 156).

*Anaferonia evanescens* Casey, 1918: 343. Type locality: «Colonia Garcia, Sierra Madre M[oun]t[ain]s, Chihuahua, Mexico» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 156), in USNM [# 47100]. Synonymy established by Freitag (1969: 156).

*Anaferonia pantex* Casey, 1918: 344. Type locality: «Texas» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 156), in USNM [# 47099]. Synonymy established by Freitag (1969: 156).

**Distribution.** This species ranges from southern Minnesota to southern Wyoming, south to the state of Durango and southeastern Texas [see Freitag 1969: Fig. 134]. The record from Missouri (Summers 1873: 134) needs confirmation.

**Records. USA:** AZ, CO, KS, MN, NE, NM, OK, SD, TX, WY [MO] – Mexico

### [torvus group]

### *Cyclotrachelus deceptus* (Casey, 1918)

*Evarthrus texanus* Motschulsky, 1866: 261 [secondary homonym of *Pterostichus texanus* LeConte, 1863]. Type locality: «Texas» (original citation), restricted to «Dallas, Dallas County]» by Bousquet (1999: 210). Lectotype (♀), designated by Bousquet (1984a: 3), in ZMMU.

*Eumolops decepta* Casey, 1918: 357. Type locality: «Indiana» (original citation), which is incorrect (Freitag 1969: 161). Lectotype [as holotype] (♀), designated by Freitag (1969: 161), in USNM [# 47356]. Synonymy established by Bousquet (1984a: 3).

*Eumolops impolita* Casey, 1918: 358. Type locality: «Texas» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 161), in USNM [# 47130]. Synonymy established by Freitag (1969: 161).

*Evarthrinus minax* Casey, 1920: 194. Type locality: «Indiana» (original citation), which is probably incorrect (Freitag 1969: 161). Lectotype [as holotype] (♂), designated

by Freitag (1969: 161), in USNM [# 47124]. Synonymy established by Freitag (1969: 161).

*Pterostichus texicola* Csiki, 1930: 659. Replacement name for *Pterostichus texanus* (Motschulsky, 1866).

**Distribution.** This species is known from Texas, as far south as DeWitt County and west to El Paso County [see Freitag 1969: Fig. 135]. The record from “Oklahoma” (Bousquet and Larochelle 1993: 189) needs confirmation.

**Records. USA:** TX [OK]

**Note.** This taxon has been regarded as a subspecies of *C. torvus* (LeConte) by Freitag (1969) but I believe it should be treated as a distinct species.

### *Cyclotrachelus gravidus* (Haldeman, 1853)

*Evarthrus gravidus* Haldeman, 1853: 361. Type locality not stated; «Texas» selected by Freitag (1969: 163), restricted to «Kerrville, Kerr County» by Bousquet (1999: 206). One possible syntype, a ♀ labeled “[dark red disc] / *E. gravidus* Hald. [handwritten],” in MCZ (collection LeConte).

*Eumolops ampla* Casey, 1918: 353. Type locality: «Texas» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 163), in USNM [# 47126]. Synonymy established by Freitag (1969: 163).

**Distribution.** This species is known from southern Oklahoma (Hatch and Ortenburger 1930: 11, as *Eumolops ampla*) and Texas, as far south as Comal County and west to El Paso County [see Freitag 1969: Fig. 135].

**Records. USA:** OK, TX

### *Cyclotrachelus torvus* (LeConte, 1863)

*Evarthrus torvus* LeConte, 1863c: 9. Type locality: «Kansas» (original citation). Syntype(s) location unknown. NOTE. The specimen in MCZ [# 5657] labeled “Col[orado]” and selected lectotype by Freitag (1969: 160) is not a syntype.

*Feronia acuminata* Chaudoir, 1868b: 333. Type locality: «Texas» (original citation). Lectotype (♂), designated by Freitag (1969: 160), in MHNP. Synonymy established by Freitag (1969: 160).

*Eumolops prominens* Casey, 1918: 353. Type locality: «Florida» (original citation), which is probably incorrect (Freitag 1969: 161). Lectotype [as holotype] (♀), designated by Freitag (1969: 161), in USNM [# 47128]. Synonymy established by Freitag (1969: 161).

*Eumolops sexualis* Casey, 1918: 354. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). Lectotype [as holotype] (♂), designated by Freitag (1969: 161), in USNM [# 47124]. Synonymy established by Freitag (1969: 161).

*Eumolops inflatula* Casey, 1918: 354. Type locality: «Akron [Washington County], Colorado» (original citation). Lectotype [as holotype] (♀), designated by Freitag (1969: 161), in USNM [# 47127]. Synonymy established by Freitag (1969: 161).



**Distribution.** This species inhabits the Great Plains from southwestern Minnesota (Gandhi et al. 2005: 926) to western South Dakota, south to southern New Mexico and southern Arkansas [see Freitag 1969: Fig. 135]. The record from “Arizona” (Bousquet and Laroche 1993: 189) is probably in error; one specimen labeled from Hidalgo County in southeastern Texas is probably mislabeled (Freitag 1969: 163).

**Records. USA:** AR, CO, IA, KS, MO, MN, NE, NM, OK, SD, WY

### Genus *ABAX* Bonelli, 1810

*Abax* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus striola* Fabricius, 1792 (= *Carabus parallelepipedus* Piller and Mitterpacher, 1783) designated by Westwood (1838: 4). Etymology. From the Latin *abax* (counting-board), possibly alluding to the shape of the pronotum of the adults [masculine].

**Diversity.** Eighteen species in Europe, with one species extending into Turkey, arrayed in two subgenera: *Abax s.str.* (16 species) and *Abacopercus* Ganglbauer (two species). One species is adventive in eastern North America.

### Subgenus *Abax* Bonelli, 1810

*Abax* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus striola* Fabricius, 1792 (= *Carabus parallelepipedus* Piller and Mitterpacher, 1783) designated by Westwood (1838: 4).

*Bobsus* Fischer von Waldheim, 1829a: 20. Type species: *Carabus parallelepipedus* Piller and Mitterpacher, 1783 by monotypy.

**Diversity.** Sixteen species in Europe and Turkey, one of them adventive in the Nearctic Region.

**Identification.** The species in North America was covered in Lindroth’s (1969a: 1116) monograph.

### *Abax parallelepipedus* (Piller and Mitterpacher, 1783)

*Carabus parallelepipedus* Piller and Mitterpacher, 1783: 105. Type locality: Slavonia (inferred from title of the book). Syntype(s) probably lost (Lindroth 1969a: 1116).

*Carabus ater* Villers, 1789: 364 [primary homonym of *Carabus ater* Goeze, 1777]. Type locality: «Gallia Aust.» (original citation). Syntype(s) location unknown. Synonymy established by Csiki (1916: 15).

**Distribution.** This European species is adventive in North America where it is known from Sydney, Nova Scotia (Brown 1967: 87) and western Newfoundland (David W. Langor pers. comm. 1990). The first inventoried specimen collected on this continent was found in 1965 in Nova Scotia.

**Records. CAN:** NF, NS – **Adventive**



**Tribe ZABRINI Bonelli, 1810**

Zabrides Bonelli, 1810: Tabula Synoptica. Type genus: *Zabrus* Clairville, 1806.

**Diversity.** About 700 species arrayed in two subtribes: Zabrina (107 species of *Zabrus* in Europe and western Asia, the vast majority restricted to the Mediterranean region) and Amarina. More than 98% of the species inhabit the Northern Hemisphere.

**Subtribe AMARINA Zimmermann, 1832**

Amaroiden Zimmermann, 1832: 6. Type genus: *Amara* Bonelli, 1810.

Isopleuridae Kirby, 1837: 49. Type genus: *Isopleurus* Kirby, 1837 (= *Celia* Zimmermann, 1832).

Agronomaeidae Gistel, 1848b: [2]. Type genus: *Agronoma* Gistel, 1848 (= *Amara* Bonelli, 1810).

Pangeteidae Gistel, 1856: 358. Type genus: *Pangetes* Gistel, 1856 (= *Amara* Bonelli, 1810).

**Diversity.** About 595 species placed in one genus.

**Genus AMARA Bonelli, 1810**

*Amara* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus vulgaris* Linnaeus *sensu* Panzer, 1797 (= *Amara lunicollis* Schiødte, 1837) designated by Westwood (1838: 4). Etymology. Probably from the Greek *amara* (trench, by extension furrow, stria), alluding to the presence of laterobasal impressions on the pronotum (“*thorax latus, basi transverse impressus, utrinq. stria sesquialtera angulis rectis*”) of the adult rather than from the Greek prefix *a-* (privative) and *mairo* (to shine, by extension to be clear) alluding to the fact that the adults are dark colored as advocated by Zimmermann (1832: 30) or *a-* (with) and *mairo* (to shine) as advocated by Jacquelin du Val (1855: 31) [feminine].

**Diversity.** About 595 species (Hieke 2007) in the Nearctic (105 species, including ten adventive species), Neotropical (13 species in Middle America, only two of them endemic), Oriental (five species), Palaearctic (about 505 species, 16 of them Holarctic), and Afrotropical (about 12 species, nine of them endemic) Regions. These species are arrayed in 47 subgenera.

**Note.** Almost all new state and province records listed here are based on specimens determined by Fritz Hieke.

**Subgenus Curtonotus Stephens, 1827**

*Curtonotus* Stephens, 1827: 67. Type species: *Carabus convexiusculus* Marsham, 1802 designated by Westwood (1838: 4). Etymology (original, see page 138). From the Greek *cyrtos* (curved, by extension convex) and *notos* (back, upper surface), alluding to the convex body (“body ... very convex”) of the adult [masculine].

*Leirus* Dejean, 1828: 457. Type species: *Carabus aulicus* Panzer, 1796 designated by Jeannel (1942: 946). Synonymy established by Zimmermann (1832: 38). NOTE. This name has been credited to Zimmermann (1832: 38) by most authors and to Fischer von Waldheim (1829a: 16) by Bousquet (2002c: 176). However, Dejean (1828: 457) first described the taxon without citing any species with it. The species first associated with *Leirus* are those listed by Fischer von Waldheim (1829a: 16). The name *Leirus* was proposed by Johann Karl Megerle von Mühlfeld and first made available by Dahl (1823: 6) but his work has been suppressed by the Commission (ICZN 1964).

*Cyrtonotus* Agassiz, 1846: 108, 114. Unjustified emendation of *Curtonotus* Stephens, 1827.

*Lirus* Agassiz, 1846: 204, 213. Unjustified emendation of *Leirus* Dejean, 1828.

*Leirodema* Tschitschérine, 1894: 394. Type species: *Amara sifanica* Tschitschérine, 1894 designated by Hieke (1995a: 54). Synonymy established by Kryzhanovskij (1974: 177).

*Feronalius* Casey, 1918: 226. Type species: *Amara pterostichina* Hayward, 1908 by original designation. Synonymy established by Hieke (1993: 149).

*Paracurtonotus* Habu, 1942: 494. Type species: *Leirus giganteus* Motschulsky, 1844 by original designation. Synonymy established by Habu (1953: 39). Etymology. From the Greek *para* (beside, near) and the generic name *Curtonotus* [*q.v.*] [masculine].

*Paracyrtonotus* Baliani, 1943: 48. Type species: *Amara mixta* Baliani, 1943 by monotypy. Synonymy established by Hieke (1993: 102). Etymology. From the Greek *para* (beside, near) and the generic name *Cyrtonotus* [*q.v.*] [masculine].

**Diversity.** Eighty-five species (Hieke 2007) in the arctic, subarctic, boreal, and temperate regions of North America (15 species of which three extend into Mexico), Asia (about 60 species), and Europe (13 species, all but possibly one shared with Asia). Six species are Holarctic and one is adventive in eastern North America.

**Identification.** There is no modern taxonomic revision of the species and such study would be useful. Lindroth (1968, as *aulica* group) covered ten of the 15 species found in North America.

### *Amara alpina* (Paykull, 1790)

*Carabus alpinus* Paykull, 1790: 119. Type locality: «fummis alpihus Lapponicis & Dalecarlicis» (original citation), restricted to «Abisko, Torne L[ap]p[mar]k, Sweden» by Lindroth (1968: 673). Lectotype (♀), designated by Lindroth (1968: 675), in NRSS.

*Amara brunnipennis* Dejean, 1831: 800. Type locality: «Labrador» (original citation). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 16). Synonymy established by Lindroth (1968: 673).

*Leirus borealis* Chaudoir, 1843b: 775. Type locality not stated. Syntype(s) apparently lost (Lindroth 1968: 673). Synonymy established, under the name *A. brunnipennis* Dejean, by Chaudoir (1861c: 198).

- Leirus brevicornis* Ménétriés, 1851: 51. Type locality: «Boganida [River] [Taimyr Peninsula, Siberia, Russia]» (original citation). Syntype(s) probably in ZMMU (Lindroth 1968: 673). Synonymy established by Csiki (1929: 459).
- Amara obtusa* LeConte, 1855: 348. Type locality: «Russian America» (original citation). Syntype(s) in MCZ [# 5671]. Synonymy established, under the name *A. brunnipennis* Dejean, by Hayward (1908: 60), confirmed by Lindroth (1954b: 134).
- Curtonotus caligatus* Putzeys, 1866b: 252. Type locality: «Ile S[ain]t-Georges, Kamtschatka [Russia]» (original citation). Holotype [by monotypy] (♂) in MHNP (collection Chaudoir). Synonymy established by Sahlberg (1882: 188).
- Curtonotus cognatus* Putzeys, 1866b: 253. Type locality: «Norwége» (original citation). Holotype [by monotypy] in MHNP (collection Chaudoir). Synonymy established with doubt (as aberration) by Jacobson (1907: 362).
- Amara subsulcata* J.R. Sahlberg, 1880: 33. Type locality: «Dudinka, Yenisei R[iver] [Taimyr Autonomous Okrug, Russia]» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1968: 674), in NRSS. Synonymy established by Munster (1927: 303), confirmed by Lindroth (1968: 674). NOTE. The specimen designated as lectotype by Silfverberg (1987: 25) is invalid since there was a prior valid designation of a lectotype (see ICZN 1999: Article 74.1.1).
- Amara angustata* J.R. Sahlberg, 1885b: 51 [secondary homonym of *Amara angustata* (Say, 1823)]. Type locality: Port Clarence, Alaska (inferred from title of the paper). Holotype [by monotypy] (♀) in ZMH. Synonymy established by Lindroth (1968: 674).
- Amara pullula* Poppius, 1906a: 55. Type locality: «Bulkur (c:a 71° 45' n. Br.), unterste Lena [Siberia, Russia]» (original citation). Holotype [by monotypy] (♂) in ZMH (Silfverberg 1987: 23). Synonymy established by Lindroth (1968: 674).
- Amara birulai* Poppius, 1913: 82. Type locality: «Kasatschie, Jana-Mündung [Siberia, Russia]» (original citation). Syntype(s) [2 ♂ originally cited] location unknown. Synonymy established by Hieke (1999b: 156).
- Curtonotus rubripennis* Casey, 1918: 232. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47152]. Synonymy established, under the name *A. alpina brunnipennis* Dejean, by Lindroth (1954b: 134).
- Curtonotus deficiens* Casey, 1918: 232. Type locality: «summit of M[oun]t Washington [Coos County], New Hampshire» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47154]. Synonymy established, under the name *A. alpina brunnipennis* Dejean, by Lindroth (1954b: 134).
- Curtonotus argutus* Casey, 1918: 233. Type locality: «M[oun]t Washington [Coos County], New Hampshire» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47153]. Synonymy established, under the name *A. alpina brunnipennis* Dejean, by Lindroth (1954b: 134).
- Curtonotus inanis* Casey, 1918: 233. Type locality: «summit of M[oun]t Washington [Coos County], New Hampshire» (original citation). Holotype [by monotypy]

(♀) in USNM [# 47155]. Synonymy established, under the name *A. alpina brun-nipennis* Dejean, by Lindroth (1954b: 134).

*Curtonotus subtilis* Casey, 1924: 45. Type locality: «Stupart Bay [northern Quebec], possibly Labrador» (original citation). Holotype [by monotypy] (♂) in USNM [# 47151]. Synonymy established, under the name *A. alpina brunnipennis* Dejean, by Lindroth (1954b: 135). NOTE. Stupart Bay is a bay along the coast of the Hudson Strait in northern Quebec, near Maricourt (Wakeham).

*Amara alaskana* Csiki, 1929: 459. Replacement name for *Amara angustata* Sahlberg, 1885.

**Distribution.** This Holarctic species is found from Great Britain to the Pacific Coast of Siberia (Hieke 2003a: 558), and from the west coast of Alaska, including the Saint Lawrence Island, to northwestern Newfoundland, south to the James Bay area and to northern New Mexico along the Rocky Mountains [see Lindroth 1963b: Fig. 58]; isolated on the Shickshock Mountains in Gaspé Peninsula (Larochelle 1975: 42) and some mountains in New England (Lindroth 1966: 676). The record from “New York” (Notman 1928: 226) needs confirmation. According to Lindroth (1968: 676), this is the carabid occurring farthest north in North America. Fossil remnants of this species, dated between about 14,000 and 21,500 years B.P., have been unearthed in south-eastern and central Iowa (Baker et al. 1986: 96; Schwert 1992: 78) and north-central Illinois (Garry et al. 1990: 394); others from interglacial deposits have been found in northwestern Greenland (Bennike 2000: 31).

**Records.** CAN: AB, BC, LB, MB, NF, NT, NU, ON, QC, YT USA: AK, CO, ME, NH, NM, UT, VT, WY [NY] – **Holarctic**

### *Amara aulica* (Panzer, 1796)

*Carabus ruficornis* DeGeer, 1774: 95 [*nomen dubium*]. Type locality not stated. Syntype(s) lost.

*Carabus aulicus* Panzer, 1796b: no 3. Type locality: «Brunsvigiae [= Brunswick, Germany]» (original citation). Syntype(s) location unknown (possibly in ZMHB). Synonymy established with doubt by Schönherr (1806: 181).

**Distribution.** This European species is adventive in North America where it is known from Newfoundland (Larson and Langor 1982: 593) and Saint Pierre and Miquelon (Lindroth 1955a: 95) to the Saint Lawrence Valley in Quebec (Larochelle 1975: 42), south to Boston Harbor, Massachusetts (Davidson et al. 2011: 512). The first inventoried specimen collected on this continent was found in Cape Breton Island, Nova Scotia in 1929 (Fall 1934: 171). The record from the Similkameen Valley in British Columbia (Smith et al. 2004: 96) was based on a misidentified specimen of *A. carinata* LeConte (personal observation).

**Records.** FRA: PM CAN: NB, NF, NS (CBI), PE, QC USA: MA, ME, NH – **Adventive**

***Amara blanchardi* Hayward, 1908**

*Amara blanchardi* Hayward, 1908: 22. Type locality: «Provo [Utah County], Utah» (original citation). Holotype (♂) in MCZ [# 25666].

*Curtonotus sponsor* Casey, 1918: 228. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♂), designated by Hieke (1994: 303), in USNM [# 47141]. Synonymy established by Hieke (1994: 303).

*Curtonotus tartareus* Casey, 1918: 229. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 47143]. Synonymy established by Hieke (1994: 303).

**Distribution.** This western species occurs from southern Saskatchewan (MCZ) to south-central British Columbia (Lindroth 1968: 666), south to east-central California (Inyo County, CAS) and northwestern New Mexico (San Juan County, CNC).

**Records.** CAN: AB, BC, SK USA: AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY

***Amara bokori* Csiki, 1929**

*Amara sahlbergi* Poppius, 1906a: 54 [secondary homonym of *Amara sahlbergi* (Zetterstedt, 1838)]. Type locality: «Saostroff, fl. Jenissej [Taimyr Autonomous Okrug, Siberia, Russia]» (original citation). Lectotype (♂), designated by Lindroth (1968: 676), in ZMH. Etymology. The specific name was proposed for John Reinhold Sahlberg (see *Amara john-sahlbergi*).

*Amara bokori* Csiki, 1929: 461. Replacement name for *Amara sahlbergi* Poppius 1906.

**Distribution.** This species ranges from eastern Siberia to the Hudson Bay coast in northern Manitoba (Lindroth 1968: 677).

**Records.** CAN: MB, NT, NU, YT USA: AK – **Holarctic**

***Amara carinata* (LeConte, 1847)**

*Curtonotus carinatus* LeConte, 1847: 368. Type locality: «ad Rocky Mountains» (original citation), cited from «Nebraska Territory, near the Rocky Mountains» by LeConte (1855: 347), restricted to «Bent Co[unty], Color[ado]» by Lindroth (1968: 668). Syntype(s) in MCZ [# 5668].

*Curtonotus laticollis* LeConte, 1847: 368 [secondary homonym of *Amara laticollis* Stephens, 1828]. Type locality: «ad Rocky Mountains» (original citation), cited from «Nebraska Territory, near the Rocky Mountains» by LeConte (1855: 347). One syntype in MCZ [# 5667]. Synonymy established by Lindroth (1968: 668).

*Curtonotus adstrictus* Putzeys, 1866b: 238. Type locality: «États-Unis» (original citation). Lectotype (♂), designated by Lindroth (1968: 668), in MHNP. Synonymy established, under the name *A. laticollis* (LeConte), by Casey (1918: 227), confirmed by Lindroth (1968: 668).



*Curtonotus concretus* Casey, 1918: 228. Type locality: «California» (original citation). Holotype [by monotypy] (♀) in USNM [# 47138]. Synonymy established by Hieke (1994: 304).

*Curtonotus spadiceus* Casey, 1918: 229. Type locality: «Jemez Springs, Las Vegas and Fort Wingate, New Mexico» (original citation). Lectotype [as holotypus] (♂), designated by Hieke (1994: 305), in USNM [# 47144]. Synonymy established by Hieke (1994: 304).

*Curtonotus catenulatus* Casey, 1918: 230. Type locality: «Billings [Yellowstone County], Montana» (original citation). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [# 47145]. Synonymy established by Lindroth (1968: 668).

*Curtonotus gilvipes* Casey, 1924: 46. Type locality: «Rosebank, Man[itoba]» (lectotype label). Lectotype [as holotype] (♂), designated by Lindroth (1975: 130), in USNM [# 47147]. Synonymy established by Lindroth (1968: 668).

**Distribution.** This species ranges from the Gaspé Peninsula (Larochelle 1975: 43) to south-central British Columbia (Lindroth 1968: 669), south to the Sierra Nevada in California (Dajoz 2007: 16), central New Mexico (Bernalillo County, CMNH; Lindroth 1968: 668), the Texas Panhandle (Michels et al. 2010: 743), northwestern Arkansas (Carroll County, MCZ), and northeastern Ohio (Lake County, CMNH). The record from “West Virginia” (Bousquet and Larochelle 1993: 190) is in error; that from “Yukon Territory” (Ball and Currie 1997: 452) could not be confirmed.

**Records.** CAN: AB, BC, MB, ON, QC, SK USA: AR, AZ, CA, CO, IA, ID, IL, IN, KS, MA, MN, MO, MT, ND, NE, NH, NM, OH, OR, SD, TX, UT, VT, WI, WY [YT]

### *Amara daurica* (Motschulsky, 1844)

*Leirus dauricus* Motschulsky, 1844: 177. Type locality: «Kiachta [= Kyakhta], Baikal [Russia]» (lectotype label). Lectotype, designated by Hieke (1993: 77), in ZMMU. NOTE. Motschulsky (1844: 177) originally cited that he found this species “qu’au delà du Baïcal sur les bords bourbeux des fleuves Ouda et Selenga.”

*Curtonotus contractus* Putzeys, 1866b: 241. Type locality: «Sibér[ie]» (lectotype label). Lectotype (♂), designated by Hieke (1993: 77), in MHNP (collection Chaudoir). Synonymy established by Hieke (1993: 75).

*Amara monostigma* Jedlička, 1957a: 28. Type locality: «Nertschinsk, Sib. or. [Transbaikalien, Russia]» (original citation). Holotype (♂) in NMP. Synonymy established, under the name *A. contracta* (Putzeys), by Kryzhanovskij (1975: 92).

**Distribution.** This species is found in Kazakhstan, Mongolia, northern China, and across Siberia (Hieke 2003a: 559). In North America, it is known only from the Anderson River Delta area in northwestern Northwest Territories (Hieke 1994: 306).

**Records.** CAN: NT – Holarctic

**Note.** The North American specimens differ from the Siberian ones in structural details and, according to Hieke (1994: 307), it is possible that they constitute a distinct subspecies.

***Amara deparca* (Say, 1830)**

*Feronia deparca* Say, 1830b: (6) [3]. Type locality: «Mexico» (original citation), herein restricted to 10 miles west of El Salto, Durango (CNC). Syntype(s) lost.

*Curtonotus substriatus* Putzeys, 1866b: 242. Type locality: «Mexique» (original citation). Syntype(s) [4 originally cited] in MHNP (collection Chaudoir). Synonymy established by Bates (1882a: 76).

*Amara bowditchi* Hayward, 1908: 24. Type locality: «Phoenix [Maricopa County], Ariz[ona]» (original citation). Holotype (♂) in MCZ [# 25667]. Synonymy established by Hieke (1993: 144).

**Distribution.** This species ranges from Baja California Norte (CAS), southeastern California (Inyo and San Bernardino Counties, CAS, CMNH), and southern Nevada (Clark County, MCZ) east to northwestern Oklahoma (Texas County, CMNH), north to northern Colorado and “Utah” (Hayward 1908: 25, as *A. bowditchi*), south at least to the state of México (Bates 1882a: 76).

**Records.** USA: AZ, CA, CO, NM, NV, OK, TX, UT – Mexico

***Amara hyperborea* Dejean, 1831**

*Amara hyperborea* Dejean, 1831: 800. Type locality: «Labrador» (original citation), herein restricted to Hebron (CNC). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 16).

*Curtonotus elongatus* LeConte, 1850: 207. Type locality: Lake Superior (inferred from title of the paper), cited as «one male found floating in Lake Superior, near the northern shore» by LeConte (1855: 348). One syntype in MCZ [# 5672]. Synonymy established by Lindroth (1954b: 134).

*Lirus ovipennis* Motschulsky, 1859a: 156. Type locality: «Californie» (original citation), which is incorrect. Lectotype [as holotype] (♂), designated by Hieke (1993: 148), in ZMMU. Synonymy established by Hieke (1993: 148).

*Lirus longicollis* Motschulsky, 1860: 95. Type locality: «Kamtschatka» (original citation for the lectotype). Lectotype [as holotype], designated by Hieke (1990: 252), in ZMMU. Synonymy established by Putzeys (1865: 338), confirmed by Hieke (1975: 296).

*Amara peregrina* Morawitz, 1862: 258. Type locality: «Zagan-oluj [Chita region, eastern Siberia, Russia]» (lectotype label). Lectotype (♂), designated by Hieke (1990: 252), in ZILR. Synonymy established by Lindroth (1953a: 18), confirmed by Hieke (1990: 252).

*Curtonotus pedestris* Putzeys, 1866b: 254. Type locality: «Udskoe Ochotsk [Khabarovsk Kray, Siberia, Russia]» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Hieke (1990: 252).

*Curtonotus tristis* Putzeys, 1866b: 255. Type locality: «Owho-Bay, Canada boréal» (original citation). Holotype [by monotypy] (♂) in MHNP (collection Chaudoir). Synonymy established by Lindroth (1968: 678).

*Curtonotus canadensis* Putzeys, 1866b: 256. Type locality: «Canada boréal» (original citation). Holotype [by monotypy] (♀) in MHNP (collection Chaudoir). Synonymy established by Lindroth (1968: 678).

*Curtonotus dejeani* Putzeys, 1866b: 258. Type locality: «Kamtschatka [Russia]» (original citation). Holotype [by monotypy] (♂) in MHNP. Synonymy established, under the name *A. longicollis* (Motschulsky), by Tschitschérine (1894: 389), confirmed by Hieke (1975: 296).

*Harpalus simulans* J.R. Sahlberg, 1880: 44. Type locality: «insulam Tschornaja, ad flumen Jenissej [Russia]» (original citation). Syntype(s) [3 originally cited] in NRSS (Lindroth 1955a: 99). Synonymy established with doubt, under the name *A. peregrina* Morawitz, by Hellén (1930: 6), confirmed by Lindroth (1954b: 134).

*Curtonotus imperfectus* Brown, 1930: 232. Type locality: «Bradore Bay, Que[bec]» (original citation). Holotype (♀) in CNC [# 3163]. Synonymy established by Lindroth (1954b: 134).

**Distribution.** This Holarctic species ranges from northern Finland to the Pacific Coast, south to Mongolia and northeastern China (Hieke 2003a: 560) and from Alaska (Lindroth 1968: 679) to Newfoundland (Lindroth 1955a: 99), south to the upper peninsula of Michigan (Lindroth 1968: 678). The record from the White Mountains in New Hampshire (Wickham 1896b: 37) needs confirmation; those from “Vermont” (Hamilton 1894a: 10) and Colorado (Snow 1877: 17; Wickham 1902: 236; Armin 1963: 208, as *A. elongatus*) are probably in error.

**Records.** CAN: AB, BC, LB, MB, NF, NT, ON, QC, SK, YT USA: AK, MI [NH] – Holarctic

### *Amara jacobina* LeConte, 1855

*Amara jacobina* LeConte, 1855: 346. Type locality: «San Diego [San Diego County], California» (original citation). Holotype [by monotypy; designated lectotype by Hieke (1990: 285)] (♂) in MCZ [# 5665].

*Amara stupida* LeConte, 1855: 347. Type locality: «Sacramento [Sacramento County], California» (original citation). Holotype [by monotypy; designated lectotype by Hieke (1990: 286)] (♀) in MCZ [# 5666]. Synonymy established by Hieke (1990: 283).

**Distribution.** The range of this species extends from “Washington” (Hayward 1908: 23) to the Baja California Peninsula (Horn 1894: 309) and Arizona (Griffith 1900: 565; Hayward 1908: 23). The records from north-central Utah (Horn 1894: 309), “Colorado” (Wickham 1902: 236), and New Mexico (Fall and Cockerell 1907: 159) need confirmation.

**Records.** USA: AZ, CA, OR, WA [CO, NM, UT] – Mexico

### *Amara kurnakowi* Hieke, 1994

*Amara kurnakowi* Hieke, 1994: 310. Type locality: «r[iver] Omsuktschan, bas[in] Koly-my [Siberia, Russia]» (original citation). Holotype (♂) in ZMHB (Hieke 2007).

*Amara kurnakovi* Budarin and Kryzhanovskij [in Budarin], 1995: 27. Type locality: «Magadan area: Omsukchan River (Kolyma River basin) [Siberia, Russia]» (original citation). Holotype (♂) in ZILR. Synonymy established by Hieke (1997: 225).

**Distribution.** This Holarctic species is known from northeastern Siberia and the Anderson River Delta in northwestern Northwest Territories (Hieke 1994: 311).

**Records.** CAN: NT – **Holarctic**

### *Amara lacustris* LeConte, 1855

*Amara lacustris* LeConte, 1855: 346. Type locality: «north shore of Lake Superior [Ontario]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5669].

*Curtonotus manitobensis* Casey, 1924: 46. Type locality: «Rosebank, Man[itoba]» (lectotype label). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47142]. Synonymy established by Lindroth (1954b: 135).

**Distribution.** This species occurs from Nova Scotia (Larochelle and Larivière 1990a: 30, 34) to southwestern British Columbia, north to the coast of Nunavut and northern Alaska (Lindroth 1968: 671), south to northwestern Washington (Hatch 1953: 121), south-central Utah (Wayne County, CNC), southwestern Colorado (La Plata County, CNC), the Black Hills in southwestern South Dakota (Kirk and Balsbaugh 1975: 25), and “Michigan” (Garry A. Dunn pers. comm. 1986). The record from “Nebraska” (Bousquet and Larochelle 1993: 191) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NS, NT, NU, ON, SK, YT USA: AK, CO, ID, MI, MN, MT, ND, SD, UT, WA, WI, WY [NE]

### *Amara pennsylvanica* Hayward, 1908

*Curtonotus fulvipes* Putzeys, 1866b: 235 [secondary homonym of *Amara fulvipes* (Audinet-Serville, 1821)]. Type locality: «Missouri» (original citation). Holotype [by monotypy] (♂) in MHNP (collection Chaudoir).

*Amara pennsylvanica* Hayward, 1908: 34. Replacement name for *Amara fulvipes* (Putzeys, 1866). NOTE. Because Hayward’s name was expressly proposed as a replacement name, the syntypes of *Amara pennsylvanica* in MCZ [# 25668] have no status (see ICZN 1999: Article 72.7).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1968: 678) to “Wyoming” (Hayward 1908: 34), south to northeastern Colorado (Sedgwick County, Ken Karns pers. comm. 2009), northeastern Texas (Dallas County, MCZ), southwestern Alabama (Mobile County, USNM), and northwestern South Carolina (Ciegler 2000: 75). An old specimen simply labeled from “New Mexico” (MCZ) is known. The record from western Montana (Hatch 1933a: 8) needs confirmation.

**Records.** CAN: NS, ON, QC USA: AL, AR, CO, CT, DC, DE, GA, IA, IL, IN, KS, KY, MA, MD, MI, MN, MO, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, WI, WV, WY [MT, NM]

***Amara pterostichina* Hayward, 1908**

*Curtonotus putzeysi* Bates, 1878a: 600 [secondary homonym of *Amara putzeysi* Fairmaire, 1867 and *Amara putzeysi* Horn, 1875]. Type locality: «near the capital, Mexico» (original citation). Lectotype (♂), designated by Hieke (1993: 150), in BMNH. Etymology. The specific name was given in honor of the Belgian Jules Antoine Adolphe Henri Putzeys [1809-1882] who, despite his judicial and administrative duties, published extensively on botany and entomology, particularly Odonata and Carabidae.

*Amara pterostichina* Hayward, 1908: 20. Type locality: «Coolidge [McKinley County], N[ew] M[exico]» (lectotype label). Lectotype (♂), designated by Hieke (1993: 149), in MCZ [# 25664]. Synonymy established by Hieke (1993: 149).

*Amara batesiana* Csiki, 1929: 466. Replacement name for *Amara putzeysi* Bates, 1878.

**Distribution.** This species ranges from southern Arizona (Cochise County, CNC) to western Texas (Dajoz 2007: 23; Brewster and Jeff Davis Counties, CNC, MCZ), south to the Federal District and central Veracruz in Mexico (Bates 1882a: 76).

**Records. USA:** AZ, NM, TX – Mexico

***Amara thoracica* Hayward, 1908**

*Amara thoracica* Hayward, 1908: 21. Type locality: «Colorado Springs [El Paso County], Colorado» (original citation). Holotype (♂) in MCZ [# 25665].

**Distribution.** The range of this species extends from southern Saskatchewan (CNC) to the Okanagan Valley in south-central British Columbia (Lindroth 1968: 668), south to northern Arizona (Coconino County, CMNH) and central New Mexico (Torrance County, CMNH; Milford et al. 2000: 21).

**Records. CAN:** AB, BC, SK **USA:** AZ, CO, MT, NM, NV, WY

***Amara torrida* (Panzer, 1796)**

*Carabus torridus* Panzer, 1796b: no 2. Type locality: Germany (inferred from title of the book), which according to Lindroth (1968: 671) is incorrect; «Jokkmokk, Swed[en] Lapl[and]» selected by Lindroth (1968: 671). Syntype(s) location unknown (possibly in ZMHB).

*Amara melanogastrica* Dejean, 1828: 519. Type locality: «île d'Ounalaschka, l'une des îles Aleutiennes [Alaska]» (original citation). Two syntypes in MHNP (Lindroth 1955b: 16). Synonymy established by Hatch (1953: 121), confirmed by Lindroth (1955b: 16).

*Leirus eschscholtzii* Chaudoir, 1837b: 36. Type locality: «Kamtchatka [Russia]» (original citation). Lectotype (♂), designated by Lindroth (1968: 671), in MHNP. Synonymy established by Lindroth (1968: 671).

*Curtonotus rufimanus* Kirby, 1837: 35. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lin-



- droth (1968: 671). One syntype in BMNH (Lindroth 1953b: 172). Synonymy established by Lindroth (1953b: 172).
- Curtonotus brevilabris* Kirby, 1837: 35. Type locality: «Lat. 65° [= apparently region of Great Bear Lake, Northwest Territories]» (original citation). Holotype [by monotypy] (♂) in BMNH (Lindroth 1953b: 172). Synonymy established, under the name *A. rufimana* (Kirby), by Horn (1876e: 129), confirmed by Lindroth (1953b: 172).
- Leirus rufimanus* Motschulsky, 1844: 176 [secondary homonym of *Amara rufimana* (Kirby, 1837)]. Type locality: «Kamtchatka [Russia]» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1968: 671), in MHNP (collection Chaudoir). Synonymy established by Lindroth (1968: 671).
- Leirus picipes* Motschulsky, 1844: 176. Type locality: «sur les bords de l'Irtych à Omsk [Siberia, Russia]» (original citation). Three syntypes in ZMMU (Hieke 1995b: 324). Synonymy established by Hieke (1995b: 324).
- Amara infausta* LeConte, 1855: 347. Replacement name for *Amara rufimana* (Motschulsky, 1844).
- Lirus californicus* Motschulsky, 1859a: 155 [*nomen dubium*]. Type locality: California (inferred from title of the paper and specific epithet), which is incorrect, and «ile Kadiak [Alaska]» (original citation). Lectotype (♂), designated by Hieke (1993: 147), in ZILR. Synonymy established by Hieke (1993: 146).
- Curtonotus reflexus* Putzeys, 1866b: 241. Type locality: «Terre- Neuve (S[ain]t-Pierre-Miquelon)» (original citation). Lectotype (♀), designated by Lindroth (1968: 671), in IRSN. Synonymy established, under the name *A. rufimana* (Kirby), by Hayward (1908: 60), confirmed by Lindroth (1954b: 134).
- Curtonotus somnolentus* Putzeys, 1866b: 243. Type locality: «Ounalaschka [Aleutian Islands, Alaska]» (original citation). Syntype(s) [2 originally cited] probably in MHNP (collection Chaudoir) and IRSN. Synonymy established by Lindroth (1968: 671).
- Curtonotus holmbergi* Putzeys, 1866b: 250. Type locality: «Amérique Russe» (original citation). Holotype [by monotypy] (♂) in MHNP (collection Chaudoir). Synonymy established by Lindroth (1968: 671).
- Curtonotus striolatus* Putzeys, 1866b: 251. Replacement name for *Curtonotus rufimanus* (Motschulsky, 1844).
- Amara cylindrica* LeConte, 1878a: 450. Type locality: «South Park (8,000 to 10,000 feet), Colorado; Slave Lake; Lake Winnipeg [Manitoba]» (original citation). Syntype(s) in MCZ [# 5670]. Synonymy established by Lindroth (1953b: 172).
- Amara ruficornis* J.R. Sahlberg, 1880: 32 [secondary homonym of *Amara ruficornis* (DeGeer, 1774)]. Type locality: «Turuchansk [= Turukhansk, Krasnoyarsk Kray, Siberia, Russia]» (original citation). Holotype [by monotypy] (♂) in NRSS. Synonymy established by Lindroth (1968: 672).
- Amara hudsonica* Hayward, 1908: 29. Type locality: «Ungava Bay, Hudson Bay Territory» (original citation). Syntype(s) [3 originally cited] in USNM (Lindroth 1968: 672). Synonymy established by Lindroth (1968: 672).

- Curtonotus labradorensis* Casey, 1918: 231. Type locality: «W[est] S[ain]t Modest[e], Labrador» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47148]. Synonymy established by Lindroth (1954b: 134).
- Curtonotus scrutatus* Casey, 1918: 231. Type locality: «W[est] S[ain]t Modest[e], Labrador» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47150]. Synonymy established by Lindroth (1954b: 134).
- Curtonotus albertanus* Casey, 1924: 45. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47146]. Synonymy established by Lindroth (1954b: 134).
- Curtonotus brevipennis* Casey, 1924: 46. Type locality: «Western Hudson Bay region» (original citation). Holotype [by monotypy] (♀) in USNM [# 47149]. Synonymy established by Lindroth (1954b: 135).
- Curtonotus durus* Casey, 1924: 47. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47139]. Synonymy established by Lindroth (1954b: 135).
- Curtonotus biarcuatus* Casey, 1924: 47. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47140]. Synonymy established by Lindroth (1954b: 135).
- Amara consueta* Fall, 1926a: 135. Type locality: «Skagway, Alaska» (original citation). Holotype (♂) in MCZ [# 23874]. Synonymy established by Lindroth (1968: 672).
- Amara john-sahlbergi* Csiki, 1929: 464. Replacement name for *Amara ruficornis* Sahlberg, 1880. Etymology. The specific name was proposed in honor of the Finnish John Reinhold Sahlberg [1845-1920], professor of entomology at the University of Helsinki and one of the leading European entomologist of his time. Sahlberg collected extensively in Scandinavia but also made several expeditions to other parts of Europe, northern Africa, the Middle East, and Siberia. He worked primarily on Hemiptera and Coleoptera. Both his father, Reinhold Ferdinand Sahlberg [1811-1874], and grandfather, Carl Reinhold Sahlberg [1779-1860], were also naturalists and involved in entomology.
- Amara tenuestriata* Baliani, 1943: 47. Type locality: «Ochtsk, Siberia sett. or. [Russia]» (original citation). Holotype (♂) in MSNG (collection Baliani). Synonymy established by Hieke (1999b: 188).
- Amara pulla* Jedlička, 1957a: 30. Type locality: «Tripoli, Baikal [Russia]» (original citation). Holotype (♂) in NMP. Synonymy established by Hieke (1995b: 324). NOTE. According to Hieke (1995b: 324), the type locality is incorrect and possibly refers to the village Tibelti, about 20 km west of Kultuk in Irkutsk Oblast, Russia.
- Amara turanica* Jedlička, 1957a: 30. Type locality: «Turan, Baikal [Buryatia, Russia]» (original citation). Holotype in NMP. Synonymy established by Hieke (1993: 101).
- Amara nairica* Iablokoff-Khnzorian, 1964: 283. Type locality: «Gegamgebirgskette, südöstlich vom Sevansee (etwa 3000 m) [Armenia]» (original citation). Holotype (♂) location unknown. Synonymy established by Iablokoff-Khnzorian (1975: 26) (see Hieke 1975: 320).

**Distribution.** This circumpolar species is found from northern Finland to the Far East (Hieke 2003a: 561) and from the west coast of Alaska (Lindroth 1968: 673) to Newfoundland (Lindroth 1955a: 96-97), south to Nova Scotia (Lindroth 1968: 673), the Magdalen Islands, Gaspé Peninsula (Larochelle 1975: 48), southern Minnesota (Gandhi et al. 2005: 929), northern Colorado (LeConte, 1878a: 450, as *A. cylindrica*; Hayward 1908: 28, as *A. rufimana*; Armin 1963: 209, as *A. melanogastrica*) along the Rocky Mountains, and southeastern British Columbia (Lindroth 1968: 673); isolated on Mount Washington in New Hampshire (CNC). The records from Prince Edward Island (Bousquet and Larochelle 1993: 192, see Majka et al. 2008: 131), “Wisconsin” (Wickham 1896b: 36, as *A. rufimana*), northwestern Iowa (Wickham 1911b: 6, as *A. rufimana*), and “South Dakota” (Hayward 1908: 28, as *A. rufimana*) are probably in error; those from “New Mexico” (Hamilton 1894a: 10, as *A. eschscholtzii*) and Seboomook in Maine (Dearborn and Donahue 1993: 6) need confirmation. Fossil remnants of this species, dated between about 16,700 and 18,100 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96).

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS, NT, ON, QC, SK, YT **USA:** AK, CO, MN, MT, NH, WY [ME, NM] – **Holarctic**

### Subgenus *Bradytus* Stephens, 1827

*Bradytus* Stephens, 1827: 67. Type species: *Carabus ferrugineus* Linnaeus *sensu* Stephens, 1828 (= *Carabus fulvus* Müller, 1776) designated by Westwood (1838: 4). Etymology (original, see page 136). From the Greek *bradytes* (slowness), probably alluding to the slow pace of the adults in nature [masculine].

*Linconus* Fischer von Waldheim, 1829a: 16. Type species: *Carabus apricarius* Paykull, 1790 designated by Bousquet (2002c: 176). Synonymy established by Bousquet (2002c: 176).

*Omius* Fischer von Waldheim, 1829a: 16. Type species: *Carabus consularis* Duftschmid, 1812 designated by Bousquet (2002c: 177). Synonymy established by Bousquet (2002c: 177).

*Pseudobradytus* Csiki, 1908: 353. Type species: *Amara crenata* Dejean, 1828 by monotypy. Synonymy established by Jeannel (1942: 939). Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Bradytus* [*q.v.*] [masculine].

**Diversity.** Thirty-five species (Hieke 2007) in the arctic, subarctic, boreal, and temperate regions of North America (12 species, of which two are adventive), Asia (26 species), and Europe (seven species, all shared with Asia). One species (*A. glacialis*) is Holarctic.

**Identification.** There is no modern taxonomic revision of the species. Lindroth (1968, as *apricaria* and *insignis* groups) covered all but two (*A. neomexicana* and *A. lindrothi*) of the North American species.

## [fulva group]

*Amara apricaria* (Paykull, 1790)

*Carabus apricarius* Paykull, 1790: 125. Type locality: «Dalecarlia [= Dalarna, Sweden]» (original citation). Lectotype (♂), designated by Lindroth (1968: 683), in NRSS.

*Amara pygmea* Couper, 1865: 60. Type locality: «Quebec» (original citation). Lectotype (♂), designated by Lindroth (1971: 111), in ORUM. Synonymy established by Lindroth (1971: 111).

*Amara putzeysii* G.H. Horn, 1875: 129 [primary homonym of *Amara putzeysii* Fairmaire, 1867]. Type locality: «S[ain]t Pierre [and] Miquelon» (original citation). Holotype [by monotypy] (♀) in MCZ [# 666]. Synonymy established with doubt by Horn (in Hamilton 1889b: 95), confirmed by Lindroth (1954b: 135). NOTE. Horn (1875: 129) noted that the sole specimen he had was a male.

*Amara putzeysiana* Csiki, 1929: 457. Replacement name for *Amara putzeysii* Horn, 1875.

**Distribution.** This Palaearctic species is adventive in North America where it is known from Newfoundland (Lindroth 1955a: 100-101) and southern Labrador (Lindroth 1954d: 368) to the Kenai Peninsula in Alaska (Derek S. Sikes pers. comm. 2008), south to northern California (Trinity and Lassen Counties, CAS), west-central Nevada (Bechtel et al. 1983: 474), southern Colorado (Huerfano and Pueblo Counties, CMNH), Kansas (Trego County, CNC), and Virginia (Hoffman et al. 2006: 23; Clarke County, USNM). The first inventoried specimen collected on this continent was found in Quebec prior to 1865 (Couper 1865: 60, as *A. pygmea*). Several records (e.g., AL, AR, GA, NT, SC, YT) listed in Bousquet and Larochelle (1993: 192) are in error or need confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK **USA:** AK, CA, CO, CT, DC, DE, IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MT, ND, NE, NH, NJ, NV, NY, OH, OR, PA, RI, SD, UT, VA, VT, WA, WI, WY – **Adventive**

*Amara avida* (Say, 1823)

*Zabrus avidus* Say, 1823b: 148. Type locality: «N[orth] Fork S[outh] Platte Can[y]on (7-8000 ft.), Col[orado]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33033].

*Amara confinis* Dejean, 1828: 510. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 16). Synonymy established by LeConte (1847: 367), confirmed by Lindroth (1955b: 16).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 100) to southeastern British Columbia (Lindroth 1968: 690), south to southern Colorado (Wickham 1902: 236; Armin 1963: 200), southeastern Kansas (Knaus 1907: 233), Missouri (Summers 1873: 145), and southwestern North Carolina (Macon County, MCZ). The record from southeastern Louisiana (Summers 1874a: 80) is likely in error.



**Records. FRA:** PM **CAN:** AB, BC, MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** CO, CT, DC, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NY, OH, PA, RI, SD, VA, VT, WI

***Amara browni* Lindroth, 1968**

*Amara browni* Lindroth, 1968: 686. Type locality: «Reindeer Depot, N[orth] W[est] Terr[itories]» (original citation). Holotype (♂) in CNC [# 10509]. Etymology. The specific name was proposed for Williamson James Brown [1902-1977], one of Canada's leading coleopterist of his time. Brown worked at Agriculture Canada on the systematics of several families with a special interest on scarabaeids, elaterids, and chrysomelids. He was also interested by the adventive species in Canada, the problem of sibling species, and the arctic beetles.

**Distribution.** This species is known from a few localities in Yukon Territory and the Anderson River delta in northern Northwest Territories (Lindroth 1968: 687).

**Records. CAN:** NT, YT

***Amara exarata* Dejean, 1828**

*Amara exarata* Dejean, 1828: 509. Type locality: «Amérique septentrionale» (original citation), restricted to «Norfolk [Norfolk County], Mass[achusetts]» by Lindroth (1968: 680). One syntype in MHNP (Lindroth 1955b: 16).

*Amara furtiva* Say, 1830b: (7) [3]. Type locality: «Wabash Vall[ey], Richland & Lawrence Co[unties], Ill[inois]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 344), in MCZ [# 33032]. Synonymy established by Horn (1875: 128). NOTE. «Indiana» was the area originally cited by Say (1830b: (7) [3]).

*Bradytus gravidus* Casey, 1918: 236. Type locality: «Douglas Co[unty], Kansas» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47156]. Synonymy established by Lindroth (1968: 680).

*Bradytus curtus* Casey, 1918: 236. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47158]. Synonymy established by Lindroth (1968: 680).

*Bradytus stygialis* Casey, 1918: 237. Type locality: «Pennsylvania» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47157]. Synonymy established by Lindroth (1968: 680).

**Distribution.** The range of this species extends from southern New Hampshire (Sullivan County, MCZ) to eastern South Dakota (Kirk and Balsbaugh 1975: 26; French et al. 2004: 557), south to northeastern Texas (Dallas County, MCZ), northeastern Georgia (Fattig 1949: 28; Clayton County, USNM), and northwestern South Carolina (Ciegler 2000: 74). The record from «Florida» (Bousquet and Larochelle 1993: 192) is probably in error.

**Records. CAN:** ON **USA:** AL, CT, DC, GA, IA, IL, IN, KS, MA, MD, MI, MN, MO, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, WI, WV



***Amara fulva* (Müller, 1776)**

*Carabus fulvus* O.F. Müller, 1776: 77. Type locality: Denmark and Norway (inferred from title of the book); «Denmark» selected by Lindroth (1968: 680). Syntype(s) lost (Lindroth 1968: 680).

*Carabus concolor* Olivier, 1795: [35] 80 [primary homonym of *Carabus concolor* Gmelin, 1790 and *Carabus concolor* Fabricius, 1792]. Type locality: «environs de Paris» (original citation). Syntype(s) location unknown (possibly in MHNP). Synonymy established by Illiger (1801: 53).

**Distribution.** This European species is adventive in North America where it is known only in eastern Canada from Newfoundland (Lindroth 1955a: 101) to the Gaspé Peninsula (Larochelle 1975: 44) and the north shore of the Saint Lawrence in Quebec (Brown 1932b: 200), including southern Labrador (Lindroth 1955a: 101). The first inventoried specimen collected on this continent was found in Newfoundland in 1905 (Lindroth 1955a: 101).

**Records.** CAN: LB, NB, NF, NS (CBI), PE, QC – **Adventive**

***Amara glacialis* (Mannerheim, 1853)**

*Bradytus glacialis* Mannerheim, 1853: 135. Type locality: «ad fl[umen] Tchuniten peninsulae Kenai [Alaska]» (original citation). Holotype [by monotypy] location unknown (possibly in ZILR). NOTE. Mannerheim (1853: 135) stated that he had a single specimen of this species from “fl. Tchuniten” but also mentioned that he received from Motschulsky specimens of this species collected “ad litora continentis Americes borealis” which he referred to his “Var. b.” Since specimens referred to distinct variants are excluded from the type series (ICZN 1999: Article 72.4.1), the description of this species is based exclusively on a single specimen which is the holotype by monotypy. The sentence “Occurrit etiam in peninsula Kamschatka” added by Mannerheim after the statement that his specimens of “Var. b” were sent to him by Motschulsky clearly refers to the variety. The specimen labeled as “Type 8326” in MCZ is not the holotype.

*Amara trybomi* J.R. Sahlberg, 1880: 34. Type locality: «Tolstoinos [=Tolstyy Nos, Taymyr Autonomous Okrug, Russia]» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1968: 684), in NRSS. Synonymy established by Poppius (1906a: 49), confirmed by Lindroth (1968: 684). Etymology. The specific name was proposed in honor of the Swedish zoologist Filip Trybom [1850-1913], who was interested initially in entomology and participated in a number of expeditions to northern Russia. He eventually became a fishery research commissioner.

*Bradytus nainensis* Casey, 1918: 238. Type locality: «Nain, Labrador» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47159]. Synonymy established by Lindroth (1954b: 135).

**Distribution.** This species is found from the Yenisei River in western Siberia to the coast of Labrador [see Alfimov and Berman 2009: Fig. 1].

**Records.** CAN: BC, LB, MB, NT, NU, ON, QC, SK, YT USA: AK – **Holarctic**

***Amara latior* (Kirby, 1837)**

*Curtonotus latior* Kirby, 1837: 36. Type locality: northern parts of British America (inferred from title of the book), restricted to «Swift Current, Sask[at]chewan» by Lindroth (1968: 682). Holotype [by monotypy] (♀) in BMNH (Lindroth 1953b: 172).

*Amara oregona* LeConte, 1855: 349. Type locality: «Fort Vancouver, Oregon [Territory]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 7388]. Synonymy established by Horn (1875: 128), confirmed by Lindroth (1968: 682). NOTE. Fort Vancouver was a massive British outpost on the north bank of the Columbia River, slightly upstream from the mouth of the Willamette River, in Washington.

*Amara libera* LeConte, 1855: 349. Type locality: «Lake Superior, Illinois, Wisconsin, Nebraska» (original citation). Syntype(s) in MCZ [# 7387]. Synonymy established with doubt by LeConte (1859c: 33), confirmed by Lindroth (1968: 682).

*Bradytus laevistriatus* Putzeys, 1866b: 262. Type locality: «Etats-Unis» (original citation). Lectotype (♂), designated by Lindroth (1968: 682), in IRSN. Synonymy established by LeConte (1873b: 323), confirmed by Lindroth (1968: 682).

*Bradytus humphreysi* Casey, 1918: 240. Type locality: «Humphreys Peak [Coconino County], Arizona» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47160]. Synonymy established by Lindroth (1968: 682).

*Bradytus deceptus* Casey, 1918: 241. Type locality: «New Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47161]. Synonymy established by Lindroth (1968: 682).

*Bradytus relictus* Casey, 1918: 242. Type locality: «Denver [Denver County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47164]. Synonymy established by Lindroth (1968: 682).

**Distribution.** The range of this species extends from western Newfoundland (Lindroth 1955a: 102) to Vancouver Island (Lindroth 1968: 682), south to northwestern California (Humboldt County, USNM; Hayward 1908: 44), Arizona (Casey, 1918: 240, as *Bradytus humphreysi*; Chen et al. 2006: 171; Coconino County, USNM), New Mexico (Fall and Cockerell 1907: 158; Casey, 1918: 241, as *Bradytus deceptus*; Taos County, CMNH), «Texas» (Lindroth 1955a: 102), and northern Virginia (Page County, USNM).

**Records.** CAN: AB, BC (VCI), MB, NB, NF, NS, ON, PE, QC, SK USA: AR, AZ, CA, CO, CT, DC, IA, ID, IL, IN, KS, KY, MA, ME, MI, MN, MT, ND, NE, NH, NJ, NM, NY, OH, OR, PA, SD, TX, UT, VA, VT, WA, WI, WY

***Amara lindrothi* Hieke, 1990**

*Amara lindrothi* Hieke, 1990: 234. Type locality: «Kluane [= Silver City], Y[ukon] T[erritory]» (original citation). Holotype (♂) in CNC [# 23036].

**Distribution.** This species is known from a few localities in Labrador (CNC), northern Manitoba (CNC), northeastern Alberta (Andrew Lake, UASM), and Yukon Ter-

ritory as far north as Swim Lakes (CNC), south to east-central Nevada (White Pine County, CMNH) and northern New Mexico (Hieke 1990: 234).

**Records.** CAN: AB, LB, MB, YT USA: CO, NM, NV, UT, WY

### *Amara neomexicana* (Casey, 1924)

*Bradytus neomexicanus* Casey, 1924: 48. Type locality: «Maxwell [Colfax County], New Mexico» (original citation). Holotype [by monotypy] (♂) in USNM [# 47167].

*Bradytus novellus* Stehr, 1949: 207. Type locality: «F[or]t Davis [Jeff Davis County], Davis M[oun]t[ain]s, Texas» (original citation). Holotype (♂) in MSUE. Synonymy established by Hieke (1997: 240).

*Bradytus vegasensis* Stehr, 1949: 207. Type locality: «6 mi[les] N[orth] E[ast] of Las Vegas [San Miguel County], New Mexico» (original citation). Holotype (♂) in MSUE. Synonymy established, under the name *A. novella* (Stehr), by Hieke (1994: 326).

**Distribution.** This species is known from Arizona (Coconino National Forest, CNC), northern New Mexico (Casey 1924: 48; Stehr 1949: 207, as *Bradytus vegasensis*), and western Texas (Stehr 1949: 207, as *Bradytus novellus*).

**Records.** USA: AZ, NM, TX

### *Amara schwarzi* Hayward, 1908

*Isopleurus septentrionalis* LeConte, 1847: 358 [secondary homonym of *Amara septentrionalis* Curtis, 1840]. Type locality: «Lacum Superiorem» (original citation), herein restricted to Marquette, Marquette County, Michigan (USNM). Syntype(s) in MCZ [# 7386].

*Amara schwarzi* Hayward, 1908: 42. Replacement name for *Amara septentrionalis* (LeConte, 1847). NOTE. Because Hayward's name was expressly proposed as a replacement name, the syntype of *Amara schwarzi* Hayward in MCZ [# 25669] has no status (see ICZN 1999: Article 72.7).

**Distribution.** This species inhabits the Laurentian Highlands from the north shore of the Saint Lawrence Gulf (Larochelle 1975: 48) to the Great Slave Lake in the Northwest Territories (Lindroth 1968: 684), south to central Washington (Kittitas County, CMNH), southwestern Alberta (Indian Creek at 49°48'N - 114°07'W, CNC), northeastern Minnesota, and the upper peninsula of Michigan (Lindroth 1968: 684). The record from South Dakota (Kirk and Balsbaugh 1975: 26) was based on a small specimen of *A. latior* in MCZ; those from Labrador (Larochelle 1975: 48) and Yukon Territory (Lindroth 1968: 684), and probably also from Colorado (Wickham 1902: 237), refer to *A. lindrothi* (CNC). The records from Ohio (Everly 1927: 155), New Jersey (Smith 1910: 206), and "New York" (Leng and Beutenmüller 1893: 139; Wickham 1896b: 38) are likely in error; that from northern Wisconsin along Lake Superior (Wickham 1896c: 133, as *A. septentrionalis*) needs confirmation.

**Records.** CAN: AB, MB, NT, ON, QC USA: MI, MN, WA [WI]

**[insignis group]*****Amara insignis* Dejean, 1831**

*Amara insignis* Dejean, 1831: 796. Type locality: «Californie» (original citation), herein restricted to San Diego, San Diego County (see Casey 1918: 295, as *A. tarsalis*). Two syntypes in MHNP (Lindroth 1955b: 17).

*Celia coerulea* Motschulsky, 1859a: 153. Type locality: «St. Francisco [San Francisco County, California]» (original citation). Lectotype (♂), designated by Bousquet (1997b: 335), in ZMMU. Synonymy established by Hayward (1908: 61), confirmed by Bousquet (1997b: 335).

*Amara tarsalis* Casey, 1918: 295. Type locality: «San Diego [San Diego County], California» (original citation). Seven syntypes in USNM [# 47276]. Synonymy established implicitly by Lindroth (1968: 692).

*Amara guadalupensis* Casey, 1918: 295. Type locality: «Island of Guadalupe, [Baja] California» (original citation). One syntype in USNM [# 47277]. Synonymy established implicitly by Lindroth (1968: 692).

**Distribution.** This species is found along the Pacific Coast from central California (Lindroth 1968: 692) south to Guadalupe Island off the coast of Baja California (Casey 1918: 295, as *A. guadalupensis*). The record from “Oregon [Territory]” (LeConte 1857c: 9) is probably in error.

**Records. USA:** CA (CHI) – Mexico

***Amara insularis* Horn, 1875**

*Amara insularis* G.H. Horn, 1875: 128. Type locality: «island of San Clemente [Los Angeles County] on the coast of California» (original citation). Two syntypes [2 originally cited] in MCZ [# 668] (collection LeConte).

**Distribution.** This species is known from “all the islands” (Fall 1901a: 45) off the coast of southern California.

**Records. USA:** CA (CHI)

**Subgenus *Neopercosia* Hieke, 1978**

*Neopercosia* Hieke, 1978: 289. Type species: *Amara fortis* LeConte, 1880 by original designation. Etymology. From the Greek prefix *neo-* (new) and the generic name *Percosia* [feminine].

**Diversity.** One species in southern North America.

**Identification.** The species was redescribed in Hieke’s (1978: 290-292) revision of the subgenus *Percosia*.

***Amara fortis* LeConte, 1880**

*Amara fortis* LeConte, 1880b: 164. Type locality: «Texas» (original citation), restricted to «Waco [McLennan County]» by Horn (1892b: 27). Syntype(s) in MCZ [# 5685].

**Distribution.** This species is known from McLennan (Horn 1892b: 27) and Dallas (Hieke 1978: 292) Counties in Texas and from southwestern Oklahoma (Kondratieff et al. 2005: 171).

**Records. USA:** OK, TX

### Subgenus *Percosia* Zimmermann, 1832

*Percosia* Zimmermann, 1832: 18. Type species: *Amara sicula* Dejean, 1831 designated by Hope (1838: 86). Etymology. Uncertain, possibly from the Latin adjective *percosius* (relative to Percosius, king of Cyzicus an ancient city of Mysia in Asia Minor) [feminine].

*Spelaeobia* Gistel, 1856: 358. Type species: *Carabus patricius* Duftschmid, 1812 (= *Carabus equestris* Duftschmid, 1812) by monotypy. Synonymy established by Bousquet (2002b: 47).

**Diversity.** Six species in the boreal and temperate regions of North America (one species), Asia (two species), Europe (three species, two shared with Asia), and northern Africa (two endemic species).

**Identification.** Hieke (1978) revised the species of this subgenus.

### *Amara obesa* (Say, 1823)

*Feronia obesa* Say, 1823a: 37. Type locality: «Charity Is[land] [Arenac County], Mich[igan]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 344), in MCZ [# 33030]. NOTE. «Harrowgate», a neighborhood in the northeast section of Philadelphia, Pennsylvania, was the area originally cited by Say (1823a: 37).

*Percosia diffinis* LeConte, 1847: 359. Type locality: «ad Rocky Mountains» (original citation), cited from «Nebraska [Territory]» by LeConte (1855: 354). Five syntypes in MCZ [# 5686]. Synonymy established by Horn (1892b: 39), confirmed by Lindroth (1968: 690).

*Percosia extensa* Casey, 1918: 244. Type locality: «Clackamas Co[unty], Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47172]. Synonymy established by Hatch (1953: 129), confirmed by Lindroth (1968: 690).

*Percosia latissima* Casey, 1918: 245. Type locality: «Highland Park [Lake County], Illinois» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47170]. Synonymy established by Lindroth (1968: 690).

*Percosia ventricosa* Casey, 1918: 245. Type locality: «Long Island, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47171]. Synonymy established by Lindroth (1968: 690).

*Percosia sulcatula* Casey, 1920: 199. Type locality: «Mesa, Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in



USNM [# 47173]. Synonymy established by Hatch (1953: 129), confirmed by Lindroth (1968: 694).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 102) to southern Alaska (CNC), south to central California (Merced County, CAS), northern Arizona (Chen et al. 2006: 171; Apache and Coconino Counties, CMNH, CNC, UASM), northeastern Texas (Hieke 1978: 289), and northern Georgia (Fattig 1949: 28).

**Records.** **CAN:** AB, BC (VCI), MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT  
**USA:** AK, AR, AZ, CA, CO, CT, DC, GA, IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY

### Subgenus *Xenocelia* Hieke, 2001

*Xenocelia* Hieke, 2001: 7. Type species: *Carabus municipalis* Duftschmid, 1812 by original designation. Etymology. From the Greek *xenos* (stranger, guest) and the generic name *Celia* [*q.v.*] [feminine].

**Diversity.** Thirty-two species (Hieke 2007) in the arctic (marginal), subarctic, boreal, and temperate regions of North America (11 species, two extending into northern Mexico), Asia (17 species), and Europe (ten species, many shared with Asia and one extending into northern Africa). One species (*A. hicksi*) is Holarctic.

**Identification.** Hieke (2001) revised the species. Two Asian species have been described subsequently.

### *Amara apachensis* Casey, 1884

*Amara apachensis* Casey, 1884b: 3. Type locality: «Arizona» (original citation), herein restricted to Tucson, Pima County (see Casey 1918: 241, as *Bradytus specularis*). Lectotype (♀), designated by Hieke (1993: 115), in USNM [# 47202].

*Bradytus specularis* Casey, 1918: 241. Type locality: «Tucson [Pima County], Arizona» (original citation). Lectotype [as typus] (♀), designated by Hieke (1994: 336), in USNM [# 47163]. Synonymy established by Hieke (1994: 336).

*Celia amplipennis* Casey, 1918: 266. Type locality: «Arizona» (original citation). Lectotype [as holotypus] (♂), designated by Hieke (1993: 116), in USNM [# 47194]. Synonymy established by Hieke (1993: 115).

*Celia patula* Casey, 1918: 270. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Hieke (1993: 116), in USNM [# 47203]. Synonymy established by Hieke (1993: 115).

*Celia decora* Notman, 1922b: 101. Type locality: «Sabino Canyon [Pima County], Ariz[ona]» (original citation). Holotype (♂) in USNM [# 26592]. Synonymy established by Hieke (1993: 115).

**Distribution.** This species ranges from northern Oregon to southern California and Sonora, east to western Texas and Chihuahua in Mexico (Hieke 2001: 128). The record from southwestern Utah (Tanner 1928: 270) needs confirmation.

**Records. USA:** AZ, CA, NM, OR, TX [UT] – Mexico

### *Amara bradytonota* Hieke, 2001

*Amara bradytonota* Hieke, 2001: 136. Type locality: «Texas» (original citation), herein restricted to Gatesville, Coryell County (see Hieke 2001: 136). Holotype (♂) in USNM.

**Distribution.** This species is known from two localities, Manhattan in northeastern Kansas and Gatesville in central Texas (Hieke 2001: 136).

**Records. USA:** KS, TX

### *Amara chalcea* Dejean, 1828

*Amara chalcea* Dejean, 1828: 476. Type locality: «Amérique septentrionale» (original citation), restricted to «Billerica [Middlesex County], Mass[achusetts]» by Lindroth (1968: 700). One syntype in MHNP (Hieke 2001: 114).

*Celia impunctata* Putzeys, 1867a: 170 [*nomen dubium*; secondary homonym of *Amara fulva impunctata* Letzner, 1852]. Type locality: «Etats-Unis» (original citation). Holotype [by monotypy] (♀) location unknown. **New synonymy.** NOTE. Putzeys (1867a: 171) compared his new species to *A. chalcea* Dejean and observed several but relatively minor structural differences between the two. However, all the differences noted, including the size, seem to fall within the variability of *A. chalcea* as described by Lindroth (1968: 700). The holotype of *C. impunctata* could not be located in MHNP (Fritz Hieke pers. comm. 2001). Obviously, the name is a *nomen dubium* but for convenience it is placed here in synonymy with *A. chalcea* Dejean.

*Celia pinorum* Casey, 1918: 264. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47191]. Synonymy established by Lindroth (1968: 700).

*Celia sodalis* Casey, 1918: 265. Type locality: «Staten Island, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 133), in USNM [# 47192]. Synonymy established by Lindroth (1968: 700).

*Celia corvina* Casey, 1918: 266. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47193]. Synonymy established by Lindroth (1968: 700).

*Celia schotti* Casey, 1918: 266. Type locality: «Jamaica [Queens County], Long Island, New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47195]. Synonymy established by Lindroth (1968: 700). Etymology. The specific name was proposed in honor of Fred M. Schott [1887-1946], long

time entomologist with the New Jersey Department of Agriculture. His main interests were his entomological books as well as his collection of moths and beetles. *Celia sphaerops* Casey, 1918: 267. Type locality: «Wyandanch [Suffolk County], Long Island, New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47196]. Synonymy established by Hieke (1993: 123). *Celia maneei* Casey, 1924: 55. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♀), designated by Lindroth (1975: 133), in USNM [# 47197]. Synonymy established by Lindroth (1968: 700). Etymology. The specific name honors the Reverend Abram Herbert Manee [1858-1927] of Southern Pines. Manee was a great collector of insects, especially Coleoptera. His collection is in the North Carolina Department of Agriculture in Raleigh. *Amara jucunda* Csiki, 1929: 439. Replacement name for *Amara impunctata* (Putzeys, 1867).

**Distribution.** This species is found from western Maine (Oxford County, Ross T. Bell pers. comm. 2008) to southeastern Wyoming (Hieke 2001: 116), including southernmost Ontario (Lindroth 1968: 700), south to the Taos Mountains in northern New Mexico (LeConte 1876: 299; McKinley County, USNM), “Texas” (Horn 1892b: 32), southwestern Alabama (Hieke 2001: 116), northern Georgia (Fattig 1949: 29), and central South Carolina (Ciegler 2000: 74).

**Records.** CAN: ON USA: AL, AR, CO, CT, DC, GA, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, NC, NE, NH, NJ, NM, NY, OH, PA, RI, SC, TX, VT, WI, WY

### *Amara discors* Kirby, 1837

*Amara discors* Kirby, 1837: 40. Type locality: northern parts of British America (inferred from title of the book), restricted to «Saskatoon, Sask[atchewan]» by Lindroth (1968: 697). Holotype [by monotypy] (♀) in BMNH (Lindroth 1953b: 173).

*Celia nevadica* Casey, 1918: 264. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47190]. Synonymy established by Lindroth (1968: 697).

*Celia scolopax* Casey, 1918: 269. Type locality: «Boulder Co[unty], Colorado» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47201]. Synonymy established by Lindroth (1968: 697).

*Bradytus spaldingi* Casey, 1924: 48. Type locality: «Callao [Juab County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47166]. Synonymy established by Lindroth (1968: 697).

*Celia parowana* Casey, 1924: 57. Type locality: «summit of Parowan M[oun]t[ain]s, Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47205]. Synonymy established by Lindroth (1968: 697).

*Amara wakelandi* Hatch, 1949a: 82. Type locality: «Succor Cr[ee]k [Owyhee County], Ida[ho]» (original citation). Holotype (♂) in USNM. Synonymy established by

Lindroth (1968: 697). Etymology. The specific name was proposed for Claude Wakeland [1888-1960], professor of entomology at the University of Idaho.

**Distribution.** This western species ranges from southern Manitoba to southern British Columbia, south to southeastern California (San Bernardino County, David H. Kavanaugh pers. comm. 2008), southern Utah (Garfield County, CNC), south-central New Mexico, and northwestern Nebraska (Hieke 2001: 118).

**Records.** CAN: AB, BC, MB, SK USA: CA, CO, ID, MT, NE, NM, NV, OR, SD, UT, WA, WY

### *Amara gibba* (LeConte, 1847)

*Celia gibba* LeConte, 1847: 360. Type locality: «Lacum Superiorem» (original citation), herein restricted to Marquette, Marquette County, Michigan (see Casey 1918: 259, as *Celia paganica*). Holotype [by monotypy] (♂) in MCZ [# 3688].

*Celia paganica* Casey, 1918: 259. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47179]. Synonymy established by Hieke (1993: 135).

**Distribution.** This species ranges from Newfoundland to Alaska including Kodiak Island; it is also known from the Lake Superior region in northern Michigan (Hieke 2001: 113) and from northeastern New York (Essex County, CNC).

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, QC, YT USA: AK, MI, NY

**Note.** This form, listed as a synonym of *A. discors* Kirby by Lindroth (1968: 697), was regarded as a valid species by Hieke (1990: 226).

### *Amara harpalonota* Hieke, 2001

*Amara harpalonota* Hieke, 2001: 119. Type locality: «Spok[ane] Falls [Spokane County], Wash[ington]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from a few localities in eastern Washington, northern Oregon, and west-central Idaho (Hieke 2001: 119).

**Records.** USA: ID, OR, WA

### *Amara hicksi* Lindroth, 1968

*Amara hicksi* Lindroth, 1968: 699. Type locality: «Norman Wells, N[orth] W[est] Terr[itories]» (original citation). Holotype (♂) in CNC [# 10511]. Etymology. The specific name honors Stanton D. Hicks [1910-1983], an amateur coleopterist with a special interest for the fauna of southern Ontario. Hicks, a Canadian, worked at the Canadian National Collection of Insects. NOTE. The type locality was listed by error as “Good Hope, North West Territory” by Hieke (2001: 58).

**Distribution.** This Holarctic species is found from western Northwest Territories to Alaska and from Kamtschatka to northern European Russia, south to Mongolia and northern China (Hieke 2001: 61).

**Records.** CAN: NT USA: AK – **Holarctic**

*Amara lugubris* (Casey, 1918)

*Celia lugubris* Casey, 1918: 268. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47198].

**Distribution.** This species ranges from northern California to north-central Colorado, south to southwestern New Mexico and southern Arizona (Hieke 2001: 126-127).

**Records.** USA: AZ, CA, CO, NM, NV, UT

**Note.** This form was considered a synonym of *A. discors* Kirby by Lindroth (1968: 697) but treated as a valid species by Hieke (2001: 124).

*Amara merula* (Casey, 1918)

*Celia merula* Casey, 1918: 267. Type locality: «probably Colorado» (original citation), restricted to «Pass n[ea]r Ouray, Red M[oun]t[ain]s, Colorado» by Hieke (1993: 128). Holotype [by monotypy] (♀) in USNM [# 47204].

**Distribution.** This species ranges from the Kodiak Island and Kenai Peninsula in Alaska south to the Sierra Nevada in east-central California, northern Arizona, and northern New Mexico along the Rocky Mountains (Hieke 2001: 122-124).

**Records.** CAN: AB, BC USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY

**Note.** This form was regarded as a synonym of *A. discors* Kirby by Lindroth (1968: 697) but treated as a valid species by Hieke (1993: 128).

*Amara rectangularis ciudadensis* (Bates, 1891)

*Celia ciudadensis* Bates, 1891a: 248. Type locality: «Ciudad, in Durango» (original citation). Two syntypes in BMNH (Hieke 1990: 229). NOTE. According to Selander and Vaurie (1962: 27), the type locality “is presumably the settlement of Ciudad or La Ciudad near the border of Sinaloa 148 km. west-northwest of the city of Durango.”

*Amara nupera* G.H. Horn, 1892b: 33. Type locality: «Salida [Chaffee County], Colo[rado]» (lectotype label). Lectotype (♂), designated by Hieke (1993: 132), in MCZ [# 34449]. Synonymy established by Hieke (2001: 130).

*Bradytus obsolescens* Casey, 1918: 242. Type locality: «Colorado Springs [El Paso County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47162]. Synonymy established, under the name *A. nupera* Horn, by Hieke (1993: 132).



*Bradytus aequalis* Casey, 1918: 242. Type locality: «Colonia Garcia, Sierra Madre M[oun]t[ain]s, Chihuahua, Mexico» (original citation). Lectotype [as typus] (♂), designated by Hieke (1997: 194), in USNM [# 47168]. Synonymy established, under the name *A. nupera* Horn, by Hieke (1997: 194).

*Celia greenei* Casey, 1918: 269. Type locality: «S[an]ta Fé [Santa Fe County], New Mexico» (original citation). Lectotype (♂), designated by Hieke (1993: 135), in USNM [# 47199]. Synonymy established, under the name *A. nupera* Horn, by Hieke (1993: 132).

*Bradytus maxwelli* Casey, 1924: 49. Type locality: «Maxwell [Colfax County], New Mexico» (original citation). Lectotype [as typus], designated by Hieke (1994: 322), in USNM [# 47165]. Synonymy established, under the name *A. nupera* Horn, by Hieke (1994: 322).

*Amara maxvellensis* Csiki, 1929: 457. Unjustified emendation of *Amara maxwelli* (Casey, 1924) (cited as *maxvelli*).

*Bradytus celianus* Stehr, 1949: 208. Type locality: «Jemez M[oun]t[ain]s [Sandoval County], New Mexico» (original citation). Holotype (♂) in MSUE. Synonymy established, under the name *A. nupera* Horn, by Hieke (1994: 306).

**Distribution.** This subspecies ranges from northern California to northwestern Oklahoma (Cimarron County, CMNH), north to northern Colorado, south to Durango in Mexico (Hieke 2001: 135-136), including western Texas (Jeff Davis County, CMNH), and south-central California (Hieke 2001: 135).

**Records. USA:** AZ, CA, CO, NM, OK, TX, UT – Mexico

**Note.** Lindroth (1968: 697) listed *A. obsolescens* Casey as a junior synonym of *A. discors* Kirby but Hieke (1993: 132) considered it a synonym of *A. nupera* Horn.

### *Amara rectangula rectangula* LeConte, 1855

*Amara rectangula* LeConte, 1855: 355. Type locality: «S[an] Fr[ancisco] [San Francisco County, California]» (lectotype label). Lectotype (♂), designated by Hieke (1993: 132), in MCZ [# 5691]. **NOTE.** LeConte (1855: 355) stated that his specimen from San Francisco was a female.

**Distribution.** This subspecies ranges from northern Idaho and eastern Washington south at least to Monterey County in western California (Hieke 2001: 134).

**Records. USA:** CA, ID, OR, WA

### *Amara spuria* Lindroth, 1968

*Amara spuria* Lindroth, 1968: 696. Type locality: «Rampart, Alaska» (original citation). Holotype (♂) in MCZ [# 31227].

**Distribution.** This species is known from a few localities in Northwest Territories, Yukon Territory (CNC), Alaska, and from Manning Provincial Park in southern British Columbia (Hieke 2001: 110).

**Records. CAN:** BC, NT, YT **USA:** AK

**Subgenus *Reductocelia* Lafer, 1989**

*Reductocelia* Lafer, 1989: 165. Type species: *Amara kuznetzovi* Lafer, 1989 (= *Amara chalcophaea sachalinica* Hieke, 1999) by original designation. Etymology. From the Latin *reducto* (reduce) and the generic name *Celia* [q.v.], probably alluding to the absence of the lateromedial setae on the pronotum of the adult [feminine].

*Bradycelia* Lafer, 1989: 166. Type species: *Amara nigromontana* Lafer, 1989 (= *Amara lucens* Baliani, 1943) by original designation. Synonymy established by Hieke (1997: 229). Etymology. Probably from the generic names *Bradytus* [q.v.] contracted and *Celia* [q.v.] [feminine].

**Diversity.** Twenty species (Hieke 2007) in northern North America (one Holarctic species) and eastern Asia.

**Identification.** Hieke (1999a) revised the species of this subgenus. Subsequently, ten new Chinese species were described.

***Amara colvillensis* Lindroth, 1968**

*Amara colvillensis* Lindroth, 1968: 687. Type locality: «Colville R[iver], Umiat, Alaska» (original citation). Holotype (♂) in MCZ [# 35344].

**Distribution.** This Holarctic species is found in Siberia east of the Lena River and in North America from Alaska to the Hudson Bay coast in Manitoba and Nunavut (Hieke 1999a: 347).

**Records.** CAN: MB, NU, YT USA: AK – **Holarctic**

**Subgenus *Celia* Zimmermann, 1832**

*Celia* Zimmermann, 1832: 18. Type species: *Harpalus bifrons* Gyllenhal, 1810 designated by Westwood (1838: 4). Etymology (original). From the Greek *cello* (to run) [feminine].

*Acrodon* Zimmermann, 1832: 40. Type species *Harpalus brunneus* Gyllenhal, 1810 by monotypy. Synonymy established by Dawson (1854: 117). Etymology. From the Greek *acron* (top, summit) and *odon* (tooth), alluding to the entire apex of the mentum tooth (“*menti dente intermedio simplici*”) [masculine].

*Isopleurus* Kirby, 1837: 49. Type species: *Isopleurus nitidus* Kirby, 1837 (= *Celia sinuosa* Casey, 1918) by monotypy. Synonymy established implicitly by Lindroth (1954b: 136), explicitly by Lindroth (1968: 692). Etymology. From the Greek *isos* (equal) and *pleura* (side) [masculine].

*Adocron* Lutshnik, 1927: 58. Type species: *Amara praetermissa* Sahlberg, 1827 by original designation. Etymology. Anagram of the generic name *Acrodon* [q.v.] [masculine].

*Embrikiella* Lutshnik, 1935: 265. Type species: *Amara kachovskyi* Lutshnik, 1935 (= *Leiocnemis tartariae* Bates, 1878) by monotypy. Etymology (original). From the first name of the Norwegian zoologist Embrik Strand [1876-1947].

**Diversity.** Forty species (Hieke 2007) in North America (12 species), Middle America (two species, one of them endemic, *A. chihuahuae* Casey), Asia (22 species), and Europe and northern Africa (14 species, several shared with Asia). One species found in the Nearctic Region is adventive (*A. bifrons*), another one is Holarctic (*A. brunnea*).

**Identification.** There is no modern revision of the species of this subgenus and such work is much needed.

### *Amara bifrons* (Gyllenhal, 1810)

*Harpalus bifrons* Gyllenhal, 1810: 144. Type locality: «Bahusia [= Bohuslän], Hallandia [Sweden]» (original citation). Lectotype (♂), designated by Lindroth (1968: 700), in UZIU.

**Distribution.** This European species is adventive in North America where it is known from Newfoundland (Lindroth 1955a: 105) to western Quebec (Larochelle 1975: 43), south to Massachusetts (Davidson et al. 2011: 513). The first inventoried specimen collected on this continent was found in Cape Breton Island in 1929 (Lindroth 1963a: Fig. 39).

**Records.** FRA: PM CAN: LB, NB, NF, NS (CBI), PE, QC USA: MA, ME, NH – Adventive

### *Amara brunnea* (Gyllenhal, 1810)

*Harpalus brunneus* Gyllenhal, 1810: 143. Type locality: Sweden (inferred from title of the book), restricted to «Göteborg» by Lindroth (1968: 704). Lectotype (♂), designated by Lindroth (1968: 704), in UZIU.

*Harpalus lapponicus* C.R. Sahlberg, 1827c: 250. Type locality: «Lapponica» (original citation). One syntype in ZMH (Silfverberg 1987: 19). Synonymy established by Schaum (1858: 548).

*Harpalus sahlbergi* Zetterstedt, 1837: 36. Unnecessary replacement name for *Harpalus lapponicus* Sahlberg, 1827.

*Celia amplicollis* Mannerheim, 1853: 139. Type locality: «ad rivulum fl[umen] Tschunuktnu peninsulae Kenai [Alaska]» (original citation). Holotype [by monotypy] location unknown (possibly in collection Chaudoir, MHNP, *fide* Lindroth 1968: 704). Synonymy established by Putzeys (1866b: 197), confirmed by Lindroth (1968: 704). NOTE. Regarding the type locality, see “Note” section for *Cryobius subcaudatus* Mannerheim.

*Harpalus mongolicus* Jedlička, 1966: 221. Type locality: «16 km SO von Somon Bajanzogt, Zentral aimak, Mongolei» (original citation). Holotype (♀) in TMB. Synonymy established by Hieke (1973: 116).

**Distribution.** This Holarctic species is found from northern Manitoba (CNC) to the Kenai Peninsula in Alaska (Lindroth 1968: 706), and in the Palaearctic Region from the Far East to Norway, south to Spain, Italy, Kazakhstan, and Mongolia (Hieke 2003a: 556). The records from British Columbia (Hamilton 1894a: 11; Jarrett and

Scudder 2001: 379) need confirmation; those from “Washington,” “Colorado” (Hamilton 1894a: 11; Wickham 1902: 238), and Idaho (Horning and Barr 1970: 24, as *A. amplicollis*) are in error.

**Records.** CAN: AB, MB, NT, YT USA: AK [BC] – **Holarctic**

### *Amara californica californica* Dejean, 1828

*Amara californica* Dejean, 1828: 474. Type locality: «Californie» (original citation), herein restricted to San Clemente Island, Los Angeles County (see Casey, 1918: 294, as *A. perspecta*). One syntype in MHNP (Lindroth 1955b: 17).

*Amara mexicana* Dejean, 1831: 792. Type locality: «Mexique» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Hieke (1975: 318).

*Celia championi* Bates, 1882a: 77. Type locality: «Quezaltenango, 7800 ft. [Guatemala]» (lectotype label). Lectotype (♂), designated by Hieke (1990: 219), in BMNH. Synonymy established by Hieke (1990: 219).

*Amara robustula* G.H. Horn, 1892b: 32. Type locality: «California» (original citation). Holotype [by monotypy] (♂) in MCZ [# 3154]. Synonymy established by Hieke (1993: 138).

*Celia consors* Casey, 1918: 250. Type locality: «Salazar, Mex[ico], Mexico» (original citation). Lectotype [as holotypus] (♀), designated by Hieke (1993: 122), in USNM [# 47251]. Synonymy established by Hieke (1993: 122).

*Celia gnara* Casey, 1918: 255. Type locality: «near the city, Mexico» (original citation). Lectotype [as typus] (♀), designated by Hieke (1993: 125), in USNM [# 47261]. Synonymy established by Hieke (1993: 125).

*Amara perspecta* Casey, 1918: 294. Type locality: «San Clemente Island [Los Angeles County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 131), in USNM [# 47275]. Synonymy established by Lindroth (1968: 693).

*Celia pugetana* Casey, 1924: 56. Type locality: «Wawawai [Whitman County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 131), in USNM [# 47206]. Synonymy established by Lindroth (1968: 693).

**Distribution.** This subspecies ranges from Vancouver Island (Lindroth 1968: 694) to eastern South Dakota (Brookings County, USNM), south to Costa Rica (Hieke 1990: 221) and the Baja California Peninsula (Horn 1894: 309).

**Records.** CAN: BC (VCI) USA: AZ, CA (CHI), CO, ID, MT, NM, NV, OR, SD, TX, UT, WA, WY – Costa Rica, Guatemala, Mexico

**Note.** The subspecies *A. californica costaricensis* (Bates) is found in Costa Rica (Hieke 1990: 221).

### *Amara exlineae* Minsk and Hatch, 1939

*Amara exlineae* Minsk and Hatch, 1939: 215. Type locality: «Paradise Park, M[oun]t Rainier [Pierce County], Wash[ington]» (original citation). Holotype (♂) in

USNM. Etymology. The specific name was proposed for the American arachnologist Harriet Idola Exline [1909-1968], also known as Mrs. Donald Leslie Frizzell.

**Distribution.** This species is known from southwestern Alberta (Waterton Lakes National Park, UASM), southern British Columbia (Jarrett and Scudder 2001: 379), Washington (Minsk and Hatch 1939: 215; Pierce County, UASM), eastern Oregon (Baker County, CNC), and northwestern Montana (Flathead County, UASM). There is one specimen, identified by Hieke, from Mayo in central Yukon Territory (CNC).

**Records.** CAN: AB, BC USA: MT, OR, WA [YT]

**Note.** This form was considered a synonym of *A. idahoana* Casey by Lindroth (1968: 703) but regarded as a valid species by Hieke (1993: 123).

### *Amara harpalina* LeConte, 1855

*Amara harpalina* LeConte, 1855: 355. Type locality: «Santa Fe [Santa Fe County], New Mexico» (original citation). Two syntypes [2 ♀ originally cited] in MCZ [# 5690].

*Celia acutangula* Putzeys, 1866b: 194. Type locality: «États-Unis» (original citation). Holotype [by monotypy] (♂) in MHNP (collection Chaudoir). Synonymy established by Horn (1892b: 40).

*Celia shantzi* Casey, 1918: 285. Type locality: «Akron [Washington County], Colorado» (original citation). Lectotype [as typus] (♀), designated by Hieke (1993: 140), in USNM [# 47225]. Synonymy established by Hieke (1993: 139). Etymology. The specific name was proposed for Homer Leroy Shantz [1876-1958], American botanist, professor and president of the University of Arizona.

**Distribution.** This species is known from eastern Oregon (Baker County, USNM) to western South Dakota (Lawrence County, USNM), north to southeastern Montana (Powder River County, USNM), south to western Texas (Culberson County, CMNH) and central Arizona (Gila County, MCZ).

**Records.** USA: AZ, CO, ID, MT, NM, OR, TX, UT, WY

### *Amara idahoana* (Casey, 1924)

*Celia idahoana* Casey, 1924: 56. Type locality: «Moscow [Latah County], Idaho» (original citation). Holotype [by monotypy] (♂) in USNM [# 47207].

**Distribution.** This species ranges from southern Alaska (Anchorage area, UASM) to southern Northwest Territories (CNC), south to northern Oregon (Hood River County, MCZ) and southern Colorado (Elias 1987: 633).

**Records.** CAN: AB, BC (VCI), NT USA: AK, CO, ID, MT, OR, WA, WY

### *Amara musculis* (Say, 1823)

*Feronia musculis* Say, 1823a: 35. Type locality: «eastern shore of Virginia; Florida» (original citation), restricted to «coast of Virginia» by Lindroth (1968: 707). Lectotype (♂), designated by Lindroth (1968: 707), in MHNP (collection Dejean). NOTE.



Say (1823a: 35) probably made an error by spelling the specific name *musculus*. He did not give the etymology of the name but the word likely derives from the Latin noun *musculus*, *-i* (little mouse) and should have been spelled in the nominative singular (e.g., *musculus*), in the genitive singular (e.g., *musculi*) or in the genitive plural (e.g., *musculorum*) (see ICZN 1999: Articles 11.9.1.2 and 11.9.1.3). All authors seen, starting with LeConte (1855: 355), have used the spelling *musculus* until Lindroth (1968: 707) returned to the original spelling *musculis*. I consider that Say used an inappropriate connecting vowel and the name is not to be corrected (ICZN 1999: Article 32.5.1).

*Acrodon contempta* LeConte, 1847: 367. Type locality: «NovEboraci [= New York], et ad Rocky Mountains» (original citation). Syntype(s) presumably lost (not located in MCZ). Synonymy established by LeConte (1855: 355).

*Celia lyncea* Casey, 1918: 280. Type locality: «Sheepshead Bay [Kings County], Long Island, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 133), in USNM [# 47214]. Synonymy established by Lindroth (1968: 707).

*Celia nugator* Casey, 1918: 281. Type locality: «New Jersey seashore» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47215]. Synonymy established by Lindroth (1968: 707).

*Celia curticeps* Casey, 1918: 281. Type locality: «Fortress Monroe [= Hampton], Virginia» (original citation). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47218]. Synonymy established by Lindroth (1968: 707).

*Celia pimalis* Casey, 1918: 283. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Hieke (1993: 137), in USNM [# 47223]. Synonymy established by Hieke (1993: 137).

*Celia shoemakeri* Casey, 1918: 283. Type locality: «Long Island, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 133), in USNM [# 47222]. Synonymy established by Lindroth (1968: 707). Etymology. The specific name was proposed for Ernest Shoemaker, an amateur entomologist and painter of insects from Brooklyn, New York. His collection of more than 60,000 specimens, chiefly beetles, was presented to the USNM in 1959.

*Celia vegrandis* Casey, 1918: 287. Type locality: «Wisconsin» (original citation). Lectotype (♀), designated by Lindroth (1975: 133), in USNM [# 47228]. Synonymy established by Lindroth (1968: 708).

*Celia fluminea* Casey, 1918: 287. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47229]. Synonymy established by Lindroth (1968: 708).

*Celia crenulata* Casey, 1918: 288. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation). Holotype [by monotypy] (♂) in USNM [# 47237]. Synonymy established by Lindroth (1968: 708).

*Celia limbalis* Casey, 1918: 289. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♀), designated by Lindroth (1975: 133), in USNM [# 47232]. Synonymy established by Lindroth (1968: 708).

*Celia paulula* Casey, 1918: 289. Type locality: «Wading River [Suffolk County], Long Island, New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47235]. Synonymy established by Lindroth (1968: 708).

*Celia scintilla* Casey, 1918: 290. Type locality: «Fortress Monroe [= Hampton], Virginia» (original citation). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47236]. Synonymy established by Lindroth (1968: 708).

*Celia brevitarsis* Casey, 1918: 290. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47238]. Synonymy established by Lindroth (1968: 708).

*Celia minnesotana* Casey, 1924: 57. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation). Holotype [by monotypy] (♀) in USNM [# 47230]. Synonymy established by Lindroth (1975: 133).

**Distribution.** This widely distributed species ranges from Nova Scotia (Sable Island, CNC) to south-central British Columbia (Lindroth 1968: 708), south to southern California (San Diego County, CNC), southern New Mexico (Grant County, USNM; Wickham 1896c: 133; Fall and Cockerell 1907: 158), northern Oklahoma (French et al. 2001: 228; Alfalfa County, CMNH), central Mississippi (Casey 1918: 287, as *Celia fluminea*), and the Florida Panhandle (Okaloosa County, CNC). One old specimen labeled from “Texas” (USNM) is known.

**Records.** CAN: AB, BC, MB, NB, NS, ON, QC, SK USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY [TX]

### *Amara pseudobrunnea* Lindroth, 1968

*Amara pseudobrunnea* Lindroth, 1968: 706. Type locality: «Swift R[iver], Yukon [Territory]» (original citation). Holotype (♂) in CNC [# 10512].

**Distribution.** This northern species ranges from the coast of Labrador to central Alaska (Lindroth 1968: 707), south in the west to northern Idaho (Bonner County, CNC) and northwestern Montana (Edwards 1975: 56).

**Records.** CAN: AB, BC, LB, MB, NU, QC, SK, YT USA: AK, ID, MT

### *Amara rubrica* Haldeman, 1843

*Amara rubrica* Haldeman, 1843b: 301. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). One probable syntype, a ♀ labeled “[pink disc] / A. rubrica Hald. [handwritten],” in MCZ (collection LeConte).

*Amara pallida* Casey, 1884b: 5. Type locality: «Willeys Point [Queens County], New York Harbor» (original citation). Holotype [by monotypy] (♂) in MCZ [# 34446]. Synonymy established by Horn (1885b: 108), confirmed by Lindroth (1968: 708).

- Amara ferruginea* Casey, 1884b: 5. Type locality: «Atlantic City [Atlantic County], New Jersey» (original citation). Holotype [by monotypy] (♂) in MCZ [# 34447]. Synonymy established by Horn (1885b: 108), confirmed by Lindroth (1968: 708).
- Celia lucina* Casey, 1918: 279. Type locality: «Delaware» (original citation). Lectotype (♀), designated by Lindroth (1975: 133), in USNM [# 47224]. Synonymy established by Lindroth (1968: 708).
- Celia proditor* Casey, 1918: 280. Type locality: «Cape May [Cape May County], New Jersey» (original citation). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47213]. Synonymy established by Lindroth (1968: 708).
- Celia haldemani* Casey, 1918: 281. Type locality: «Douglas Co[unty], Kan[sas]» (lectotype label). Lectotype [as holotypus] (♀), designated by Hieke (1993: 127), in USNM [# 47219]. Synonymy established by Hieke (1993: 126).
- Celia liquida* Casey, 1918: 282. Type locality: «Long Island, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47220]. Synonymy established by Lindroth (1968: 708).
- Celia politissima* Casey, 1918: 284. Type locality: «Long Island, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47217]. Synonymy established by Lindroth (1968: 709).
- Celia lubrica* Casey, 1918: 286. Type locality: «New Jersey» (original citation). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47226]. Synonymy established by Lindroth (1968: 709).
- Celia nigripennis* Casey, 1918: 286. Type locality: «Willeys Point [Queens County], Long Island, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47227]. Synonymy established by Lindroth (1968: 709).
- Celia piceonitens* Casey, 1924: 58. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47234]. Synonymy established by Lindroth (1968: 709).

**Distribution.** This species ranges from Nova Scotia (Majka et al. 2007: 9) to southwestern North Dakota (Tinerella 2003: 636), south to central Colorado (Summit County, UASM; Horn 1892b: 37; Wickham 1902: 238), northeastern Texas (Lamar County, Brian Raber pers. comm. 2010), northern Alabama (Madison County, CMNH, USNM), and northwestern South Carolina (Ciegler 2000: 75).

**Records.** **CAN:** NB, NS, ON, QC **USA:** AL, CO, CT, DC, DE, GA, IA, IN, KS, MA, MD, ME, MI, MN, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

### *Amara sinuosa* (Casey, 1918)

*Isopleurus nitidus* Kirby, 1837: 50 [secondary homonym of *Amara nitida* Sturm, 1825]. Type locality: «Rocky Mountains» (original citation). Holotype [by monotypy] (♂) in BMNH (Lindroth 1953b: 175).

- Acrodon subaenea* LeConte, 1850: 208 [secondary homonym of *Amara subaenea* Sturm, 1825]. Type locality: Lake Superior (inferred from title of the paper). Four syntypes in MCZ [# 5689], one in MHNP (collection Chaudoir) (Putzeys 1866b: 194). Synonymy established by LeConte (1873b: 324), confirmed by Lindroth (1968: 701).
- Celia sinuosa* Casey, 1918: 277. Type locality: «Aldermere, British Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 133), in USNM [# 47211]. Synonymy established by Lindroth (1968: 701).
- Celia elusa* Casey, 1918: 277. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♀) in USNM [# 47212]. Synonymy established by Lindroth (1968: 701).
- Celia nupta* Casey, 1918: 278. Type locality: «Lake Champlain, New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47208]. Synonymy established by Lindroth (1968: 701).
- Celia thoracica* Casey, 1918: 278. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 133), in USNM [# 47209]. Synonymy established by Lindroth (1968: 701).
- Celia hospes* Casey, 1918: 279. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 133), in USNM [# 47210]. Synonymy established by Lindroth (1968: 701).
- Amara subaenescens* Csiki, 1929: 445. Replacement name for *Amara subaenea* (LeConte, 1850).

**Distribution.** This species is found from Newfoundland (Lindroth 1955a: 104–105, as *A. subaenescens*) to the Queen Charlotte Islands (Kavanaugh 1992: 75) and Vancouver Island, north to the Alaskan coast (Lindroth 1968: 703), south at least to east-central Utah (Grand County, CMNH, CNC), southern Colorado (Costilla and Mineral Counties, UASM), the Black Hills in western South Dakota (USNM), northwestern Indiana (Blatchley 1910: 109, as *A. subaenea*), and northern New York (Casey 1918: 278, as *Celia nupta*). The records from southeastern New Jersey (Smith 1910: 206, as *A. subaenea*), “Nebraska” (Bousquet and Laroche 1993: 199), and Kansas (Knaus 1898: 19 and Snow 1903: 193, as *A. subaenea*) need confirmation.

**Records.** CAN: AB, BC (QCI, VCI), LB, MB, NB, NF, NT, ON, PE, QC, SK, YT USA: AK, CO, IA, ID, IL, IN, ME, MI, MN, MT, NH, NY, SD, UT, WI, WY [KS, NE, NJ]

### *Amara texana* (Putzeys, 1866)

*Celia texana* Putzeys, 1866b: 196. Type locality: «Texas» (original citation). Syntype(s) [2 originally cited] in MHNP (collection Chaudoir).

**Distribution.** This species is known from central and southern Texas (Horn 1892b: 38; Riley 2011; Bexar, Harris, and Lee Counties, MCZ) and central and southwestern New Mexico (Bernalillo and Luna Counties, CMNH). The record from southeastern Kansas (Knaus 1885: 58) needs confirmation.

**Records.** USA: NM, TX [KS]



***Amara volatilis* (Casey, 1918)**

*Celia volatilis* Casey, 1918: 287. Type locality: «Fortress Monroe [= Hampton], Virginia» (original citation). Lectotype [as typus] (♀), designated by Hieke (1993: 142), in USNM [# 47233].

*Celia virginica* Casey, 1918: 289. Type locality: «Fortress Monroe [= Hampton], Virginia» (original citation). Lectotype (♂), designated by Hieke (1993: 142), in USNM [# 47231]. Synonymy established by Hieke (1993: 141).

**Distribution.** This species is found along the Atlantic Coast from “New York” to northern Florida (Hieke 1993: 143).

**Records. USA:** FL, NC, NJ, NY, SC, VA

**Subgenus *Amarocelia* Motschulsky, 1862**

*Amarocelia* Motschulsky, 1862a: 4. Type species: *Amara punctatostriata* Motschulsky, 1860 (= *Amara interstitialis* Dejean, 1828) designated by Hieke (1995a: 17). Etymology. From the generic names *Amara* [*q.v.*] and *Celia* [*q.v.*] [feminine]. NOTE. Hieke (1995a: 17) listed *Amara interstitialis* Dejean, 1828 as type species of *Amarocelia* Motschulsky, a species not originally included. However, since he placed *Amara interstitialis* Dejean in synonymy with *Amara punctatostriata* Motschulsky, 1860, a species originally included, he is deemed to have designated the latter species as type species (ICZN 1999: Article 69.2.2).

**Diversity.** Thirteen species in North America, of which two are also found in Mexico and three are Holarctic.

**Identification.** Lindroth (1968) covered all but four (*A. nexa*, *A. sodalicia*, *A. lugens*, and *A. tenebrionella*) species known at the time. Two species were described subsequently by Hieke (2002). A revision of the subgenus is needed.

***Amara ellipsis* (Casey, 1918)**

*Celia ellipsis* Casey, 1918: 252. Type locality: «Kansas» (original citation). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47259].

*Celia winnipegensis* Casey, 1924: 53. Type locality: «Winnipeg, Manitoba» (original citation). Holotype [by monotypy] (♂) in USNM [# 47255]. Synonymy established by Lindroth (1968: 718).

**Distribution.** This species ranges from the Magdalen Islands in the Gulf of Saint Lawrence (CNC) to the Queen Charlotte Islands (Kavanaugh 1992: 75), south to southern California (San Bernardino County, CAS, MCZ), southern Arizona (Greenlee County, UASM), southern New Mexico (Otero County, MCZ), “Kansas” (Casey 1918: 252), central Michigan (Dunn 1982b: 37), and eastern New Brunswick (Webster and Bousquet 2008: 18).

**Records. CAN:** AB, BC (QCI), MB, NB, ON, QC, SK **USA:** AZ, CA, CO, IA, ID, KS, MI, MN, MT, ND, NE, NM, NV, OR, SD, UT, WA, WI, WY



***Amara erratica* (Duftschmid, 1812)**

*Carabus erraticus* Duftschmid, 1812: 120. Type locality: Austria (inferred from title of the book). Holotype [by monotypy] probably lost (Lindroth 1968: 716).

*Amara punctulata* Dejean, 1828: 472. Type locality: «Kamtschatka [Russia]; détroit de Norfolk sur la côte nord-ouest de l'Amérique du Nord [Alaska]» (original citation). One syntype in MHNP (Lindroth 1955b: 17). Synonymy established by Zimmermann (1832: 24), confirmed by Lindroth (1955b: 17).

*Amara septentrionalis* Schiødte, 1837: 170. Type locality: «Lapland [probably Swedish Lapland]» (original citation). Lectotype, designated by Hansen and Martin (2000: 214), in ZMUC. Synonymy established by Schiødte (1841: 187).

*Amara affinis* Motschulsky, 1850a: 60 [primary homonym of *Amara affinis* Dejean, 1828 and *Amara affinis* Motschulsky, 1845]. Type locality: «Kamtschatka [Russia]» (original citation). Lectotype (♀), designated by Hieke (1975: 328), in ZMMU. Synonymy established by Hieke (1975: 328).

*Amara obscuricornis* Motschulsky, 1859b: 540. Type locality: region of Yakutsk, east-central Siberia, Russia (inferred from title of the paper); «Kamtschatka» listed by Motschulsky (1850a: 60). Lectotype (♂), designated by Hieke (1975: 323), in ZMMU. Synonymy established by Hieke (1975: 322). NOTE. Motschulsky described this taxon in a paper about beetles collected by Pavlofski in the “gouvernement de Iakoutsk.” In the same publication, Motschulsky refers to his book *Die Kaefer Russlands* (1850) where the species is listed, but not described, and the provenance given is “Kamtschatka.” The lectotype, designated by Hieke (1975: 322), bears two labels: “Jakutsk” and “Amara obscuricornis Motsch. Sib. or. Kamtsch.”

*Amara sibirica* Csiki, 1929: 427. Replacement name for *Amara affinis* Motschulsky, 1850.

**Distribution.** This circumpolar species is found over most of the boreal-alpine region in the Palaearctic Region and in North America from Alaska (Lindroth 1968: 717) to Newfoundland (Lindroth 1955a: 107), south to New England (Lindroth 1968: 716), northern Wisconsin (Messer 2010: 38), southern Colorado (Mineral County, UASM; Lindroth 1968: 716), northern Utah (Salt Lake County, CMNH), and Mount Rainier in western Washington (Lindroth 1968: 717). Several state records (e.g., CA, IA, MI, MN, ND, NM, OR) listed in Bousquet and Laroche (1993: 196) and taken from earlier authors probably refer to other species or need confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NT, NU, ON, QC, SK, YT **USA:** AK, CO, ID, ME, MT, NH, UT, VT, WA, WI, WY – **Holarctic**

***Amara farcta* LeConte, 1855**

*Amara farcta* LeConte, 1855: 353. Type locality: «New Mexico» (original citation). Two syntypes in MCZ [# 5684].

*Celia lauta* Casey, 1918: 248. Type locality: «southern Arizona» (original citation). Lectotype (♂), designated by Hieke (1993: 128), in USNM [# 47248]. Synonymy established by Hieke (1993: 127).

- Celia formalis* Casey, 1918: 248. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47241]. Synonymy established by Lindroth (1968: 712).
- Celia finitima* Casey, 1918: 249. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype [as typus] (♂), designated by Hieke (1993: 124), in USNM [# 47256]. Synonymy established by Hieke (1993: 124).
- Celia subdepressa* Casey, 1918: 249. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47242]. Synonymy established by Lindroth (1968: 712).
- Celia shastanica* Casey, 1918: 251. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47252]. Synonymy established by Lindroth (1968: 712).
- Celia solita* Casey, 1918: 252. Type locality: «Nebraska» (original citation). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47240]. Synonymy established by Lindroth (1968: 712).
- Celia vancouveri* Casey, 1924: 50. Type locality: «Peachland, B[ritish] C[olumbia]» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47243]. Synonymy established by Hatch (1953: 125), confirmed by Lindroth (1968: 712).
- Celia olympia* Casey, 1924: 50. Type locality: «Wilbur [Lincoln County], Washington» (original citation). Holotype [by monotypy] (♂) in USNM [# 47245]. Synonymy established by Hatch (1953: 125), confirmed by Lindroth (1968: 712).
- Celia subsimilis* Casey, 1924: 50. Type locality: «Govan [Lincoln County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47244]. Synonymy established by Hatch (1953: 125), confirmed by Lindroth (1968: 713).
- Celia marginatella* Casey, 1924: 51. Type locality: «Monarch [Manitoba]» (holotype label). Holotype [by monotypy] (♀) in USNM [# 47246]. Synonymy established by Lindroth (1968: 713).
- Celia parallela* Casey, 1924: 51. Type locality: «L[eth]bridge, Al[ber]ta» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47249]. Synonymy established by Lindroth (1968: 713).
- Celia albertae* Casey, 1924: 51. Type locality: «L[eth]bridge, Al[ber]ta» (holotype label). Holotype [by monotypy] (♀) in USNM [# 47250]. Synonymy established by Lindroth (1968: 713).
- Celia funebris* Casey, 1924: 52. Type locality: «Winnipeg, Man[itoba]» (holotype label). Holotype [by monotypy] (♂) in USNM [# 47254]. Synonymy established by Lindroth (1968: 713).

**Distribution.** This species ranges from eastern Manitoba to southwestern British Columbia, north at least to the Magunday River in southern Yukon Territory (Lindroth 1968: 714), south to southeastern California (San Bernardino County, CAS), southern Arizona (Maricopa County, UASM), southern New Mexico (Grant County, USNM;



**Figure 33.** *Piosoma setosum* LeConte. Adults of this species are easily recognized by the presence of many, long and erect setae over the body, hence the specific name *setosum*. Prairie inhabitants, the first documented adults were found by John Lawrence LeConte during his expedition of 1845 which brought him along the Platte River up to Fort Laramie in Wyoming, thence to the foot of the Rocky Mountains.

LeConte 1855: 353), and Durango in Mexico (UASM). The record from Wisconsin (Rauterberg 1885: 17) is probably in error; that from “Ontario” (Bousquet and Laroche 1993: 196), based on a specimen from Nipigon Bay (CMNH) determined by Hieke, needs confirmation as the specimen could be mislabeled or could be a stray.

**Records.** CAN: AB, BC, MB, SK, YT USA: AZ, CA, CO, ID, MT, ND, NE, NM, NV, OR, SD, UT, WA, WY [ON] – Mexico

### *Amara interstitialis* Dejean, 1828

*Amara interstitialis* Dejean, 1828: 472. Type locality: «Kamtschatka [Russia]» (original citation). Two syntypes [2 originally cited] in MHNP (Lindroth 1955b: 16).

*Amara borealis* Motschulsky, 1844: 184. Type locality: «Petrop[avlosk], Kamtsch[atka Peninsula], Sib[eria] or[iental] [Russia]» (lectotype label). Lectotype (♂), designated by Hieke (1993: 59), in ZMMU. Synonymy established by Morawitz (1862: 235), confirmed by Hieke (1993: 59). NOTE. Motschulsky (1844: 184) gave the provenance of the syntypes as “Tourkinsk au-delà du Baïcal ... [et] environs de St.-Petersbourg” suggesting that the lectotype designated by Hieke (1993: 59) may not be a syntype.

*Amara punctato-striata* Motschulsky, 1860: 96. Type locality: «Daourie» (original citation). Two syntypes in ZMMU (Keleinikova 1976: 212). Synonymy established by Hieke (1995a: 112).

*Amara interstitialis* var. *puncticollis* J.R. Sahlberg, 1875: 109 [primary homonym of *Amara puncticollis* Dejean, 1828]. Type locality: «Soroka [= Belomorsk], by vid Hvita hafvet i ryska Karelen [= Republic of Karelia, Russia]» (original citation). Three syntypes in ZMH (Silfverberg 1987: 23). Synonymy established by Hieke (1995a: 113).

*Amara interstitialis* var. *fennica* Csiki, 1929: 439. Replacement name for *Amara interstitialis* var. *puncticollis* Sahlberg, 1875.

*Amara tschitaensis* Jedlička, 1957b: 101. Type locality: «Tschita, Transbaikal [Russia]» (original citation). Holotype (♂) in NMP. Synonymy established by Hieke (1973: 107).

**Distribution.** This Holarctic species ranges from Finland to the Kamtschatka Peninsula (Hieke 2003a: 556) and from Alaska to northwestern Northwest Territories (Lindroth 1968: 716). The records from British Columbia (Jarrett and Scudder 2001: 380) and west-central Montana (Hansen et al. 2009: 353) need confirmation.

**Records.** CAN: NT, YT USA: AK [BC, MT] – **Holarctic**

### *Amara laevipennis* Kirby, 1837

*Amara laevipennis* Kirby, 1837: 40. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Jasper, Al[ber]ta» by Lindroth



(1968: 717). Two syntypes [“three or four” originally cited] in BMNH (Lindroth 1953b: 173).

*Amara aeneolucens* Casey, 1918: 312. Type locality: «Duluth [Saint Louis County, Minnesota], Lake Superior» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47324]. Synonymy established by Lindroth (1968: 717).

**Distribution.** This boreal species is found from Newfoundland to southwestern British Columbia, north to east-central Alaska (Lindroth 1968: 717), south to southwestern California (Ventura County, MCZ), northeastern New Mexico (Snow 1885: 67; Las Vegas, CMNH) along the Rocky Mountains, the Black Hills in western South Dakota (Lawrence County, USNM), northeastern Minnesota along Lake Superior (Casey 1918: 312, as *A. aeneolucens*), northwestern Pennsylvania (Warren County, CMNH), and “Massachusetts” (LeConte 1855: 353; MCZ).

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK USA: AK, CA, CO, ID, MA, ME, MI, MN, MT, NH, NM, NY, OR, PA, SD, UT, VT, WA, WI, WY

### *Amara lugens* Zimmermann, 1832

*Amara lugens* Zimmermann, 1832: 25. Type locality: «Orizaba [Veracruz, Mexico]» (lectotype label). Lectotype (♀), designated by Hieke (1990: 213), in ZMHB.

*Celia högei* Bates, 1882a: 77. Type locality: «Las Vigas [Veracruz], Mexico» (original citation for the lectotype). Lectotype (♂), designated by Hieke (1990: 218), in BMNH. Synonymy established by Hieke (1990: 218).

*Celia mora* Casey, 1918: 253. Type locality: «Colonia Garcia, Sierra Madre M[oun]t[ain]s, Chihuahua, Mexico» (original citation). Lectotype (♂), designated by Hieke (1993: 132), in USNM [# 47257]. Synonymy established by Hieke (1993: 132).

**Distribution.** This species ranges from northern Arizona (Coconino County, USNM) and New Mexico (San Miguel County, USNM) south at least to the Isthmus of Tehuantepec (Bates 1882a: 77).

**Records.** USA: AZ, NM – Mexico

### *Amara nexa* (Casey, 1918)

*Celia nexa* Casey, 1918: 253. Type locality: «Truckee [Nevada County], California» (original citation). Three syntypes [3 originally cited] in USNM [# 47260].

**Distribution.** This species is known only from the Sierra Nevada in California (Casey 1918: 253; Alpine, Amador, Eldorado, Placer, Plumas, and Shasta Counties, CAS, MCZ, USNM).

**Records.** USA: CA



***Amara patruelis* Dejean, 1831**

*Amara patruelis* Dejean, 1831: 793. Type locality: «Amérique septentrionale» (original citation), restricted to «W[est] Roxbury [Suffolk County], Mass[achusetts]» by Lindroth (1968: 714). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 16).

*Amara inaequalis* Kirby, 1837: 39. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). One syntype in BMNH (Lindroth 1953b: 173). Synonymy established by Casey (1918: 248), confirmed by Lindroth (1953b: 173).

*Amara splendida* Haldeman, 1843b: 300. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Syntype(s) presumably lost. Synonymy established by Casey (1918: 248).

*Celia reducta* Casey, 1918: 252. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47258]. Synonymy established by Lindroth (1968: 714).

*Celia columbiana* Casey, 1924: 52. Type locality: «British Columbia» (original citation). Holotype [by monotypy] (♀) in USNM [# 47247]. Synonymy established by Hatch (1953: 126), confirmed by Lindroth (1954b: 136).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 107) to the Seward Peninsula in western Alaska (Lindroth 1968: 715), south to “California” (Lindroth 1968: 715), central Colorado (Elias 1987: 633; Casey 1918: 252, as *Celia reducta*), eastern South Dakota (Brookings County, USNM), and southwestern North Carolina (Jackson County, USNM) along the Appalachian Mountains. The record from Siberia (Lindroth 1968: 715) refers to *A. transberingiensis* Hieke (Hieke 2002: 671).

**Records.** CAN: AB, BC, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT USA: AK, CA, CO, CT, DC, IA, ID, IL, IN, MA, ME, MI, MN, MT, NC, ND, NH, NJ, NV, NY, OR, PA, RI, SD, UT, VA, VT, WA, WI, WY

***Amara rugulifera* Hieke, 2002**

*Amara rugulifera* Hieke, 2002: 660. Type locality: «S[ain]t Elmo [San Bernardino County], California» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from Andrew Lake in northeastern Alberta to south-central British Columbia, south to southeastern California, southeastern Arizona, and northeastern New Mexico (Hieke 2002: 660).

**Records.** CAN: AB, BC USA: AZ, CA, CO, MT, NM, UT, WY

***Amara sodalicia* Casey, 1924**

*Amara sodalicia* Casey, 1924: 62. Type locality: «Maxwell [Colfax County], New Mexico» (original citation). Holotype [by monotypy] (♀) in USNM [# 47311].

**Distribution.** This species is known only from a few specimens collected in Colfax and Catron Counties, New Mexico (Hieke 1997: 250).

**Records.** USA: NM

***Amara tenebrionella* (Bates, 1882)**

*Celia tenebrionella* Bates, 1882a: 78. Type locality: «Las Vigas [Veracruz], Mexico» (original citation). Lectotype (♂), designated by Hieke (1990: 222), in BMNH.

*Celia xanthognatha* Bates, 1882a: 78. Type locality: «Las Vigas [Veracruz], Mexico» (original citation). Lectotype [as holotypus] (♂), designated by Hieke (1990: 224), in BMNH. Synonymy established by Hieke (1990: 223).

*Celia tenebrionella* var. *aeneicolor* Bates, 1891a: 248. Type locality: «Ciudad, in Durango» (original citation). Lectotype (♂), designated by Hieke (1990: 222), in BMNH. Synonymy established by Hieke (1990: 222).

**Distribution.** This species is known from the Rocky Mountains in northern Arizona (Hieke 1990: 223) and from the states of Durango (Bates 1891a: 248, as *Celia tenebrionella* var. *aeneicolor*) and Veracruz (Bates 1882a: 78) in Mexico.

**Records. USA:** AZ – Mexico

***Amara transberingiensis* Hieke, 2002**

*Amara transberingiensis* Hieke, 2002: 668. Type locality: «Inuvik, North West Territor[ies]y» (original citation). Holotype (♂) in CNC [# 22916].

**Distribution.** This species is known from the Hudson Bay region in northeastern Manitoba, from northern British Columbia (CNC), and from the Northwest Territories to the Seward Peninsula in Alaska. In the Palaearctic Region, the species ranges from eastern Siberia to the Taimyr Peninsula, south at least to the Yakutsk area (Hieke 2002: 668).

**Records. CAN:** BC, MB, NT, YT **USA:** AK – **Holarctic**

**Subgenus *Amara* Bonelli, 1810**

*Amara* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus vulgaris* Linnaeus *sensu* Panzer, 1797 (= *Amara lunicollis* Schiødte, 1837) designated by Westwood (1838: 4).

*Linomus* Fischer von Waldheim, 1829a: 16. Type species: *Carabus lucidus* Duftschmid, 1812 by monotypy. Synonymy established by Bousquet (2002c: 176).

*Agronoma* Gistel, 1848b: [2]. Type species: *Carabus familiaris* Duftschmid, 1812 designated by Bouchard et al. (2011: 145). Synonymy established by Bouchard et al. (2011: 145).

*Pangetes* Gistel, 1856: 358. Type species: *Carabus ovatus* Fabricius, 1792 designated by Bousquet (2002b: 37). Synonymy established by Bousquet (2002b: 37).

**Diversity.** Eighty-seven species (Hieke 2007) in North America (29 species, of which six are adventive), Middle America (four species of which one, *A. dolosa* Say, is endemic), Asia (about 55 species), Europe and northern Africa (about 25 species, most shared with western Asia), and the Afrotropical Region (nine species). Two species are Holarctic (*A. littoralis* and *A. lunicollis*).

**Identification.** No taxonomic revision has been published for the species of this group and such study is much needed. Hieke (2000) revised the six species of the *impuncticolis* group found in North America. Lindroth (1968) covered all but three (*A. haywardi*, *A. pomona*, and *A. sera*) of the currently valid North American species known at the time. Since his publication, four taxa listed by Lindroth as synonyms (*A. neoscotica*, *A. otiosa*, *A. tenax*, and *A. turbata*) have been revalidated (Hieke 1994, 2000, 2003b), two new species described (Hieke 2002), and three adventive species (*A. communis*, *A. eurynota*, and *A. ovata*) discovered on this continent. Identifications of some species are difficult and require examination of the male genitalia for confirmation.

[**aurata group**]

***Amara aurata* Dejean, 1828**

*Amara aurata* Dejean, 1828: 475. Type locality: «Californie» (original citation), herein restricted to Monterey, Monterey County (see Casey 1918: 272, as *Celia rotundiceps*). One syntype in MHNP (Lindroth 1955b: 17).

*Amara imitatrix* G.H. Horn, 1892b: 34. Type locality: «California, Washington and Vancouver» (original citation), restricted to «Calif[ornia]» by Lindroth (1968: 710). Four syntypes in MCZ [# 34450]. Synonymy established by Lindroth (1968: 710).

*Celia rotundiceps* Casey, 1918: 272. Type locality: «Monterey [Monterey County], California» (original citation). Lectotype [as typus] (♂), designated by Hieke (1993: 120), in USNM [# 47264]. Synonymy established by Hieke (1993: 119).

*Celia jacinto* Casey, 1918: 272. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♂), designated by Hieke (1993: 120), in USNM [# 47265]. Synonymy established by Hieke (1993: 119).

*Celia farallonica* Casey, 1918: 273. Type locality: «Farallone Islands, San Francisco Co[unty], California» (original citation). Lectotype (♂), designated by Hieke (1993: 121), in USNM [# 47269]. Synonymy established by Hieke (1993: 119).

*Celia proba* Casey, 1918: 274. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47271]. Synonymy established by Lindroth (1968: 710).

*Celia clementina* Casey, 1918: 274. Type locality: «San Clemente Island [Los Angeles County], California» (original citation). Lectotype (♂), designated by Hieke (1993: 121), in USNM [# 47270]. Synonymy established by Hieke (1993: 119).

*Celia hilaris* Casey, 1918: 275. Type locality: «Cal. [with a “x” over the a] [= Redwood Creek, Humboldt County, California]» (lectotype label). Lectotype (♂), designated by Hieke (1993: 121), in USNM [# 47272]. Synonymy established by Hieke (1993: 119).

*Celia evanida* Casey, 1918: 275. Type locality: «Columbia River Valley, Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47273]. Synonymy established by Hatch (1953: 126), confirmed by Lindroth (1968: 710).

*Celia angustior* Casey, 1918: 275. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♂), designated by Hieke (1993: 121), in USNM [# 47274]. Synonymy established by Hieke (1993: 119).

*Celia govanensis* Casey, 1924: 53. Type locality: «Govan [Lincoln County], Washington» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 134), in USNM [# 47266]. Synonymy established by Hatch (1953: 126), confirmed by Lindroth (1968: 710).

*Celia fragilis* Casey, 1924: 53. Type locality: «Govan [Lincoln County], Washington» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 134), in USNM [# 47267]. Synonymy established by Hatch (1953: 126), confirmed by Lindroth (1968: 710).

**Distribution.** The range of this western species extends from western Montana (Russell 1968: 61; Hansen et al. 2009: 353) to Vancouver Island, north to the Prince Rupert area in British Columbia (Lindroth 1968: 711), south to Baja California Norte (CAS). The records from northern Colorado (Armin 1963: 201) and South Dakota (Kirk and Balsbaugh 1975: 26) need confirmation.

**Records.** CAN: BC (VCI) USA: CA (CHI), ID, MT, NV, OR, WA [CO, SD] – Mexico

#### [cupreolata group]

#### *Amara crassispina* LeConte, 1855

*Amara crassispina* LeConte, 1855: 352. Type locality: «Lake Superior» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5676].

**Distribution.** This species ranges from “Maine” to “Montana” (Hieke 2003b: 207), south to southern Colorado (Elias 1987: 633), southern Texas (Bastrop and Kerr Counties, CNC), and the Florida Panhandle (Okaloosa County, CNC); also recorded from “Oregon” (Hieke 2003b: 207).

**Records.** USA: AL, AR, CO, CT, DC, FL, GA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, WI, WV

#### *Amara cupreolata* Putzeys, 1866

*Amara cupreolata* Putzeys, 1866b: 180. Type locality: «Etats-Unis» (original citation), restricted to «New Jersey» by Lindroth (1968: 733). Lectotype (♂), designated by Lindroth (1968: 738), in MHNP (collection Chaudoir).

*Amara enervis* Casey, 1918: 306. Type locality: «Pennsylvania» (original citation). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47309]. Synonymy established by Lindroth (1968: 733), confirmed by Hieke (2003b: 204).

**Distribution.** This species is found from Prince Edward Island (King County, CNC) and Nova Scotia (NSNH) to southwestern British Columbia (Creston area, UASM),

south to northern Idaho (Hatten et al. 2007: 359), northern Colorado (Miller and Peairs 2008: 34; Larimer County, UASM), southern Oklahoma (Elliott et al. 2006: 126), southwestern Alabama (Mobile County, USNM), and North Carolina (Hieke 2003b: 205). Several state records (e.g., AR, DC, DE, GA, MS, NE, SC, UT) reported in Bousquet and Laroche (1993: 195) refer to other species of the group or need confirmation.

**Records.** **CAN:** AB, BC, MB, NB, NS, ON, PE, QC, SK **USA:** AL, CO, CT, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, NC, ND, NH, NJ, NY, OH, OK, PA, RI, SD, TN, TX, VA, VT, WI, WV

### *Amara haywardi* Csiki, 1929

*Amara parviceps* Hayward, 1908: 54 [secondary homonym of *Amara parviceps* (Putzeys, 1866)]. Type locality: «Lake Superior» (original citation). Holotype (♂) in MCZ [# 19605].

*Amara haywardi* Csiki, 1929: 418. Replacement name for *Amara parviceps* Hayward, 1908.

*Amara convexissima* Hieke, 2002: 634. Type locality: «S[outh] Ill[inois]» (holotype label). Holotype (♂) in USNM. Synonymy established by Hieke (2003b: 207).

**Distribution.** This species is yet known only from two specimens, both holotypes.

**Records.** **USA:** IL

**Note.** This form was considered a synonym of *Amara cupreolata* Putzeys by Lindroth (1968: 733) but regarded as a valid species by Hieke (2003b: 207).

### *Amara neoscotica* Casey, 1924

*Amara neoscotica* Casey, 1924: 59. Type locality: «Halifax, N[ova] S[cotia]» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47278].

**Distribution.** This species ranges from Nova Scotia (Hieke 2003b: 206) to the Rocky Mountains in Alberta (CNC), south to “Colorado,” “Illinois,” and “New Jersey” (Hieke 2003b: 206).

**Records.** **CAN:** AB, MB, NB, NS, ON, QC, SK **USA:** CO, IL, MA, ME, MI, NJ, VT, WI

**Note.** This form was considered a synonym of *Amara cupreolata* Putzeys by Lindroth (1954b: 136) but regarded as a valid species by Hieke (2003b: 205).

### *Amara tenax* Casey, 1918

*Amara tenax* Casey, 1918: 302. Type locality: «Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 136), in USNM [# 47300].

*Amara inflaticollis* Casey, 1924: 63. Type locality: «Aweme, Man[itoba]» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47319]. Synonymy established by Hieke (2003b: 206).



**Distribution.** This species is found from southern Manitoba (Casey 1924: 63, as *A. inflaticollis*) to southeastern British Columbia (Robson, CNC), north to the Great Slave Lake area in Northwest Territories (CNC), south to “Nevada” (Hieke 2003b: 207), western Colorado (Montrose County, MCZ), “Illinois” (Hieke 2003b: 207), and Massachusetts (Middlesex County, MCZ).

**Records.** CAN: AB, BC, MB, NT, SK USA: CO, IA, IL, KS, MA, MI, MN, ND, NE, NV, NY, SD, UT, VT, WI, WY

**Note.** This form was considered a synonym of *Amara cupreolata* Putzeys by Lindroth (1968: 733) but regarded as a valid species by Hieke (2003b: 206).

### [impuncticollis group]

#### *Amara impuncticollis* (Say, 1823)

*Feronia impuncticollis* Say, 1823a: 36. Type locality: «N[orth] Cumberl[an]d, P[ennsylvania]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 344), in MCZ [# 33029]. NOTE. «Pennsylvania; on the Missouri» were the areas originally cited by Say (1823a: 36).

*Amara anthracina* Haldeman, 1843b: 300. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Syntype(s) presumably lost. Synonymy established by LeConte (1855: 351).

*Amara difficilis* LeConte, 1847: 362. Type locality: «Territorio Missouriensi» (original citation). Syntype(s) location unknown. Synonymy established by LeConte (1855: 351).

*Amara arcuata* Casey, 1918: 296. Type locality: «Willets Point [Queens County], Long Island, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 135), in USNM [# 47283]. Synonymy established by Lindroth (1968: 728).

*Amara edax* Notman, 1920c: 186. Type locality: «Windsor, Broome Co[unty], N[ew] Y[ork]» (original citation). Holotype [by monotypy] (♂) in SIM (Hennessey 1990: 466). Synonymy established by Lindroth (1968: 728).

*Amara wadei* Casey, 1924: 63. Type locality: «Hagerstown [Washington County], Maryland» (original citation). Lectotype (♀), designated by Lindroth (1975: 135), in USNM [# 47296]. Synonymy established by Lindroth (1968: 728). Etymology. The specific name was proposed for Joseph Sanford Wade [1880-1961], scientific assistant at the U.S. Bureau of Entomology in Washington DC.

**Distribution.** This species is found east of the Rocky Mountains from Maine to at least southern Wisconsin, including southern Quebec and the Ontario Peninsula, south to southern Texas (Hieke 2000: 69), southeastern Louisiana (East Baton Rouge Parish, Igor M. Sokolov pers. comm. 2009), and southern Georgia (Torres and Ruberson 2006: 31). One specimen is known also from Nuevo León in Mexico and four from Costa Rica (Hieke 2000: 69). Several old records listed by Bousquet and Laroche (1993: 196) (e.g., CO, CT, DE, FL, MB, MN, MS, NB, NF, NM, NS, PE, RI, SD, SK, VT) refer to *A. otiosa* Casey or need confirmation. The record from Montana listed

by Hieke (2000: 69) refers to Missouri; that from British Columbia (Jarrett and Scudder 2001: 380) is likely in error.

**Records.** CAN: ON, QC USA: AL, AR, DC, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, NC, NE, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WI, WV – Costa Rica, Mexico

### *Amara littoralis* Dejean, 1828

*Amara littoralis* Dejean, 1828: 467. Type locality: «détroit de Norfolk [= Norfolk Sound, Baranof Island, Alaska] sur la côte nord-ouest de l'Amérique septentrionale» (original citation). Holotype [by monotypy] probably in MHNP. NOTE. Mannerheim (1843: 207) first described this species and the name has been attributed to him since. However Dejean (1828: 467) published the name as a junior synonym of *A. plebeja* and the name is available from its publication as a synonym (ICZN 1999: Article 11.6.1). Consequently the lectotype designated by Lindroth (1968: 730) in ZMH is not part of the type series and loses its status (ICZN 1999: Article 72.4.3).

*Amara fallax* LeConte, 1847: 362. Type locality: «Lacum Superiorem» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5678]. Synonymy established by Lindroth (1968: 730), confirmed by Hieke (1994: 318).

*Amara acuminata* Casey, 1918: 297 [secondary homonym of *Amara acuminata* (Paykull, 1798)]. Type locality: «S[an]ta Fé [Santa Fe County], New Mexico» (original citation). Lectotype [as holotypus] (♀), designated by Hieke (1993: 107), in USNM [# 47281]. Synonymy established by Hieke (1993: 107).

*Amara mystica* Casey, 1918: 298. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 135), in USNM [# 47286]. Synonymy established by Lindroth (1968: 730), confirmed by Hieke (1994: 318).

*Amara hesperia* Casey, 1918: 298. Type locality: «Cal[ifornia]» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47285]. Synonymy established by Lindroth (1968: 730), confirmed by Hieke (1994: 319).

*Amara keeni* Casey, 1918: 299. Type locality: «Inverness [probably Inverness Passage], British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47289]. Synonymy established by Lindroth (1968: 730), confirmed by Hieke (1994: 319).

*Amara lacustrina* Casey, 1918: 299. Type locality: «Bayfield [Bayfield County, Wisconsin], Lake Superior» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47287]. Synonymy established by Lindroth (1968: 730), confirmed by Hieke (1994: 319).

*Amara laurana* Casey, 1918: 300. Type locality: «Boulder [Boulder County], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47288]. Synonymy established by Lindroth (1968: 730), confirmed by Hieke (1994: 319).

*Amara teres* Notman, 1922a: 146. Type locality: «Westfield, Chautauqua Co[unty], N[ew] Y[ork]» (original citation). Holotype (♀) in SIM (Hennessey 1990: 466). Synonymy established with doubt by Lindroth (1968: 730).

*Amara oodiformis* Casey, 1924: 58. Type locality: «Ilo [= Craigmont, Lewis County], Idaho» (holotype label). Holotype [by monotypy] (♂) in USNM [# 47182]. Synonymy established by Lindroth (1968: 730), confirmed by Hieke (1994: 319).

*Amara acuticauda* Casey, 1924: 58. Replacement name for *Amara acuminata* Casey, 1918.

*Amara convergens* Casey, 1924: 59. Type locality: «Peachland, B[ritish] C[olumbia]» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47284]. Synonymy established by Lindroth (1968: 730), confirmed by Hieke (1994: 319).

*Amara pullmani* Casey, 1924: 61. Type locality: «Pullman [Whitman County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47279]. Synonymy established by Lindroth (1968: 730), confirmed by Hieke (1994: 319).

**Distribution.** This Holarctic species ranges from Newfoundland to the Gulf Coast of Alaska, including Kodiak Island (Lindroth 1968: 731), south to southern California (Dajoz 2007: 20; San Diego County, CNC), northern New Mexico (Casey 1918: 297, as *A. acuminata*; Rio Arriba County, CMNH), western Texas (Dajoz 2007: 23; Brewster County, CMNH), east-central Alabama (Lee County, CNC; LeConte 1855: 352), and eastern South Carolina (Ciegler 2000: 74). In the Palaearctic Region, the species is known only from northwestern Siberia and the Kamchatka Peninsula (Hieke 2000: 67).

**Records.** **CAN:** AB, BC (QCI), MB, NB, NF, NS, NT, ON, PE, QC, SK, YT **USA:** AK, AL, AR, AZ, CA, CO, CT, DC, DE, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY – **Holarctic**

### *Amara otiosa* Casey, 1918

*Amara otiosa* Casey, 1918: 300. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47290].

**Distribution.** This species ranges from Newfoundland to southern Manitoba, south to northeastern Colorado, central Missouri, and North Carolina (Hieke 2000: 72–74). One specimen simply labeled from Texas is known (Hieke 2000: 69).

**Records.** **CAN:** MB, NB, NF, NS (CBI), ON, PE, QC **USA:** CO, IL, MA, ME, MI, MN, MO, NC, NH, NJ, NY, OH, PA, RI, VT, WI, WV [TX]

**Note.** Lindroth (1968: 728) regarded this form as a synonym of *A. impuncticollis* Say but Hieke (2000: 71) considered it as a valid species.

***Amara ovata* (Fabricius, 1792)**

*Carabus ovatus* Fabricius, 1792: 154 [primary homonym of *Carabus ovatus* Paykull, 1790]. Type locality: «Saxonia [Germany]» (original citation). Two syntypes in ZMUC (Zimsen 1964: 57). NOTE. *Carabus ovatus* Paykull, 1790 cannot be interpreted at this time. Paykull originally described it as the *Carabus vulgaris* Linnaeus var.  $\beta$  and later (Paykull 1798: 167) listed it as a synonym of *Carabus helopioides* Fabricius, 1792. Until the type specimen(s) can be study Paykull's name should be considered a *nomen dubium*.

**Distribution.** This European species is adventive in North America where it is known in the east from Nova Scotia (Majka et al. 2006: 605) to southern Wisconsin (Messer 2010: 38), south to Virginia (Hieke 2000: 82). The first inventoried specimen collected on the east coast was found in Massachusetts in 1925. The species is also adventive in the western part of North America where it is known from southeastern British Columbia and Alberta (Hieke 2000: 82). The first inventoried specimen collected on the west coast was found in southeastern British Columbia in 1936 (see Hieke 2000: 82). One specimen simply labeled from Iowa is known (Hieke 2000: 82). The record from "Cleveland, Or." (Hieke 2000: 82) obviously refers to Ohio.

**Records.** CAN: AB, BC, NB, NS, ON, PE, QC USA: CT, MA, NH, NY, OH, PA, RI, VA, WI [IA] – **Adventive**

***Amara sera* Say, 1830**

*Amara sera* Say, 1830b: (7) [3]. Type locality: «Mexico» (original citation). Syntype(s) lost.

*Amara azteca* Bates, 1882a: 79. Type locality: «Oaxaca, Mexico» (lectotype label). Lectotype ( $\sigma$ ), designated by Hieke (1993: 108), in BMNH. Synonymy established by Hieke (1993: 108).

**Distribution.** The range of this species extends from southern Arizona and western Texas south to Guatemala (Hieke 1993: 110).

**Records.** USA: AZ, TX – Guatemala, Mexico

***Amara turbata* Casey, 1918**

*Amara turbata* Casey, 1918: 307. Type locality: «Akron [Washington County], Colorado» (original citation). Lectotype ( $\sigma$ ), designated by Lindroth (1975: 135), in USNM [# 47310].

*Amara microcephala* Casey, 1924: 62. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype ( $\sigma$ ), designated by Lindroth (1975: 136), in USNM [# 47293]. Synonymy established by Hieke (1994: 337).

*Amara recticollis* Casey, 1924: 62. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Holotype [by monotypy] ( $\sigma$ ) in USNM [# 47291]. Synonymy established by Hieke (1994: 337).

**Distribution.** This species ranges from southern Quebec to southeastern Alberta, south to southern Arizona, southern Texas, west-central Alabama, and North Carolina (Hieke 2000: 76-79).

**Records.** CAN: AB, ON, QC, SK USA: AL, AR, AZ, CO, IA, ID, IL, IN, KS, KY, MA, MD, MI, MT, NC, NE, NH, NJ, NM, NV, NY, PA, RI, SD, TN, TX, UT, WI, WV, WY

**Note.** Lindroth (1968: 730) regarded this form as a synonym of *A. littoralis* Mannerheim but Hieke (1994: 337) considered it as a valid species.

[**incertae sedis**]

***Amara aenea* (DeGeer, 1774)**

*Carabus aeneus* DeGeer, 1774: 98. Type locality not stated; «Uppsala, Sweden» selected by Lindroth (1968: 732). Lectotype (♀), designated by Lindroth (1968: 732), in NRSS.

*Amara devincta* Casey, 1918: 307. Type locality: «New London [New London County], Connecticut» (original citation). Holotype [by monotypy] (♂) in USNM [#47312]. Synonymy established by Darlington (1936d: 20), confirmed by Lindroth (1968: 733).

**Distribution.** This European species is adventive in North America where it is known in the east from Newfoundland (Lindroth 1955a: 111) to southwestern Manitoba (Stjernberg 2011: 71), south to northeastern Oklahoma (Hieke 1990: 203), northern Louisiana (Morehouse and West Carroll Parishes, Igor M. Sokolov pers. comm. 2009), and the Florida Panhandle (Okaloosa County, CNC) and in the west from southern British Columbia (Jarrett and Scudder 2001: 378; CNC) to southeastern Alberta (CNC), south to northern Colorado, north-central Arizona, and the San Francisco Bay area in west-central California [see Hieke 1990: Fig. 23]. The first inventoried specimen collected in the eastern part of this continent was found in Brooklyn, New York, in 1904 and in the western part in San Francisco, California, in 1941 (see Hieke 1990: 202, 204). This species was recorded from “Amérique septentrionale” by Dejean (1828: 466), under the name *Amara trivialis* Gyllenhal, a synonym of *Amara aenea*, suggesting that it was already present in North America by that time. The identification of the specimen(s) was confirmed by Lindroth (1968: 732). However, considering that the next documented specimen from this continent was collected only at the beginning of the xx Century, there is doubt about the provenance of Dejean’s specimen(s).

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), ON, PE, QC USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NJ, NV, NY, OH, OK, OR, PA, RI, SC, TN, VA, VT, WA, WI, WV, WY – **Adventive**



***Amara aeneopolita* Casey, 1918**

*Amara aeneopolita* Casey, 1918: 304. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47304].

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 108) to west-central Northwest Territories, south to northern Alberta (Lindroth 1968: 723), east-central South Dakota (Kirk and Balsbaugh 1975: 27), central Iowa (O'Rourke et al. 2008: 126; Larsen et al. 2003: 292), and northeastern New York (Essex and Hamilton Counties, USNM); apparently isolated in central Colorado (Elias 1987: 633). The record from "Yukon Territory" (Ball and Currie 1997: 453) could not be confirmed.

**Records.** CAN: AB, LB, MB, NB, NF, NT, ON, QC, SK USA: CO, IA, ME, MI, ND, NH, NY, SD, VT [YT]

***Amara anthobia* Villa and Villa, 1833**

*Amara anthobia* A. Villa and G.B. Villa, 1833: 33. Type locality not stated; «Italia» selected by Lindroth (1968: 731). Syntype(s) probably lost (Lindroth 1968: 731).

**Distribution.** This European species is adventive in North America where it is known from southern British Columbia (Jarrett and Scudder 2001: 379) to southern California (Los Angeles County, CMNH). The first inventoried specimen collected in that area was found in southwestern Washington in 1929 (Hatch and Kincaid 1958: 5). The species has been recorded also from the Washington D.C. area since 1964 (Hieke 1990: 205) and has been recently collected in Westchester County in southeastern New York (Peter W. Messer pers. comm. 2011).

**Records.** CAN: BC USA: CA, MD, NY, OR, VA, WA – **Adventive**

***Amara basillaris* (Say, 1823)**

*Feronia basillaris* Say, 1823a: 35. Type locality: «Dover [Norfolk County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33028].

*Amara lucidula* Dejean, 1828: 477. Type locality: «Amérique septentrionale» (original citation). Two syntypes in MHNP (Lindroth 1955b: 17). Synonymy established by LeConte (1855: 351), confirmed by Lindroth (1955b: 17).

*Amara marylandica* Casey, 1884b: 4. Type locality: «banks of the Potomac River, below Washington, Maryland» (original citation). Holotype [by monotypy] (♀) in MCZ [# 31228]. Synonymy established by Horn (1885b: 108), confirmed by Lindroth (1968: 735).

**Distribution.** This species ranges from "New Hampshire" (Hayward 1908: 54) to southeastern South Dakota (Kirk and Balsbaugh 1975: 27), south to Oklahoma (Alfalfa and Logan Counties, CMNH, USNM), northeastern Georgia (Clarke County,

USNM), and central South Carolina (Ciegler 2000: 74). One old specimen labeled “Tex” (USNM) is known.

**Records. USA:** CT, DC, DE, GA, IA, IL, IN, KS, KY, MA, MD, MN, NC, NE, NH, NJ, NY, OK, PA, RI, SC, SD, VA, WV [TX]

### *Amara coelebs* Hayward, 1908

*Amara coelebs* Hayward, 1908: 58. Type locality: «Osoyoos, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1968: 723), in MCZ [# 25671].

*Amara rustica* Casey, 1918: 303. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♀), designated by Lindroth (1975: 135), in USNM [# 47302]. Synonymy established by Lindroth (1968: 723). NOTE. Since the type locality is in North Carolina, outside the species range, the lectotype of *A. rustica* possibly belongs to another species or the specimen is mislabeled.

*Amara nebraskana* Casey, 1918: 304. Type locality: «Nebraska» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47298]. Synonymy established by Lindroth (1968: 723).

*Amara oblongula* Casey, 1918: 305. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47299]. Synonymy established by Lindroth (1968: 723).

*Amara leviceps* Casey, 1924: 60. Type locality: «Govan [Lincoln County], Washington» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47308]. Synonymy established by Hatch (1953: 125), confirmed by Lindroth (1968: 723).

**Distribution.** This species ranges from southern Manitoba to south-central British Columbia (Lindroth 1968: 724–725), south to east-central Washington (Casey 1924: 60, as *A. leviceps*), northwestern New Mexico (Sandoval County, UASM, USNM), Kansas (Cheyenne, Douglas and Riley Counties, CNC, UASM, USNM), and central Illinois (Macon County, USNM).

**Records. CAN:** AB, BC, MB, SK **USA:** CO, IA, ID, IL, KS, MN, ND, NE, NM, SD, WA, WI, WY

### *Amara communis* (Panzer, 1797)

*Carabus communis* Panzer, 1797: no 2. Type locality: Germany (inferred from title of the book). Syntype(s) location unknown (possibly in ZMHB).

**Distribution.** This European species is adventive in North America where it is known from the Maritime Provinces (Bousquet 1992a: 504; Majka 2005: 534) and Connecticut (Majka 2005: 534) [see Majka 2005: Fig. 1]. The record from the Gaspé Peninsula, Quebec (Majka 2005: 534), is based on a misidentified specimen of *Amara aenea* (CNC). The first inventoried specimen collected on this continent was found in New Brunswick in 1988 (Bousquet 1992a: 504).

**Records. CAN:** NB, NS, PE **USA:** CT – **Adventive**

***Amara conflata* LeConte, 1855**

*Amara conflata* LeConte, 1855: 352. Type locality: «San Francisco [San Francisco County], California» (original citation). Syntype(s) in MCZ [# 5677].

*Amara impressicollis* Motschulsky, 1859a: 153. Type locality: «St. Francisco [San Francisco County, California]» (original citation). One syntype in ZMMU (Keleinikova 1976: 200). Synonymy established by LeConte (1863b: 10).

*Celia semota* Casey, 1918: 251. Type locality: «Clackamas Co[unty], Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 135), in USNM [# 47253]. Synonymy established by Lindroth (1968: 726).

*Amara diffidens* Casey, 1918: 306. Type locality: «near San Francisco [San Francisco County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 135), in USNM [# 47305]. Synonymy established by Lindroth (1968: 726).

*Amara leydeni* Casey, 1918: 306. Type locality: «Coeur d'Alene [Kootenai County], Idaho» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47307]. Synonymy established by Hatch (1953: 124), confirmed by Lindroth (1968: 727).

**Distribution.** This species ranges from northwestern Montana (Russell 1968: 60) to Vancouver Island (Lindroth 1968: 728), south to southern California (San Diego County, CAS, CNC) and northern Utah (Davis, Salt Lake, and Utah Counties, CMNH).

**Records.** CAN: BC (VCI) USA: CA (CHI), ID, MT, OR, UT, WA

***Amara confusa* LeConte, 1847**

*Amara confusa* LeConte, 1847: 361. Type locality: «ad Rocky Mountains» (original citation), cited from «Nebraska [Territory], near the Rocky Mountains [probably present day Colorado]» by LeConte (1855: 352). Three syntypes in MCZ [# 5680].

*Amara subpunctata* LeConte, 1855: 352. Type locality: «at the Rocky Mountains» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5679]. Synonymy established by Lindroth (1968: 725).

*Amara protensa* Putzeys, 1866b: 183. Type locality: «bords du fl[euve] Ruper [= Ruper River, Quebec], Baie d'Hudson» (original citation), which is likely incorrect. Lectotype (♀), designated by Lindroth (1968: 725), in MHNP. Synonymy established by Lindroth (1968: 725).

*Celia modulata* Casey, 1918: 250. Type locality: «Fort Wingate [McKinley County], New Mexico» (original citation). Lectotype (♀), designated by Hieke (1993: 131), in USNM [# 47239]. Synonymy established by Hieke (1993: 131).

*Amara impedita* Casey, 1918: 310. Type locality: «Wyoming» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47320]. Synonymy established by Lindroth (1968: 726).

*Amara ebenina* Casey, 1918: 310. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 135), in USNM [# 47322]. Synonymy established by Lindroth (1968: 726).

*Amara castalia* Casey, 1918: 311. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype [as holotypus] (♂), designated by Hieke (1993: 114), in USNM [# 47321]. Synonymy established by Hieke (1993: 114).

*Amara viridula* Casey, 1924: 60. Type locality: «Lethbridge, Alberta» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47301]. Synonymy established by Lindroth (1968: 726).

*Amara oblongiformis* Casey, 1924: 60. Type locality: «Govan [Lincoln County], Washington» (original citation). Holotype [by monotypy] (♂) in USNM [# 47306]. Synonymy established by Lindroth (1968: 726).

*Amara acomana* Casey, 1924: 61. Type locality: «Maxwell [Colfax County], New Mexico» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47313]. Synonymy established by Lindroth (1968: 726).

*Amara subarctica* Casey, 1924: 64. Type locality: «Boucher, Sask[at]chewan» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47323]. Synonymy established by Lindroth (1968: 726).

**Distribution.** This species is found from southern Manitoba to south-central British Columbia, north to central Alaska (Lindroth 1968: 726), south to the Sierra Nevada in east-central California (Tuolumne County, MCZ), central Arizona (Gila County, MCZ), central New Mexico (Fall and Cockerell 1907: 158), southern Kansas (Knaus 1905a: 218; Casey 1918: 311), and northern Indiana (Blatchley 1910: 107, as *A. protensa*).

**Records.** **CAN:** AB, BC, MB, SK, YT **USA:** AK, AZ, CA, CO, ID, IL, IN, KS, MT, ND, NE, NM, NV, OR, SD, UT, WA, WY

### *Amara convexa* LeConte, 1847

*Amara convexa* LeConte, 1847: 363. Type locality: «Lacum Superiorem» (original citation), restricted to «Port Arthur, Ont[ario]» by Lindroth (1968: 734). Holotype [by monotypy] (♀) in MCZ [# 5682].

*Amara polita* LeConte, 1847: 364 [secondary homonym of *Amara polita* (Chaudoir, 1846)]. Type locality: «ad Rocky Mountains» (original citation). Four syntypes in MCZ [# 5681]. Synonymy established by Horn (1875: 127), confirmed by Lindroth (1968: 734).

*Amara wingatei* Casey, 1918: 308. Type locality: «Fort Wingate [McKinley County], New Mexico» (original citation). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47314]. Synonymy established by Lindroth (1968: 734).

*Amara oviformis* Casey, 1918: 308. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 136), in USNM [# 47315]. Synonymy established by Lindroth (1968: 734).

*Amara piceola* Casey, 1918: 309. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). Holotype [by monotypy] (♂) in USNM [# 47316]. Synonymy established by Lindroth (1968: 734).

*Celia frugalis* Casey, 1924: 54. Type locality: «Aweme, Man[itoba]» (original citation). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47268]. Synonymy established by Lindroth (1968: 734).

*Amara cockerelli* Casey, 1924: 64 [primary homonym of *Amara cockerelli* Wickham, 1912]. Type locality: «Jimtown [= Jamestown, Boulder County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 136), in USNM [# 47317]. Synonymy established by Lindroth (1968: 734).

*Amara brevipennis* Casey, 1924: 65. Type locality: «Boulder [Boulder County], Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 47318]. Synonymy established by Lindroth (1968: 734).

*Amara cockerelliana* Csiki, 1929: 411. Replacement name for *Amara cockerelli* Casey, 1924.

*Amara lecontei* Csiki, 1929: 419. Replacement name for *Amara polita* LeConte, 1847.

**Distribution.** The range of this species extends from Nova Scotia (Majka et al. 2007: 9) to central British Columbia (Lindroth 1968: 735), south to southeastern Arizona (Greenlee County, MCZ), southern New Mexico (Grant County, USNM), western Texas (Jeff Davis County, Ken Karns pers. comm. 2009), and southern New Jersey (Cape May County, MCZ). The record from North Carolina (Brimley 1938: 122, as *A. polita*) is probably in error. Three old specimens labeled from Brownsville in southeastern Texas (USNM) are known.

**Records.** CAN: AB, BC, MB, NS, ON, QC, SK USA: AZ, CO, CT, IA, ID, IL, IN, KS, MA, ME, MI, MN, MT, ND, NE, NH, NJ, NM, NY, OH, OK, PA, SD, TX, UT, VT, WI, WY

### *Amara emancipata* Lindroth, 1968

*Amara emancipata* Lindroth, 1968: 718. Type locality: «Anarchist M[oun]t[ain], Osoyoos, B[ritish] C[olumbia]» (original citation). Holotype (♀) in CNC [# 10513].

**Distribution.** This species is found along and west of the Rocky Mountains from southwestern Alberta to south-central British Columbia, south to “Utah” and northern Colorado (Hieke 2002: 642).

**Records.** CAN: AB, BC USA: CO, ID, MT, UT, WA, WY

### *Amara eurynota* (Panzer, 1796)

*Carabus eurynotus* Panzer, 1796a: no 23 (as *eyrinotus*). Type locality: Germany (inferred from title of the book). Syntype(s) location unknown (possibly in ZMHB). NOTE. The spelling *eurynota* is an incorrect subsequent spelling, introduced by Latreille (1804: 366), in prevailing usage and attributed to Panzer (1796a); therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).



*Carabus acuminatus* Paykull, 1798: 166 [primary homonym of *Carabus acuminatus* Olivier, 1790]. Type locality: Sweden (inferred from title of the book). Syntype(s) possibly in NRSS. Synonymy established by Illiger (1801: 50).

**Distribution.** This European species is adventive in North America where it is known only from a few localities in eastern Newfoundland (Bousquet 1987a: 128-129). The first inventoried specimen collected on this continent was found in 1971.

**Records.** CAN: NF – **Adventive**

### *Amara externefoveata* Hieke, 2002

*Amara externefoveata* Hieke, 2002: 642. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from two specimens collected in Maryland [not Pennsylvania as stated by Hieke (2002: 643)] and North Carolina (Hieke 2002: 643).

**Records.** USA: MD, NC

### *Amara familiaris* (Duftschmid, 1812)

*Carabus familiaris* Duftschmid, 1812: 119. Type locality: Austria (inferred from title of the book). Syntype(s) probably lost (Lindroth 1968: 731).

*Amara humilis* Casey, 1918: 302. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47292]. Synonymy established by Darlington (1936d: 20), confirmed by Lindroth (1968: 733).

**Distribution.** This European species is adventive in North America where it is known in the east from Newfoundland (Lindroth 1955a: 111) to southern Saskatchewan (Ronald R. Hooper pers. comm. 2007), south to central Oklahoma (Grady County, Robert L. Davidson pers. comm. 2012), northwestern Mississippi (Panola County, CMNH) and the Florida Panhandle (Okaloosa County, CNC) [see Hieke 1990: Fig. 25]. The first inventoried specimen collected on the east coast was found in Rhode Island in 1901 (Hieke 1990: 207). The species is also adventive in the western parts of North America where it ranges from southeastern Alaska to central California, east to western Montana [see Hieke 1990: Fig. 25]. The first inventoried specimen collected on the west coast was found in western Washington in 1913 (Hatch 1953: 26).

**Records.** FRA: PM CAN: AB, BC (VCI), MB, NB, NF, NS (CBI), ON, PE, QC, SK USA: AK, AL, AR, CA, CT, DC, FL, IA, ID, IL, IN, KY, MA, MD, ME, MI, MO, MS, MT, NC, NH, NJ, NY, OH, OK, OR, PA, RI, SC, TN, VA, VT, WA, WI, WV – **Adventive**

### *Amara lunicollis* Schiødte, 1837

*Amara lunicollis* Schiødte, 1837: 164. Type locality: «Ravneholm, nordlige Sjaelland [Denmark]» (original citation). Lectotype, designated by Hansen and Martin (2000: 213), in ZMUC.

*Amara limbata* Schiødte, 1837: 166. Type locality: «Amager [Denmark]» (original citation). Lectotype (♂), designated by Hansen and Martin (2000: 213), in ZMUC. Synonymy established by Schaum (1858: 529).

*Amara poeciloides* Heer, 1837: 40 [second section]. Type locality: «Camogaskerthal (6800 [feet]) [Switzerland]» (Heer 1837: 59 [first section]). Syntype(s) location unknown (possibly in ETHZ). Synonymy established by Schaum (1858: 528).

*Amara assimilis* Chaudoir, 1844: 446. Type locality: «Kieff [= Kiev, Ukraine]» (original citation). Syntype(s) in MHNP. Synonymy established by Chaudoir (1861c: 198).

*Amara inepta* LeConte, 1855: 351. Type locality: «Oregon [Territory]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5683]. Synonymy established by Hieke (1994: 309). NOTE. Lindroth (1968: 730) treated *A. inepta* LeConte as a junior synonym of *A. littoralis* Mannerheim but Hieke (1994: 309) considered it a junior synonym of *A. lunicollis* Schiødte.

*Amara marquettensis* Casey, 1918: 304. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♀), designated by Lindroth (1975: 135), in USNM [# 47303]. Synonymy established by Lindroth (1954b: 136).

*Amara carriana* Casey, 1924: 65. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♂), designated by Lindroth (1975: 135), in USNM [# 47325]. Synonymy established by Lindroth (1954b: 136).

*Amara arsenjevi* Lutshnik, 1935: 258. Type locality: «fl. Tumain, Prov. Ussuriensis, Sibirie or. [Russia]» (original citation). One syntype in ZILR (Hieke 1973: 9). Synonymy established by Hieke (1973: 9).

*Amara zaisani* Jedlička, 1964: 290. Type locality: «Zaisan, Central Aimak, Mongolei» (original citation). Holotype (♂) in TMB. Synonymy established by Hieke (1972: 417).

**Distribution.** This circumpolar species ranges from eastern Siberia to Ireland, south to Spain, Italy, Mongolia, and northern China (Hieke 2003a: 550) and from Alaska (Lindroth 1968: 721) to Newfoundland (Lindroth 1955a: 109), south to northeastern West Virginia (Randolph County, CMNH), east-central Ohio (Usis and MacLean 1998: 67), southern New Mexico (Otero County, CNC), and southwestern Oregon (Niwa and Peck 2002: 787).

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT  
USA: AK, CO, CT, MA, ME, MI, MN, MT, NH, NM, NY, OH, OR, PA, RI, VT, WI, WV – **Holarctic**

### *Amara occidentalis* Hieke, 2002

*Amara occidentalis* Hieke, 2002: 654. Type locality: «Clamath [= Klamath] Falls n[ear] Algoma [Klamath County], Oregon» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from a few specimens collected in Baker and Klamath Counties in Oregon and Marin and El Dorado Counties in California (Hieke 2002: 654).

**Records.** USA: CA, OR

***Amara pomona* Casey, 1918**

*Amara brunnipes* Motschulsky, 1859a: 154 [primary homonym of *Amara similata brunnipes* Letzner, 1852]. Type locality: «St. Francisco [San Francisco County, California]» (original citation). Lectotype (♀), designated by Hieke (1993: 112), in ZMMU. NOTE. This name was listed as “*Amara brunnipennis*” by Motschulsky (1869: 26).

*Amara pomona* Casey, 1918: 301. Type locality: «California» (original citation). Lectotype [as typus] (♂), designated by Hieke (1993: 112), in USNM [# 47294]. Synonymy established by Hieke (1993: 111).

*Amara vigilax* Casey, 1918: 301. Type locality: «near San Francisco [San Francisco County], California» (original citation). Lectotype [as typus] (♀), designated by Hieke (1993: 112), in USNM [# 47295]. Synonymy established by Hieke (1993: 111).

*Amara americana* Csiki, 1929: 410. Replacement name for *Amara brunnipes* Motschulsky, 1859.

**Distribution.** This species ranges from northern Washington south to the Mexican border in southern California, east to eastern Nevada (Hieke 1993: 114). One specimen simply labeled from Mexico is known (Hieke 1993: 114).

**Records. USA:** CA, NV, WA – Mexico

***Amara sanjuanensis* Hatch, 1949**

*Amara san-juanensis* Hatch, 1949a: 81. Type locality: «Brown’s Is[land], San Juan Is[lands] [San Juan County], Wash[ington]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is, as far as known, restricted to southern British Columbia, including Vancouver Island (Lindroth 1968: 722), northern Washington, northern Idaho (Hatch 1953: 124), and northwestern Montana (Russell 1968: 60).

**Records. CAN:** BC (VCI) **USA:** ID, MT, WA

**Subgenus *Paracelia* Bedel, 1899**

*Paracelia* Bedel, 1899: 169, 174. Type species: *Amara simplex* Dejean, 1828 by original designation. Etymology. From the Greek *para* (beside, near) and the generic name *Celia* [*q.v.*] [feminine].

*Iranoleirides* Hieke, 1978: 300. Type species: *Amara astrabadensis* Lutshnik, 1935 by original designation. Synonymy established by Hieke (2006: 296). Etymology. From the geographical name Iran and the generic name *Leirides* [masculine].

**Diversity.** Twenty-one species (Hieke 2007) in the Palearctic Region (including the Himalayas and northern Africa), one of them (*A. quenseli*) extending into the Nearctic Region and one (*A. simplex* Dejean) extending into the Afrotropical Region.

**Identification.** Hieke (2006) revised the species of this subgenus.

***Amara quenseli quenseli* (Schönherr, 1806)**

*Carabus quenseli* Schönherr, 1806: 201. Type locality: «Lapponia» (original citation), restricted to «Abisko, Torne Lappmark [Sweden]» by Lindroth (1968: 694). Lectotype (♂), designated by Lindroth (1968: 694), in NRSS. Etymology. The specific name honors the Swedish naturalist Conrad Quensel [1767-1806] who worked as professor of natural history and conservator in Stockholm.

*Harpalus despectus* C.R. Sahlberg, 1827b: 245. Type locality: «Lapponia» (original citation). Lectotype, designated by Silfverberg (1987: 15), in ZMH. Synonymy established by Sahlberg (1875: 106).

*Amara remotestriata* Dejean, 1828: 473. Type locality: «île d'Ounalaschka, l'une des îles Aleutiennes [Alaska]» (original citation). Two syntypes in MHNP (Lindroth 1955b: 17). Synonymy established by Hatch (1953: 128), confirmed by Lindroth (1954b: 135).

*Amara monticola* Dejean, 1831: 794. Type locality: «alpes de la Savoie [France]» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Heer (1837: 56), confirmed by Schaum (1858: 542).

*Celia remota* Zimmermann, 1832: 27. Type locality: «Unalaschka [Aleutian Islands, Alaska]» (original citation). Syntype(s) probably lost. Synonymy established with the name *A. remotestriata* Dejean by Zimmermann (1832: 27).

*Celia microcephala* Motschulsky, 1844: 191. Type locality: «Tourkinsk [= Turka on the east bank of Lake Baikal, Russia]» (original citation). Two syntypes in ZMMU (Keleinikova 1976: 205). Synonymy established by Hieke (1995a: 102).

*Isopleurus terrestris* LeConte, 1847: 358. Type locality: «Fort Laramie, flumanis Platte [Nebraska]» (original citation). Syntype(s) in MCZ [# 5687]. Synonymy established, under the name *A. remotestriata* Dejean, by Horn (1892b: 40).

*Celia indistincta* Mannerheim, 1853: 137. Type locality: «insula Unalaschka [Aleutian Islands, Alaska]» (original citation). Holotype [by monotypy] probably in ZMMU (Lindroth 1968: 694). Synonymy established, under the name *A. remotestriata* Dejean, by Horn (1892b: 40).

*Celia relucens* Mannerheim, 1853: 138. Type locality: «Kenai, Cast[ellum] Nicol[ajevsk] [= Fort Saint Nicholas, Alaska]» (lectotype label). Lectotype (♂), designated by Lindroth (1968: 694), in ZMH. Synonymy established, under the name *A. remotestriata* Dejean, by LeConte (1855: 354), confirmed by Lindroth (1968: 694).

*Celia purpurascens* Motschulsky, 1859a: 152. Type locality: California (inferred from title of the paper). Lectotype (♂), designated by Hieke (1993: 138), in ZMMU. Synonymy established by Hieke (1993: 137).

*Amara femoralis* G.H. Horn, 1892b: 30 [primary homonym of *Amara femoralis* Dejean, 1831]. Type locality: «M[oun]t Lincoln and at Argentine Pass (11,000 to 13,000 feet) [Colorado]» (original citation). Four syntypes in MCZ [# 667]. Synonymy established by Lindroth (1968: 694).

*Celia laticollis* Casey, 1918: 258. Type locality: «Sheepshead Bay, Long Island, New York» (original citation for the lectotype). Lectotype (♂), designated by Lindroth

- (1975: 131), in USNM [# 47175]. Synonymy established by Lindroth (1968: 694).
- Celia brumalis* Casey, 1918: 259. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47178]. Synonymy established by Lindroth (1968: 694).
- Celia defecta* Casey, 1918: 260. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47177]. Synonymy established by Lindroth (1968: 694).
- Celia exposita* Casey, 1918: 260. Type locality: «Columbia River Valley, Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47183]. Synonymy established by Hatch (1953: 128), confirmed by Lindroth (1968: 694).
- Celia mimica* Casey, 1918: 260. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype [as holotype] (♂), designated by Lindroth (1975: 132), in USNM [# 47184]. Synonymy established by Lindroth (1968: 694).
- Celia fontinalis* Casey, 1918: 261. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47185]. Synonymy established by Lindroth (1968: 694).
- Celia eldorensis* Casey, 1918: 261. Type locality: «Eldora [Boulder County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47180]. Synonymy established by Lindroth (1968: 694).
- Celia docilis* Casey, 1918: 262. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47180]. Synonymy established by Lindroth (1968: 694).
- Celia brunnescens* Casey, 1918: 262. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♀) in USNM [# 47189]. Synonymy established by Lindroth (1968: 694).
- Celia definita* Casey, 1918: 263. Type locality: «Yreka [Siskiyou County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47187]. Synonymy established by Lindroth (1968: 694).
- Celia obligata* Casey, 1918: 263. Type locality: «Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47188]. Synonymy established by Lindroth (1968: 694).
- Celia piperi* Casey, 1924: 49. Type locality: «Grayling, near Bay City [Bay County], Michigan» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47174]. Synonymy established by Lindroth (1968: 694).
- Celia explanatula* Casey, 1924: 54. Type locality: «Similkameen R[iver], B[ritish] C[olumbia]» (lectotype label). Lectotype (♀), designated by Lindroth (1975: 132), in USNM [# 47176]. Synonymy established by Hatch (1953: 128), confirmed by Lindroth (1968: 694).
- Celia tahomae* Casey, 1924: 55. Type locality: «Wawawai [Whitman County], Washington» (original citation). Lectotype (♀), designated by Lindroth (1975: 132), in



USNM [# 47200]. Synonymy established by Hatch (1953: 128), confirmed by Lindroth (1968: 694).

*Celia washoeana* Casey, 1924: 55. Type locality: «Nevada» (original citation). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47181]. Synonymy established by Lindroth (1968: 694).

*Celia cervicalis* Casey, 1924: 56. Type locality: «N[orth]W[est] T[erritories], Can[ada]» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 132), in USNM [# 47182]. Synonymy established by Lindroth (1968: 694).

*Amara horni* Csiki, 1929: 436. Replacement name for *Amara femoralis* Horn, 1892.

*Amara uenoi* Habu, 1972: 33. Type locality: «M[oun]t Rishiri (1600 m), Rishiri Is[land], Japan» (original citation). Holotype (♂) in NMNS. Synonymy established by Hieke (1999b: 189).

**Distribution.** This Holarctic species is widely distributed in the Nearctic Region from Newfoundland (Lindroth 1955a: 103) to Alaska, including the Kodiak, Aleutian and Pribilof Islands (Lindroth 1968: 696), south to southern California (Fall 1901a: 45, as *A. remotestriata*), northern Arizona (Villa-Castillo and Wagner 2002: 246; Apache County, UASM), northern New Mexico (Fall and Cockerell 1907: 158, as *A. remotestriata* and *A. femoralis*; Milford et al. 2000: 21; Rio Arriba and Sandoval Counties, CMNH, UASM), Oklahoma (Hamilton 1894b: 353; Hatch and Ortenburger 1930: 8, as *A. remotestriata*), and southwestern North Carolina (Jackson County, USNM).

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, AZ, CA, CO, CT, DE, IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SD, UT, VA, VT, WA, WI, WY – **Holarctic**

**Note.** The subspecies *A. quenseli silvicola* Zimmermann is endemic to Europe (Hieke 2003a: 565).

### Subgenus *Zezea* Csiki, 1929

*Triaena* LeConte, 1847: 365 [junior homonym of *Triaena* Hübner, 1818]. Type species: *Feronia angustata* Say, 1823 designated by Chevrolat (1849: 643). Etymology (original). From the Greek *triaina* (trident), alluding to the trifid protibial spur of the adults (“*tibiisque anticis calcare trifido terminatis*”) [feminine].

*Zezea* Csiki, 1929: 402. Replacement name for *Triaena* LeConte, 1847. Etymology. Unknown [feminine].

*Pseudotriaena* Minsk and Hatch, 1939: 216. Type species: *Amara glabrata* Minsk and Hatch, 1939 (= *Amara longula* LeConte, 1855) by original designation. Synonymy established by Lindroth (1968: 735). Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Triaena* [*q.v.*] [feminine].

**Diversity.** Twenty-five species (Hieke 2007) in North America (nine species, all endemic), Asia (six species, only one endemic), Europe (13 species, six endemic), and northern Africa (four species, two endemic).

**Identification.** Lindroth (1968: 735–741, as *pallipes* group) covered all the North American species except *A. belfragei*. Three new species have been described subsequently (Hieke 1990, 2000) and one of Lindroth's species (*A. angustata*) was found to consist of two species (Hieke 2000). Hieke (2000) revised the species of the *angustata* group.

[**angustata group**]

***Amara angustata* (Say, 1823)**

*Feronia angustata* Say, 1823a: 36. Type locality: «Indep[e]nd[e]nce [Buchanan County], Iowa» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 345), in MCZ [# 33027]. NOTE. «on the Missouri» was the area originally cited by Say (1823a: 37).

*Amara indistincta* Haldeman, 1843b: 300. Type locality: «Easton, P[ennsylvania]» (neotype label). Neotype (♂), designated by Hieke (2000: 49), in CNC [# 23535]. Synonymy established by LeConte (1855: 350).

**Distribution.** This species ranges from southern Quebec to southeastern British Columbia, south to southeastern Wyoming, southeastern Texas (Fort Bend and Harris Counties, Brian Raber pers. comm. 2010), east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009), southern Mississippi (Hinds County, Drew A. Hildebrandt pers. comm. 2010), northern Alabama (Lawrence County, UASM), and South Carolina (Hieke 2000: 49–51). The records from “St. Louis, Montana” and “Cleveland, Oregon” listed by Hieke (2000: 51) refers to Missouri and Ohio respectively. The records from “New Brunswick” and “Prince Edward Island” (Bousquet and Laroche (1993: 199) refer to other species; that from west-central Colorado (Wickham 1902: 237) needs confirmation.

**Records.** CAN: BC, MB, ON, QC, SK USA: AL, CT, DC, DE, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY [CO]

***Amara angustatoides* Hieke, 2000**

*Amara angustatoides* Hieke, 2000: 55. Type locality: «Chicago [Cook County], Ill[inois]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species ranges from New Brunswick to South Dakota, south to southern Pennsylvania (Hieke 2000: 55–57) and northeastern West Virginia (Randolph County, CMNH).

**Records.** CAN: NB, ON, QC USA: CT, IA, IL, IN, MA, ME, MD, MI, MN, NH, NY, OH, PA, SD, VT, WI, WV

***Amara belfragei* Horn, 1892**

*Amara belfragei* G.H. Horn, 1892a: 19. Type locality: «Waco [McLennan County], Texas» (original citation). Four syntypes in MCZ [# 34448].

**Distribution.** This species is known from a few localities in central and southern Texas (Hieke 2000: 58).

**Records. USA:** TX

***Amara flebilis* (Casey, 1918)**

*Triaena flebilis* Casey, 1918: 316. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation). Lectotype (♀), designated by Lindroth (1975: 136), in USNM [# 47326].

**Distribution.** This species ranges from Cape Breton Island to southern Manitoba, south to northern Arizona, northeastern Colorado, northern Illinois, and northeastern Virginia (Hieke 2000: 53-55). The record «Cleveland, Oregon» (Hieke 2000: 55) refers to Ohio.

**Records. CAN:** MB, NB, NS (CBI), ON, QC **USA:** AZ, CO, CT, DC, IA, IL, IN, MA, MD, ME, MI, MN, ND, NH, NJ, NY, OH, PA, VA, VT, WI, WV

**Note.** This form has been treated as a synonym of *A. angustata* (Say) by Lindroth (1968: 736) but considered a valid species by Hieke (2000: 53).

**[scitula group]**

***Amara inexpectata* Hieke, 1990**

*Amara inexpectata* Hieke, 1990: 196. Type locality: «San Francisco [San Francisco County], California» (original citation). Holotype (♂) in CAS [# 16389].

**Distribution.** This species occurs along the Pacific Coast from central Oregon (Lincoln County, CNC) to Monterey County in California (Hieke 1990: 196).

**Records. USA:** CA, OR

***Amara kavanaughi* Hieke, 1990**

*Amara kavanaughi* Hieke, 1990: 198. Type locality: «10 mi[les] S[outh] of Dixon, Solano Co[unty], California» (original citation). Holotype (♂) in CAS [# 16390].

**Distribution.** This species is known from southern Oregon (Lake County, CNC) and several localities in northern and central California (Hieke 1990: 198).

**Records. USA:** CA, OR

***Amara longula* LeConte, 1855**

*Amara longula* LeConte, 1855: 350. Type locality: «San Francisco [San Francisco County, California]» (original citation). Three syntypes in MCZ [# 5675].

*Amara afoveolata* Hayward, 1908: 47. Type locality: «Vancouver Island [British Columbia] and California» (original citation), restricted to «Vanc[ouver] Isl[and]» by Lindroth (1968: 740). Three syntypes [3 originally cited] in MCZ [# 25670].

Synonymy established by Lindroth (1968: 740). NOTE. According to Lindroth (1968: 740), the syntype from California is conspecific with members of *A. scitula*. *Triaena profuga* Casey, 1918: 318. Type locality: «Arizona» (original citation). Lectotype (♀), designated by Lindroth (1975: 137), in USNM [# 47330]. Synonymy established by Lindroth (1968: 740).

*Amara alaxnoguia* Minsk and Hatch, 1939: 217. Type locality: «Seattle [King County], Wash[ington]» (original citation). Holotype (♂) in USNM. Synonymy established by Hatch (1953: 129), confirmed by Lindroth (1968: 740).

*Amara atrichata* Minsk and Hatch, 1939: 217. Type locality: «Seattle [King County], Wash[ington]» (original citation). Holotype (♂) in USNM. Synonymy established by Lindroth (1968: 740).

*Amara glabrata* Minsk and Hatch, 1939: 217. Type locality: «Seattle [King County], Wash[ington]» (original citation). Holotype (♂) in USNM. Synonymy established by Hatch (1953: 129), confirmed by Lindroth (1968: 740).

**Distribution.** This species is found from southwestern British Columbia, including Vancouver Island (Lindroth 1968: 740), to southern California (Hayward 1908: 46; Moore 1937: 10; CAS) and “Arizona” (Casey 1918: 318, as *Triaena profuga*), including eastern Nevada (White Pine County, UASM). The records from “Idaho” and “Utah” (Bousquet and Laroche 1993: 200) are probably in error.

**Records.** CAN: BC (VCI) USA: CA, NV, OR, WA

### *Amara pallipes* Kirby, 1837

*Amara pallipes* Kirby, 1837: 39. Type locality: northern parts of British America (inferred from title of the book), restricted to «Edmonton, Al[ber]ta» by Lindroth (1968: 737). Holotype [by monotypy] (♂) in BMNH (Lindroth 1953b: 173).

*Triaena depressa* LeConte, 1847: 365. Type locality: «Lacum Superiorem» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5674]. Synonymy established by LeConte (1855: 350), confirmed by Lindroth (1968: 737).

*Triaena shermani* Casey, 1918: 315. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation). Lectotype (♀), designated by Lindroth (1975: 136), in USNM [# 47327]. Synonymy established by Lindroth (1968: 737).

*Triaena lawrenceana* Casey, 1924: 66. Type locality: «Ogdensburg [Saint Lawrence County], New York» (original citation). Holotype [by monotypy] (♂) in USNM [# 47331]. Synonymy established by Lindroth (1968: 737).

*Triaena parallela* Casey, 1924: 67. Type locality: «Lake Champlain, New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47333]. Synonymy established by Lindroth (1968: 737).

*Amara kincaidi* Minsk and Hatch, 1939: 217. Type locality: «Renton [King County], Wash[ington]» (original citation). Holotype (♂) in USNM. Synonymy established by Hatch (1953: 129), confirmed by Lindroth (1968: 737).

**Distribution.** The range of this species extends from Cape Breton Island (Lindroth 1954c: 305) to Vancouver Island (Lindroth 1968: 739), north to Fort Smith in southern Northwest Territories (Bousquet 1987a: 130), south to western Washington (Hatch 1953: 129), southwestern Colorado (Montezuma County, CNC), Iowa (Hayward 1908: 46; Wickham 1911b: 6; Dickinson County, USNM), and Virginia (Casey 1918: 314). The records from “Nevada,” “Tennessee” (Bousquet and Laroche 1993: 200), and Georgia (J.E. LeConte 1849: 26; Fattig 1949: 30) need confirmation.

**Records.** CAN: AB, BC (VCI), MB, NB, NS (CBI), NT, ON, QC, SK USA: CO, CT, DC, IA, ID, IL, IN, MA, ME, MI, MN, MT, ND, NH, NJ, NY, OH, PA, RI, SD, VA, VT, WA, WI, WV [GA, NV, TN]

### *Amara scitula* Zimmermann, 1832

*Amara scitula* Zimmermann, 1832: 32. Type locality: «Neu-Californien» (original citation), restricted to «Waterman [= probably Barstow in San Bernardino County], Calif[ornia]» by Lindroth (1968: 739). Holotype [by monotypy] in ZILR (*vide* Zimmermann 1832: 33).

*Bradytus immundus* Casey, 1918: 243. Type locality: «Gualala, Mendocino Co[unty], California» (original citation). Lectotype [as typus] (♂), designated by Hieke (1994: 308), in USNM [# 47169]. Synonymy established by Hieke (1994: 308).

*Amara provoana* Casey, 1918: 300. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 136), in USNM [# 47280]. Synonymy established by Lindroth (1968: 739).

*Triaena uinta* Casey, 1918: 317. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 136), in USNM [# 47328]. Synonymy established by Lindroth (1968: 739).

*Triaena vapida* Casey, 1918: 317. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 136), in USNM [# 47329]. Synonymy established by Lindroth (1968: 739).

*Amara obliqua* Casey, 1924: 63. Type locality: «Victoria, B[ritish] C[olumbia]» (holotype label). Holotype [by monotypy] (♂) in USNM [# 47297]. Synonymy established by Lindroth (1968: 739).

*Triaena irregularis* Casey, 1924: 66. Type locality: «V[ancouver] I[sland]» (holotype label). Holotype [by monotypy] (♂) in USNM [# 47332]. Synonymy established by Lindroth (1968: 739). NOTE. According to Lindroth (1975: 137), the type locality originally given by Casey (1924: 66), “Washington State,” is incorrect.

**Distribution.** This species ranges from southern Manitoba to Vancouver Island (Lindroth 1968: 740), south to southern California (Fall 1901a: 45; Moore 1937: 10) and southwestern Colorado (Wickham 1902: 237), east to northwestern South Dakota (Kirk and Balsbaugh 1975: 27).

**Records.** CAN: AB, BC (VCI), MB, SK USA: CA, CO, ID, MT, NV, OR, SD, UT, WA, WY



### Tribe OODINI LaFerté-Sénectère, 1851

Oodites LaFerté-Sénectère, 1851: 214, 266. Type genus: *Oodes* Bonelli, 1810.

Thryptocerini Jeannel, 1949a: 775, 829. Type genus: *Thryptocerus* Chaudoir, 1878.

Sphaerodini Jeannel, 1949a: 829. Type genus: *Sphaerodes* Chaudoir, 1883. NOTE. This family-group name is based on *Sphaerodes*, an incorrect subsequent spelling of *Sphoerodes* not in prevailing usage.

Simoini Basilewsky, 1953a: 153. Type genus: *Simous* Chaudoir, 1882.

**Diversity.** Worldwide, with about 300 species in 32 genera (Lorenz 2005: 324–327). The Northern Hemisphere is represented by about 45 species (only 14.5% of the world fauna) and the Western Hemisphere by 55 species (about 18.5%). Seventeen species occur in North America.

**Identification.** Bousquet (1996a) revised and provided a key to the Nearctic, Mexican, and West Indian species.

### Genus *DERCYLINUS* Chaudoir, 1883

*Dercylinus* Chaudoir, 1883: 525. Type species: *Evolenes impressa* LeConte, 1853 by monotypy. Etymology. From the generic name *Dercylus* and the Latin suffix *-inus* (pertaining to) [masculine].

**Diversity.** One species in temperate North America.

#### *Dercylinus impressus* (LeConte, 1853)

*Evolenes impressa* LeConte, 1853c: 392. Type locality: «N[ew] Orl[eans] [Orleans Parish, Louisiana]» (holotype label). Holotype [by monotypy] (♀) in MCZ [# 5870].

**Distribution.** This species is known from a few scattered localities in North Carolina (Brimley 1938: 127), Rabun County in northeastern Georgia (Fattig 1949: 45), southwestern Alabama (Washington County, Paul K. Lago pers. comm. 2009), northeastern Mississippi (Tishomingo County, Drew A. Hildebrandt pers. comm. 2008), southern Louisiana (Bousquet 1996a: 453), central Arkansas (Pulaski County, CMNH), eastern Missouri (Anonymous 2007), east-central Illinois (Coles County, Robert L. Davidson pers. comm. 2012), eastern Oklahoma (Bousquet 1996a: 453), and eastern Texas (Sabine County, Brian Raber pers. comm. 2010; Riley 2011).

**Records. USA:** AL, AR, GA, IL, LA, MO, MS, NC, OK, TX

### Genus *EVOLENES* LeConte, 1853

*Evolenes* LeConte, 1853c: 392. Type species: *Oodes exaratus* Dejean, 1831 designated by Bousquet and Laroche (1993: 202). Etymology. From the Greek *ev* (well) and *olene* (elbow, arm, by extension tibia), possibly alluding to the expanded protibiae (“*tibiae anticae latiores*”) of the adult [feminine].

**Diversity.** One species in temperate North America.

***Evolenes exarata* (Dejean, 1831)**

*Oodes exaratus* Dejean, 1831: 678. Type locality: «Amérique septentrionale» (original citation), restricted to «Mobile, Mobile Co[unty], Alabama» by Bousquet (1996a: 454). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 26).

**Distribution.** This species is restricted to the Coastal Plain ranging from the District of Columbia to the Florida Panhandle, west to southeastern Mississippi (Drew A. Hildebrandt pers. comm. 2007) [see Bousquet 1996a: map 1].

**Records. USA:** AL, DC, FL, GA, MS, NC, SC

**Genus *ANATRICHIS* LeConte, 1853**

*Anatrichis* LeConte, 1853c: 391. Type species: *Oodes minutus* Dejean, 1831 by original designation. Etymology. Probably from the Greek *an* (without) and *trichos* (hair) and alluding to the absence of hairs underneath the metatarsomeres of the adults (“*tarsi posteriores subtus non pubescentes*”) contrary to those of *Lachnocrepis* [feminine].

**Diversity.** Six species (Bousquet 1996a: 456), possibly eight (Lorenz 2005: 324), in the temperate and tropical areas of the Nearctic (two species), Neotropical, Australian, and Oriental Regions.

***Anatrichis minuta* (Dejean, 1831)**

*Oodes minutus* Dejean, 1831: 677. Type locality: «Amérique septentrionale» (original citation), restricted to «Homestead [Dade County], Flor[ida]» by Lindroth (1969a: 1002). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 26).

**Distribution.** This species ranges from Massachusetts to central Kansas, south to southeastern Texas and southern Florida [see Bousquet 1996a: map 2]; also recorded from the Bahamas (Turnbow and Thomas 2008: 10).

**Records. USA:** AL, AR, CT, DC, FL, GA, IL, IN, KS, KY, LA, MA, MD, MO, MS, NC, NH, OH, OK, RI, SC, TN, TX, VA, WV – Bahamas

***Anatrichis oblonga* Horn, 1891**

*Anatrichis oblonga* G.H. Horn, 1891: 37. Type locality: «near the lower Rio Grande, Texas» (original citation), restricted to «Brownsville, Cameron Co[unty]» by Bousquet (1996a: 457). Holotype [by monotypy] (♀) in MCZ [# 2945].

**Distribution.** This species ranges from eastern Texas south to Honduras; it also occurs in the Bahamas and Cuba [see Bousquet 1996a: 459, map 3].

**Records. USA:** TX – Bahamas, Belize, Cuba, Guatemala, Honduras, Mexico

### Genus *OODINUS* Motschulsky, 1865

*Oodinus* Motschulsky, 1865: 352. Type species: *Oodinus piceus* Motschulsky, 1865 by monotypy. Etymology. From the generic name *Oodes* [*q.v.*] and the Latin suffix *-inus* (pertaining to) [masculine].

*Oodiellus* Chaudoir, 1882: 322. Type species: *Oodiellus mexicanus* Chaudoir, 1882 (= *Anatrichis alutaceus* Bates, 1882) designated by Bousquet and Laroche (1993: 202). Synonymy established with doubt by Bates (1884: 269), confirmed by Spence (1983: 568). Etymology. From the generic name *Oodes* [*q.v.*] and the Latin suffix *-ellus* (small) [masculine].

**Diversity.** Ten species in the temperate and tropical areas of the Nearctic (two species), Neotropical, and Australian (one species in the Malay Archipelago) Regions.

#### *Oodinus alutaceus* (Bates, 1882)

*Anatrichis alutaceus* Bates, 1882a [February]: 48. Type locality: «Cordova [Veracruz], Mexico» (original citation). Lectotype (♀), designated by Bousquet (1996a: 464), in BMNH. *Oodiellus mexicanus* Chaudoir, 1882 [27 December]: 323. Type locality: «Mexique» (original citation). Syntype(s) [2 originally cited] probably in MHNP. Synonymy established by Sallé (in Chaudoir 1882: 323).

**Distribution.** This species ranges from southeastern Texas (Bousquet 1996a: 465; map 5) south to Columbia (Martínez 2003: 17).

**Records. USA:** TX – Colombia, Costa Rica, Honduras, Mexico

#### *Oodinus pseudopiceus* Bousquet, 1996

*Oodinus pseudopiceus* Bousquet, 1996a: 462. Type locality: «Hillsborough R[iver] S[tate] P[ark], Hillsboro[ugh] Co[unty], Fl[orid]a» (original citation). Holotype (♂) in CNC [# 21759].

**Distribution.** This species is known from the Florida Peninsula and several islands of the West Indies [see Bousquet 1996a: map 4].

**Records. USA:** FL – Bahamas, Cuba, Dominican Republic

### Genus *LACHNOCREPIS* LeConte, 1853

*Lachnocrepis* LeConte, 1853c: 391. Type species: *Oodes parallelus* Say, 1830 by monotypy. Etymology. From the Greek *lachnos* (soft hair, down) and *crepis* (boot, sandal), alluding to the presence of dense hairs underneath all tarsomeres (“*tarsi omnes subtus pilosi*”) of the adult [feminine].

*Eulachnocrepis* Habu, 1956b: 96. Type species: *Oodes prolixus* Bates, 1873 by original designation. Synonymy established by Bousquet (1996a: 467). Etymology. From the Greek *eu* (agreeable, original, primitive) and the generic name *Lachnocrepis* [*q.v.*] [feminine].

**Diversity.** Three species in temperate regions of North America (one species) and eastern Asia (two species).

***Lachnocrepis parallela* (Say, 1830)**

*Oodes parallelus* Say, 1830b: (3) [3]. Type locality: «L[ouisian]a» (neotype label), restricted to «New Orleans, Orleans Parish» by Bousquet (1996a: 468). Neotype (♂), designated by Lindroth and Freitag (1969: 352), in MCZ [# 32975]. NOTE. «Louisiana» was the area originally cited by Say (1830b: (3) [3]).

**Distribution.** This species has a disjunct distribution over eastern North America. In the north, it ranges from Nova Scotia (Majka et al. 2007: 11) to southeastern Manitoba, south to Nebraska, northwestern Tennessee (Obion County, CMNH), and Maryland; in the south, it occurs along the Coastal Plain from Georgia (Fattig 1949: 45) to southern Florida, west to southern Louisiana [see Bousquet 1996a: map 6]. The species could reach the Rio Grande since Summers (1874b: 135) reported seeing one specimen “from Mexico, near the Rio Grande.”

**Records.** CAN: MB, NB, NS, ON, QC USA: AL, CT, DC, FL, GA, IA, IL, IN, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, PA, RI, SD, TN, VA, VT, WI, WV

**Genus *OODES* Bonelli, 1810**

*Oodes* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus helopioides* Fabricius, 1792 by subsequent monotypy in Panzer (1813: 51). Etymology. From the Greek *oön* (egg) and the suffix *-oides* (having the form of), alluding to the ovoid body shape (“*corp[us] parum convexum, ovale*”) of the adult [masculine].

**Diversity.** About 50 species in temperate and tropical areas of the Nearctic (four species), Palearctic (11 species), Oriental, Afrotropical (one species), and Australian Regions.

***Oodes amaroides* Dejean, 1831**

*Oodes amaroides* Dejean, 1831: 674. Type locality: «Amérique septentrionale» (original citation), restricted to «Mobile [Mobile County], Alab[ama]» by Lindroth (1969a: 1000). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 26). NOTE. Chaudoir’s collection in MHNP contains two specimens, a male and a female, of this species and the male has been designated lectotype by Bousquet (1996a: 472). The designation is invalid since Dejean (1831: 675) expressly stated that he had but a single female of this species.

**Distribution.** This species ranges from southern Maine to east-central Minnesota (Kamal J.K. Gandhi pers. comm. 2008), south to southeastern Texas and the Florida Peninsula; also known from one locality in Cuba [see Bousquet 1996a: map 7]. The record from southeastern Wyoming (Lavigne 1977: 47) is probably based on a mislabeled specimen or a stray.

**Records.** CAN: ON USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI, WV – Cuba

### ***Oodes americanus* Dejean, 1826**

*Oodes americanus* Dejean, 1826: 377. Type locality: «Amérique septentrionale» (original citation), restricted to «New Orleans [Orleans Parish], Louis[iana]» by Lindroth (1969a: 997). Lectotype (♂), designated by Bousquet (1996a: 474), in MHNP.

**Distribution.** This species is restricted to the Coastal Plain ranging from Maryland to central Florida, west to central Louisiana [see Bousquet 1996a: map 9].

**Records.** USA: AL, FL, GA, LA, MD, MS, NC, SC, VA

### ***Oodes brevis* Lindroth, 1957**

*Oodes brevis* Lindroth, 1957a: 63. Type locality: «Fairfax Co[unty], Virginia» (original citation). Holotype (♂) in MCZ [# 29603].

**Distribution.** This species ranges from southern New Hampshire to northwestern Arkansas, north to southernmost Ontario and the central part of the lower peninsula of Michigan, south to eastern Texas and the Florida Panhandle [see Bousquet 1996a: map 10]. The record from “Iowa” (Bousquet and Larochelle 1993: 200) needs confirmation.

**Records.** CAN: ON USA: AL, AR, CT, DC, FL, GA, IL, IN, LA, MA, MD, MI, MO, MS, NC, NH, NJ, NY, OH, RI, PA, SC, TN, TX, VA [IA]

### ***Oodes fluvialis* LeConte, 1863**

*Oodes fluvialis* LeConte, 1863c: 13. Type locality: «Canada and western states» (original citation), restricted to «Turkey Point, Ont[ario]» by Lindroth (1969a: 997). Lectotype (♂), designated by Bousquet (1996a: 473), in MCZ [# 5867].

**Distribution.** This species occurs from southern Maine and southern Quebec to western Minnesota, south to east-central Texas (Riley 2011), southwestern Louisiana and southern Florida [see Bousquet 1996a: map 8].

**Records.** CAN: ON, QC USA: AL, CT, DC, FL, GA, IA, IL, IN, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, PA, RI, SC, TN, TX, VA, VT, WI

### **Genus *STENOCREPIS* Chaudoir, 1857**

*Stenocrepis* Chaudoir, 1857: 45. Type species: *Oodes cayennensis* Buquet, 1835 designated by Chaudoir (1883: 488). Etymology (original). From the Greek *stenos* (narrow) and *crepis* (sole), alluding to the narrow male protarsomeres 1-3 (“*tarsi in mare articulis tribus dilatatis, angustis*”) [feminine].



**Diversity.** About 30 species in temperate and tropical areas of the Nearctic (six species) and Neotropical Regions, including the West Indies. The species are currently arrayed in two subgenera: *Stenocrepis s.str.* and *Stenous* Chaudoir.

### Subgenus *Stenocrepis* Chaudoir, 1857

*Stenocrepis* Chaudoir, 1857: 45. Type species: *Oodes cayennensis* Buquet, 1835 designated by Chaudoir (1883: 488).

**Diversity.** Ten species, ranging from southern Texas to central Argentina and including the West Indies, belong to this subgenus.

#### *Stenocrepis insulana* (Jacquelin du Val, 1857)

*Oodes insulanus* Jacquelin du Val, 1857: 20. Type locality: Cuba (inferred from title of the book). Syntype(s) location unknown (possibly in MHNP).

*Oodes texanus* LeConte, 1863c: 13. Type locality: «Texas» (original citation). Lectotype (♀), designated by Bousquet (1996a: 481), in MCZ [# 5869]. Synonymy established by Bousquet (1996a: 481).

*Stenocrepis chalcas* Bates, 1882a: 47. Type locality: «Cordova [Veracruz], Mexico» (original citation). Lectotype (♂), designated by Bousquet and Larochelle (1993: 17), in BMNH. Synonymy established, under the name *S. texanus* (LeConte), by Bousquet and Larochelle (1993: 17).

*Stenocrepis chalcocrous* Chaudoir, 1883: 487. Type locality: «Mexique» (original citation). Holotype [by monotypy] (♂) in MHNP. Synonymy established, under the name *S. chalcas* Bates, by Sallé (in Chaudoir 1883: 487), confirmed by Bousquet (1996a: 481).

**Distribution.** This species ranges from southern Texas to southern Mexico [see Bousquet 1996a: map 11]; it is also known from the Bahamas, Cuba, Cayman Islands, Trinidad and Tobago, and French Guiana (Bousquet 1996a: 482-483). The record from southeastern Louisiana (Summers 1874a: 80, as *Oodes texanus*) is suspect; that from northeastern Kansas (Knaus 1901: 110) refers to *S. cuprea* (Knaus 1903: 187).

**Records. USA:** TX [LA] – Bahamas, Cuba, Cayman Islands, French Guiana, Trinidad and Tobago

### Subgenus *Stenous* Chaudoir, 1857

*Stenous* Chaudoir, 1857: 39. Type species: *Oodes cupreus* Chaudoir, 1843 designated by Bousquet and Larochelle (1993: 201). Etymology (original). From the Greek *stenos* (narrow) and *oön* (egg), referring to the shape of the body (“*habitus anguste ovatus*”) of the adult [masculine].

*Crossocrepis* Chaudoir, 1857: 50. Type species: *Oodes quatuordecimstriatus* Chaudoir, 1843 by monotypy. Synonymy established by Bousquet (1996a: 483). Etymology. From the Greek *crossos* (fringe) and *crepis* (sole) [feminine].

**Diversity.** Twenty species in temperate and tropical areas of the Nearctic (five species) and Neotropical (19 species) Regions, including the West Indies.

***Stenocrepis cuprea* (Chaudoir, 1843)**

*Oodes cupreus* Chaudoir, 1843b: 761. Type locality: «Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♂), designated by Bousquet (1996a: 491), in MHNP.

*Oodes leucodactylus* LaFerté-Sénéctère, 1851: 273. Type locality: «New Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established by Chaudoir (1857: 40).

**Distribution.** This species ranges from southeastern Wisconsin (Messer 2010: 39) and southernmost Ontario south to southern Florida and the Rio Grande in southern Texas, west along the Rio Grande to central New Mexico [see Bousquet 1996a: map 15]. The species is not yet known from Mexico but it certainly occurs at least along the states bordering Texas. The record from “Pennsylvania” (Bousquet and Laroche 1993: 201) needs confirmation.

**Records.** CAN: ON USA: AL, AR, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MO, MS, NE, NM, OH, OK, SC, TN, TX, VA, WI, WV [PA]

***Stenocrepis duodecimstriata* (Chevrolat, 1836)**

*Oodes 12-striatus* Chevrolat, 1836b: [no. 173]. Type locality: «Tuspan [Veracruz, Mexico]» (original citation). Holotype [by monotypy] (♂) in UMO.

*Oodes humilis* LaFerté-Sénéctère, 1851: 270. Type locality: «Mexico» (original citation). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established by Bates (1882a: 46).

*Oodes striatellus* LaFerté-Sénéctère, 1851: 272. Type locality: «Mexico» (original citation). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established by Chaudoir (1883: 494).

*Stenous le contei* Chaudoir, 1857: 41. Type locality: «Louisiane» (original citation). Lectotype (♂), designated by Bousquet (1996a: 485), in MHNP. Synonymy established by Chaudoir (1883: 494), confirmed by Bousquet (1996a: 485).

**Distribution.** This species ranges from Long Island, New York, to south-central Oklahoma, south to Nicaragua (Bates 1882a: 46) and southern Florida, west to the Mexican state of Nayarit; also known from several islands in the Bahamas and the Greater Antilles [see Bousquet 1996a: map 12].

**Records.** USA: AL, AR, FL, GA, IL, KY, LA, MD, MS, NC, NJ, NY, OH, OK, SC, VA, TX, WV – Bahamas, Cuba, Dominican Republic, Guatemala, Haiti, Jamaica, Mexico, Nicaragua

***Stenocrepis elegans* (LeConte, 1851)**

*Oodes elegans* LeConte, 1851: 180. Type locality: «ad fluminis Gilae ripas, circa Pimas [Arizona]» (original citation). Lectotype (♂), designated by Bousquet (1996a: 495), in MCZ [# 76].

**Distribution.** This species ranges from southwestern California to eastern Arizona, south along the Gulf of California to Nayarit [see Bousquet 1996a: map 17]. A few specimens simply labeled from New Mexico and Texas are known.

**Records. USA:** AZ, CA [NM, TX] – Mexico

***Stenocrepis mexicana* (Chevrolat, 1835)**

*Oodes mexicanus* Chevrolat, 1835b: [no. 102]. Type locality: Mexico (inferred from title of the book). Holotype [by monotypy] (♀) in UMO (Bousquet 1996a: 487).

*Oodes 14-striatus* Chaudoir, 1843b: 759. Type locality: «près de la Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♂), designated by Bousquet (1996a: 487), in MHNP. Synonymy established by Bousquet (1996a: 487).

*Oodes picipes* LeConte, 1844: 52. Type locality: «Georgia» (original citation). Lectotype (♀), designated by Bousquet (1996a: 487), in MCZ [# 5868]. Synonymy established, under the name *S. quatuordecimstriata* (Chaudoir), by Chaudoir (1857: 51), confirmed by Bousquet (1996a: 487).

*Oodes stenocephalus* LaFerté-Sénectère, 1851: 271. Type locality: «New Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established, under the name *S. quatuordecimstriata* (Chaudoir), by Chaudoir (1857: 51).

*Stenocrepis sulcatus* Chevrolat, 1863: 195. Type locality: «Cuba» (original citation). Holotype [by monotypy] (♂) location unknown. Synonymy established by Bousquet (1996a: 487).

**Distribution.** This species ranges from New Jersey to southern Wisconsin, south through southeastern Kansas (Knaus 1903: 188) and eastern and central Texas to southern Mexico, and to the Florida Keys, west to the Pacific Coast in the Mexican state of Colima; also recorded from the Bahamas (Turnbow and Thomas 2008: 15) and Cuba [see Bousquet 1996a: map 13]. The record from “New Mexico” (Bousquet and Laroche 1993: 201, as *S. quatuordecimstriata*) is likely in error.

**Records. USA:** AL, AR, FL, GA, IL, IN, KS, KY, LA, MS, NC, NJ, OH, OK, SC, TN, TX, VA, WI, WV – Bahamas, Cuba, Mexico

***Stenocrepis tibialis* (Chevrolat, 1834)**

*Amara tibialis* Chevrolat, 1834: [no. 46]. Type locality: Mexico (inferred from title of the book), herein restricted to Mazatlán, Sinaloa (USNM). Lectotype (♂), designated by Bousquet (1996a: 493), in UMO.

*Oodes femoralis* Chaudoir, 1835: 444. Type locality: «Cuba» (original citation). Lectotype (♀), designated by Bousquet (1996a: 493), in MHNP. Synonymy established by Chaudoir (1837b: 50), confirmed by Bousquet (1996a: 493).

*Oodes pallipes* Brullé, 1836: plate 2, figure 6. Type locality: «sur les bords du Rio grande, province de Santa-Cruz [Argentina]» (Brullé 1837: 32). Syntype(s) location unknown (possibly in MHNP). Synonymy established, under the name *S. femoralis* (Chaudoir), by Brullé (1837: 32).

*Oodes chlorophanus* Erichson, 1847: 72. Type locality: Peru (inferred from title of the publication). Syntype(s) location unknown. Synonymy established by Bates (1882a: 46).

NOTE. Chaudoir (1883: 502) retained this name for a distinct, closely related species but the position of Bates (1882a: 46) seems more plausible (Bousquet 1996a: 493).

**Distribution.** This species ranges from southern Texas south to Argentina (Brullé 1837: 32, as *O. pallipes*) and along the West Indies from Cuba to at least Puerto Rico [see Bousquet 1996a: map 16].

**Records. USA:** TX – Argentina, Brazil, Cayman Islands, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Jamaica, Mexico, Peru, Puerto Rico.

### Tribe PANAGAEINI Bonelli, 1810

Panagaeides Bonelli, 1810: Tabula Synoptica. Type genus: *Panagaeus* Latreille, 1802.

Tefflini Basilewsky, 1946: 7. Type genus: *Tefflus* Leach, 1819.

**Diversity.** Worldwide, with about 270 species in 19 genera (Lorenz 2005: 319–323, as Panagaeina). The Northern Hemisphere is represented by only about 40 species (15.5 % of the world fauna). Four species in two genera are found in North America.

### Genus PANAGAEUS Latreille, 1802

*Panagaeus* Latreille, 1802: 91. Type species: *Carabus cruxmajor* Linnaeus, 1758 by monotypy. Etymology. Uncertain, possibly from the Greek *pan-* (all, the whole) and *agaios* (admirable, enviable), alluding to the overall beautiful coloration of the adult, or from the Greek *panagios* (very saintly, very pious), alluding to the cross-shaped color band on the elytra of the species Latreille had before him [masculine].

**Diversity.** Fourteen species in temperate and tropical areas of the Nearctic (three species), Neotropical (four species), and Palaearctic (eight species) Regions arrayed in two subgenera: *Panagaeus* (Palaearctic Region) and *Hologaeus* (Western Hemisphere).

**Identification.** Ogueta (1966a) reviewed the Western Hemisphere species and provided a key for their identification.

### Subgenus *Hologaeus* Ogueta, 1966

*Hologaeus* Ogueta, 1966b: 396. Type species: *Panagaeus cruciger* Say, 1823 by original designation. Etymology. From the Greek *holo-* (whole, entire) and *agaios* (admi-

rable, enviable), probably alluding to the overall beautiful coloration of the adults [masculine].

**Diversity.** Western Hemisphere, with six species in the Nearctic (three species) and Neotropical (four species) Regions.

***Panagaeus cruciger* Say, 1823**

*Panagaeus crucigerus* Say, 1823a: 69. Type locality: «Surf City [Ocean County], N[ew] J[ersey]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 335), in MCZ [# 33075]. NOTE. «Senipuxten, eastern shore of Maryland» was the area originally cited by Say (1823a: 70).

*Panagaeus lapidarius* LaFerté-Sénectère, 1851: 223. Type locality: «New-Orléans [Louisiana]» (original citation). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established by Schaum (1852: 143).

**Distribution.** This species ranges from Long Island, New York (Notman 1928: 213; MCZ), to southern Florida (Peck and Thomas 1998: 20), west to eastern Texas along the Gulf Coast (Snow 1906a: 141; Galveston County, USNM); also recorded from northern Indiana (Blatchley 1910: 65; Schrock 1985: 352) and along the Ohio River in southwestern Ohio (Dury 1902: 111). The record from “Pennsylvania” (Bousquet and Laroche 1993: 202) needs confirmation.

**Records. USA:** AL, DE, FL, IN, LA, MD, MS, NC, NJ, NY, OH, TX, VA [PA]

***Panagaeus fasciatus* Say, 1823**

*Panagaeus fasciatus* Say, 1823a: 70. Type locality: «P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 335), in MCZ [# 33074].

**Distribution.** This species is found from Massachusetts (Harris in Scudder 1869: 264) and Connecticut (Krinsky and Oliver 2001: 136) to western South Dakota (Larsen and Purrington 2010: 571), including southern Ontario (Lindroth 1969a: 969), south to southeastern Texas (San Patricio County, CNC) and southern Florida (Peck and Thomas 1998: 20); also recorded from northeastern New Mexico (Fall and Cockerell 1907: 157).

**Records. CAN:** ON **USA:** AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NJ, NM, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV

***Panagaeus sallei* Chaudoir, 1862**

*Panagaeus sallei* Chaudoir, 1862: 353. Type locality: «Aculzingo, Etat de Vera-Cruz, Mexique» (original citation). Syntype(s) [3 originally cited] in MHNP.

*Panagaeus sallaei* Bates, 1882a: 41. Unjustified emendation of *Panagaeus sallei* Chaudoir, 1862.



**Distribution.** This species ranges from central and southern Arizona (Cochise, Santa Cruz, and Yavapai Counties, CMNH, CNC; LeConte 1879c: 60) and western and south-central Texas (Presidio and Bexar Counties, CMNH, MCZ; LeConte 1879c: 60), south at least to central Veracruz and the Federal District in Mexico (Ogueta 1966a: 12); also found in the Baja California Peninsula (Horn 1894: 307).

**Records. USA:** AZ, TX – Mexico

### Genus *MICRIXYS* LeConte, 1854

*Eugnathus* LeConte, 1853c: 375 [junior homonym of *Eugnathus* Schönherr, 1833].

Type species: *Panagaeus distinctus* Haldeman, 1852 by monotypy. Etymology. From the Greek *eu* (well, by extension large) and *gnathos* (jaw), probably alluding to the well-developed mandibles (“*mandibulae crassae dilatatae*”) of the adult [masculine].

*Micrixys* LeConte, 1854d: 220. Replacement name for *Eugnathus* LeConte, 1853. Etymology. From the Greek *micros* (small, little) and *ixys* (waist), probably alluding to the abrupt basal constriction of the pronotum (“*thorax postice sensim valde angustatus sub-pedunculatus*”, see LeConte 1853c: 375) of the adult [feminine].

**Diversity.** Two species in temperate and tropical areas of the Nearctic (one species) and Neotropical (two species in Mexico) Regions.

**Identification.** Van Dyke (1927b: 93) discussed the structural differences between the two species.

### *Micrixys distincta* (Haldeman, 1852)

*Panagaeus distinctus* Haldeman, 1852: 373. Type locality: «Santa Fé [Santa Fe County, New Mexico]» (original citation). One possible syntype, a ♀ labeled “[dark green disc] / distinctus 3 [handwritten],” in MCZ (collection LeConte).

**Distribution.** This species ranges from southwestern Tennessee (Hardeman County, CMNH) to southwestern Arizona (Maricopa County, USNM), north to southeastern Colorado (Michels et al. 2008; Las Animas County, Robert L. Davidson pers. comm. 2008) and northeastern Kansas (Riley County, CNC), south to the state of Guanajuato on the Mexican Plateau (Ball and Shpeley 1992a: 60). The record from southern Wisconsin (Rauterberg 1885: 12) is probably in error.

**Records. USA:** AZ, CO, KS, NM, OK, TN, TX – Mexico

### Tribe CHLAENIINI Brullé, 1834

Chlaenides Brullé, 1834b: 123. Type genus: *Chlaenius* Bonelli, 1810. NOTE. 1. Under Article 11.7.2 of the Code, family-group names published in vernacular forms, such as this one, can be made available only if they were published before 1900, have been latinized by later authors, and have been generally accepted as valid and as dating from the first publication in vernacular form. These conditions are met since at least 1998

when Lorenz (1998: 308) used the name Chlaeniini Brullé, 1834 for this tribe. 2. The family-group name Callistidae Laporte, 1834 has been used as the valid name for this tribe by some authors. Tome IV of the *Histoire naturelle des insectes* authored by Brullé was issued in two livraisons and the first one (pages 1-240) was recorded on August 2 by the *Bibliographie de la France*. Laporte's *Etudes entomologiques* was also issued in two livraisons and the first one (pages 1-94 + pls 1-2), in which the name Callistidae was made available, was recorded on August 9 by the *Bibliographie de la France*. Based on this evidence alone, Brullé's name is retained here as the valid one for the tribe.

**Diversity.** Worldwide, with about 980 species (Lorenz 2005: 328-342) arrayed in two subtribes: Callistina (77 afro-oriental and one Palearctic species) and Chlaeniina (about 900 species).

### Subtribe CHLAENIINA Brullé, 1834

Chlaenides Brullé, 1834b: 123. Type genus: *Chlaenius* Bonelli, 1810.

Lissaucheniidae Gistel, 1848b: [2]. Type genus: *Lissauchenus* Macleay, 1825.

Rhopalomelini Alluaud, 1930: 105. Type genus: *Rhopalomelus* Boheman, 1848.

Chlaeniodini Jeannel, 1949a: 776, 777. Type genus: *Chlaeniodus* Jeannel, 1949.

Eccoptomeneini Jeannel, 1949a: 776, 821. Type genus: *Eccoptomenus* Chaudoir, 1850.

Chlaenionini Jeannel, 1949a: 776. Type genus: *Chlaenionus* Kuntzen, 1913.

Proclitini Basilewsky, 1950: 49. Type genus: *Proclitus* Péringuey, 1896.

Pleroticini Basilewsky, 1950: 50. Type genus: *Pleroticus* Péringuey, 1896.

Callistoidini Basilewsky, 1950: 51. Type genus: *Callistoides* Motschulsky, 1864.

Harpaglossini Basilewsky, 1950: 52. Type genus: *Harpaglossus* Motschulsky, 1858.

Chlaenioctenini Basilewsky and Grundmann, 1955: 204. Type genus: *Chlaenioctenus* Bates, 1892.

Brachylobini Basilewsky and Grundmann, 1955: 204. Type genus: *Brachylobus* Chaudoir, 1876.

Leptodinodini Basilewsky and Grundmann, 1955: 205. Type genus: *Leptodinodes* Jeannel, 1949.

**Diversity.** Worldwide, with about 900 species (Lorenz 2005: 328-341). The vast majority of species (about 81 % of the world fauna) are found in the Oriental and Afro-tropical Regions.

### Genus CHLAENIUS Bonelli, 1810

*Chlaenius* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus festivus* Panzer, 1796 designated by Madge (1975: 581). Etymology. From the Greek *chlaena* (coat, blanket), possibly alluding to the pubescence on the elytra of the species in the hands of Bonelli [masculine]. NOTE. Madge (1975: 581) correctly pointed out that the first valid type species of *Chlaenius* Bonelli, 1810 is *Carabus spoliatus* Rossi, 1792 as designated by Hope (1838: 75). However, acceptance of Hope's designation would

seriously affect the current nomenclature in the genus and I agree with Madge that a request should be addressed to the International Commission on Zoological Nomenclature to set aside Hope's designation and select that of *Carabus festivus* Panzer, 1796 as type species of *Chlaenius*.

**Diversity.** Worldwide, with about 855 species (Lorenz 2005: 328–341) arrayed in 62 subgenera. The genus is mainly represented in the Afrotropical and Oriental Regions with about 650 species (approximately 76% of the world fauna). The North American fauna has 52 species (6% of the world fauna) in the boreal, temperate, and subtropical regions.

**Identification.** Bell (1960) revised the North American species. Since the publication of this work, one Neotropical species was discovered in southern Texas (*Chlaenius azureus*), the name of one species (*C. perplexus*) was replaced by an older one (*C. circumcinctus*), and two of Bell's species (*C. cursor* and *C. herbaceus*) have been shown to be a complex of two species each and the species found in North America to be *C. sparsus* and *C. patruelis* respectively. A number of subspecies recognized by Bell (1960) are placed in synonymy in this catalogue.

### Subgenus *Pseudanomoglossus* Bell, 1960

*Pseudanomoglossus* Bell, 1960: 101. Type species: *Chlaenius maxillosus* Horn, 1876 by original designation. Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Anomoglossus* [*q.v.*] [masculine].

**Diversity.** One species along the Coastal Plain of eastern North America.

### *Chlaenius maxillosus* Horn, 1876

*Chlaenius maxillosus* G.H. Horn, 1876d: 260. Type locality: «Lake Harney and Haulover, Florida» (original citation), restricted to «Lake Harney [Volusia County]» by Bell (1960: 102). One syntype [2 ♀ originally cited] in MCZ [# 8004].

**Distribution.** This species is found from southeastern Georgia (Fattig 1949: 44) to southern Florida (Bell 1960: 102), west to southeastern Texas (Aransas County, USNM); also recorded from South Bimini Island in the Bahamas (Darlington 1953: 8).

**Records. USA:** AL, FL, GA, MS, TX – Bahamas

### Subgenus *Eurydactylus* LaFerté-Sénéctère, 1851

*Eurydactylus* LaFerté-Sénéctère, 1851: 255. Type species: *Epomis tomentosus* Say, 1823 by monotypy. Etymology (original). From the Greek *eurys* (broad, wide) and *dactylos* (finger), alluding to the strong dilatation of the male protarsomeres («*tarses antérieurs du mâle présentant une dilatation tout à fait exceptionnelle*») [masculine]. *Glyptoderus* LaFerté-Sénéctère, 1851: 260. Type species: *Glyptoderus aurolimbatus* LaFerté-Sénéctère, 1851 by original designation. Synonymy established by Bell



(1960: 102). Etymology. From the Greek *glyptos* (carved) and *dere* (neck, by extension pronotum) [masculine].

**Diversity.** Seven species in the Nearctic (two species) and Neotropical (five species) Regions.

### ***Chlaenius pimalicus* Casey, 1914**

*Chlaenius pimalicus* Casey, 1914: 38. Type locality: «southern Arizona» (original citation), herein restricted to Douglas, Cochise County (see Bell 1960: 103). Three syntypes [3 originally cited] in USNM [# 47702].

**Distribution.** To date this species has been recorded only from southeastern Arizona (Bell 1960: 103).

**Records. USA:** AZ

### ***Chlaenius tomentosus* (Say, 1823)**

*Epomis tomentosus* Say, 1823a: 60. Type locality: «Penn[sylvania]» (neotype label), herein restricted to Pocono Lake, Monroe County (see Bell 1960: 104). Neotype (♀), designated by Lindroth and Freitag (1969: 350), in MCZ [# 32996]. NOTE. «Pennsylvania; the Missouri» were the areas originally cited by Say (1823a: 61).

*Amara luctuosa* Germar, 1824: 10. Type locality: «Kentucky» (original citation). Syntype(s) probably lost (Lindroth 1969a: 974). Synonymy established by LeConte (1847: 438).

*Chlaenius amplus* LeConte, 1856b: 29. Type locality: «Georgia» (original citation). One syntype [2 originally cited] in MCZ [# 5866]. Synonymy established by Horn (1876d: 276), confirmed by Bell (1960: 103).

*Chlaenius zunianus* Casey, 1914: 38. Type locality: «Fort Wingate [McKinley County], New Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47718]. Synonymy established by Lindroth (1969a: 974).

*Chlaenius tomentosus lacustrinus* Casey, 1920: 298. Type locality: «Bayfield [Bayfield County, Wisconsin], Lake Superior» (original citation). Lectotype (♂), designated by Lindroth (1975: 144), in USNM [# 47717]. Synonymy established by Bell (1960: 103).

**Distribution.** This species ranges from Maine to southern Alberta, south to southeastern Arizona, central Texas, and central Florida (Bell 1960: 104-105).

**Records. CAN:** AB, MB, ON, QC, SK **USA:** AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

### **Subgenus *Anomoglossus* Chaudoir, 1857**

*Anomoglossus* Chaudoir, 1857: 4. Type species: *Chlaenius emarginatus* Say, 1823 designated by Bell (1960: 105). Etymology (original). From the Greek *anomos* (ab-



**Figure 34.** *Trichotichnus dichrous* (Dejean). This eastern species is color-dimorphic, a phenomenon rarely seen in North American carabids. While most adults have the head and pronotum reddish-yellow and the elytra much darker, a small number of adults are known to be uniformly piceous. When he described the species, Dejean had a single specimen of the common morph. The strong color contrast between the forebody and elytra prompt him to propose the name *dichrous*, from the Greek prefix *di-* (two) and *chroma* (color of the skin).



normal) and *glossa* (tongue), alluding to the unusual shape of the ligula (“*ligula omnino abnormis*”), corresponding to the glossa and paraglossae or the glossal sclerite, of the adult [masculine].

**Diversity.** Three species in eastern North America.

**Taxonomic Note.** The generic name *Agreuter* Lepeletier and Audinet-Serville (in Latreille et al. 1828: 633) was proposed for two species, *Chlaenius chlorodius* Dejean, 1826 and *Chlaenius elegantulus* Dejean, 1826 (= *Chlaenius pusillus* Say, 1823). Bousquet (2002b: 6) designated *C. elegantulus* as type species and so the name is listed as a synonym of *Anomoglossus* Chaudoir (e.g., Lorenz 2005: 333). However, Duponchel (1840a: 196) had selected *C. chlorodius* as the type species and so *Agreuter* is a senior synonym of *Amblygenius* LaFerté-Sénectère, 1851.

### *Chlaenius amoenus* Dejean, 1831

*Chlaenius amoenus* Dejean, 1831: 648. Type locality: «Amérique septentrionale» (original citation), restricted to «Georgia» by Bell (1960: 106), herein to Ellijay, Gilmer County (see Fattig 1949: 44). Two syntypes in MHNP (Lindroth 1955b: 26).

**Distribution.** This species ranges from Virginia (Robert L. Davidson pers. comm. 1992) to northeastern Iowa (Purrington et al. 2002: 201), south to eastern Texas (Sabine County, CMNH), southeastern Louisiana (Colby 2002: 37), and northern Florida (Bell 1960: 106).

**Records. USA:** AL, AR, FL, GA, IA, IL, LA, MO, MS, NC, SC, TN, TX, VA

### *Chlaenius emarginatus* Say, 1823

*Chlaenius emarginatus* Say, 1823a: 63. Type locality: North America (inferred from title of the paper); restricted to «White Sulphur Springs [Greenbrier County], W[est] V[irgini]a» by Lindroth and Freitag (1969: 351). Lectotype (♂), designated by Lindroth and Freitag (1969: 351), in MHNP (collection Dejean).

*Anomoglossus delectans* Casey, 1914: 39. Type locality: «central New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47719]. Synonymy established by Bell (1960: 106).

*Anomoglossus gravis* Casey, 1914: 40. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). One syntype in USNM [# 47721]. Synonymy established by Bell (1960: 106).

*Anomoglossus semotus* Casey, 1920: 299. Type locality: «Lake Worth [Palm Beach County], Florida» (original citation). One syntype in USNM [# 47720]. Synonymy established by Bell (1960: 106).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1969a: 975) to eastern South Dakota (Kirk and Balsbaugh 1975: 36; French et al. 2004: 557), south to central Oklahoma and central Florida (Bell 1960: 107). Old specimens labeled “Tex” are also known (Bell 1960: 107).

**Records.** CAN: NB, NS, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, VA, VT, WI, WV [TX]

### ***Chlaenius pusillus* Say, 1823**

*Chlaenius pusillus* Say, 1823a: 63. Type locality: «Frankl[i]nv[i]lle, P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 352), in MCZ [# 32977].

*Chlaenius elegantulus* Dejean, 1826: 367. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 26). Synonymy established by Say (1830b: (3)[3]), confirmed by Lindroth (1955b: 26).

*Anomoglossus nanulus* Casey, 1914: 41. Type locality: «Alexandria [Rapides Parish], Louisiana» (original citation). One syntype in USNM [# 47722]. Synonymy established by Bell (1960: 107).

**Distribution.** This species ranges from southern Quebec (Saint-Clet, CNC) to southeastern Minnesota (Gandhi et al. 2005: 929), south to southern Texas and central Florida (Bell 1960: 108). At least one specimen labeled “Mass” is known (Bell 1960: 108).

**Records.** CAN: ON QC USA: AL, AR, CT, DC, DE, GA, FL, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, NE, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI [MA]

### **Subgenus *Chlaenius* Bonelli, 1810**

*Chlaenius* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus festivus* Panzer, 1796 designated by Madge (1975: 581).

*Chaelinus* Basilewsky and Grundmann, 1954: 242. Type species: *Carabus festivus* Panzer, 1796 by original designation. Etymology. Anagram of the generic name *Chlaenius* [*q.v.*] [masculine].

*Chinelaus* Basilewsky and Grundmann, 1954: 242. Type species: *Epomis pallipes* Gebler, 1823 by original designation. Etymology. Anagram of the generic name *Chlaenius* [*q.v.*] [masculine].

*Merochlaenius* Grundmann, 1955: 280. Type species: *Chlaenius aestivus* Say, 1823 by original designation. Synonymy established by Bousquet and Laroche (1993: 204). Etymology. From the Greek *meros* (thigh, femur) and the generic name *Chlaenius* [*q.v.*] [masculine].

*Pachychlaenius* Grundmann, 1955: 282 (as *Pachychleanius*). Type species: *Chlaenius erythropus* Germar, 1824 by original designation. Synonymy established by Bousquet and Laroche (1993: 204). Etymology. From the Greek *pachys* (thick) and the generic name *Chlaenius* [*q.v.*] [masculine].

*Sericochlaenius* Grundmann, 1955: 286. Type species: *Chlaenius cumatilis* LeConte, 1851 by original designation. Synonymy established by Bousquet and Laroche (1993: 204). Etymology. From the Greek *sericon* (silk) and the generic name *Chlaenius* [*q.v.*] [masculine].

**Diversity.** About 140 species in all zoogeographical regions except the Australian Region. The Nearctic Region is represented by 14 species.

[**aestivus group**]

***Chlaenius aestivus* Say, 1823**

*Chlaenius aestivus* Say, 1823a: 62. Type locality: «Rosslyn [Arlington County], V[irgini]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 351), in MCZ [# 32979].

*Chlaenius cobaltinus* Dejean, 1826: 331. Type locality: «Amérique septentrionale» (original citation). Two possible syntypes in MHNP (Lindroth 1955b: 25). Synonymy established by Brullé (1835c: 284).

*Chlaenius congener* LeConte, 1844: 51. Type locality: «Georgia» (original citation). Four syntypes in MCZ [# 5859]. Synonymy established by LeConte (1853c: 390).

**Distribution.** This species ranges from Massachusetts (Bell 1960: 120) to east-central Iowa (Wickham 1888: 82), including southernmost Ontario (Lindroth 1969a: 981), south to southeastern Louisiana (Allen 1965: 75) and central Florida (Bell 1960: 120). The record from eastern Kansas (Popenoe 1877: 23) needs confirmation.

**Records.** CAN: ON USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KY, LA, MA, MD, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, TN, VA, WI [KS]

***Chlaenius augustus* Newman, 1838**

*Chlaenius augustus* Newman, 1838a: 490. Type locality: «Wilmington [New Castle County], Delaware» (original citation). Syntype(s) probably lost.

*Chlaenius lecontei* Haldeman, 1843b: 304. Type locality: North America (inferred from title of the paper). Two probable syntypes, a ♀ labeled “[orange disc] / *C. augustus* Newm. *Lecontei* Hald. [handwritten]” and a ♂ labeled “[orange disc] / 355. [handwritten] / *angustus* 2 [handwritten],” in MCZ (collection LeConte). Synonymy established by LeConte (1847: 433).

**Distribution.** This species ranges from New Jersey (Bell 1960: 121) to east-central South Carolina (Ciegler 2000: 80) and southwestern Alabama (Löding 1945: 23; Bell 1960: 121). The record from “Mississippi” (Bousquet and Laroche 1993: 204) needs confirmation.

**Records.** USA: AL, DE, GA, NC, NJ, SC, TN, VA [MS]

***Chlaenius azurescens* Chaudoir, 1876**

*Chlaenius azurescens* Chaudoir, 1876b: 220. Type locality: «Orizaba [Veracruz]» (original citation). Syntype(s) in MHNP.

**Distribution.** This species ranges from southern Texas (Johnson 1978: 68) to Veracruz (Davidson 1980: 88) along the east coast of Mexico.

**Records.** USA: TX – Mexico

***Chlaenius platyderus* Chaudoir, 1856**

*Chlaenius diffinis* Chaudoir, 1856: 279 [primary homonym of *Chlaenius diffinis* LaFerté-Sénectère, 1851]. Type locality: «midi des Etats-Unis» (original citation), herein restricted to Willard, Greene County, Missouri (see Bell 1960: 122). Syntype(s) in MHNP.

*Chlaenius platyderus* Chaudoir, 1856: 280. Type locality: «Louisiane» (original citation). Holotype [by monotypy] in MHNP. Synonymy established by Chaudoir (1876b: 218), confirmed by Bell (1960: 122).

*Chlaenius kuntzeni* Csiki, 1931: 958. Replacement name for *Chlaenius diffinis* Chaudoir, 1856.

**Distribution.** This species ranges from “Massachusetts” to central North Dakota (Bell 1960: 122), north to southeastern Manitoba (Ryan and Holliday 2006: 414), south to northeastern New Mexico, central Texas, northwestern Georgia (Fattig 1949: 44) along the Appalachians, and Long Island, New York, along the east coast (Bell 1960: 122).

**Records.** CAN: MB USA: AR, CO, CT, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, ND, NE, NJ, NM, NY, OH, OK, PA, RI, SD, TN, TX, VA, WI, WV

***Chlaenius viduus* Horn, 1871**

*Chlaenius viduus* G.H. Horn, 1871: 325. Type locality: «Missouri probably near S[ain]t Louis» (original citation). Holotype [by monotypy] (♀) in MCZ [# 34530].

**Distribution.** This rarely collected species is known from Arkansas, southern Missouri (Bell 1960: 121), and eastern Oklahoma (Latimer County, UASM). Specimens labeled «S[outh] Ill[inois]» are known (Bell 1960: 121).

**Records.** USA: AR, MO, OK [IL]

**[cursor group]*****Chlaenius chaudoiri* Horn, 1876**

*Chlaenius chaudoiri* G.H. Horn, 1876d: 270. Type locality: «Texas; Tamaulipas, Mexico» (original citation), restricted to «Texas» by Bell (1960: 118), herein to Palmetto State Park, Gonzalez County (see Bell 1960: 118). Two syntypes [2 originally cited] in MCZ [# 8001]. Etymology. The specific name honors Maximilien Stanislovitch Baron de Chaudoir [1816-1881]. Born in Ukraine and wealthy by inheritance, Chaudoir devoted his life to the study of Carabidae. His work includes many revisions of highly diverse, world-wide genera.

**Distribution.** This species is known from southeastern Arizona to central Texas (Bell 1960: 118), south to Durango and San Luis Potosí in Mexico (Davidson 1980: 133).

**Records.** USA: AZ, NM, TX – Mexico



***Chlaenius cumatilis* LeConte, 1851**

*Chlaenius cumatilis* LeConte, 1851: 179. Type locality: «San Diego, et S[an]ta Isabel [California]» (original citation), restricted to «San Diego [San Diego County]» by Bell (1960: 117). Six syntypes in MCZ [# 72].

*Chlaenius cumatilis sparsellus* Casey, 1914: 37. Type locality: «Arizona» (original citation). Two syntypes in USNM [# 47703]. Synonymy established by Bell (1960: 117).

**Distribution.** This species is known from Sonora (Davidson 1980: 129), southern Arizona, southern California (Bell 1960: 117), and the Baja California Peninsula (Horn 1894: 311).

**Records. USA:** AZ, CA (CHI) – Mexico

***Chlaenius patruelis* LeConte, 1844**

*Chlaenius patruelis* LeConte, 1844: 51. Type locality: «Georgia» (original citation), herein restricted to Saint Simons Island, Glynn County (see Fattig 1949: 44). Two syntypes in MCZ [# 5855].

**Distribution.** This species is known from southern Alabama, southern Georgia, and throughout Florida (Bell 1960: 118). A specimen labeled “N. Car.” is known (Bell 1960: 118).

**Records. USA:** AL, FL, GA [NC]

**Note.** This species was known for a long time under the name *C. herbaceus* Chevrolat, 1834 (see Bell 1960: 117) until Bell (1966a) showed that *C. patruelis* and *C. herbaceus* were two distinct species. *Chlaenius herbaceus* is known only from Veracruz and Campeche in Mexico (Davidson 1980: 125).

***Chlaenius sparsus* LeConte, 1863**

*Chlaenius sparsus* LeConte, 1863c: 12. Type locality: «Cape San Lucas, Lower California [Baja California Sur]» (original citation). Four syntypes in MCZ [# 5857].

**Distribution.** This species is known from the Baja California Peninsula and from southern Arizona south, through central and western Mexico, to Central America (Robert L. Davidson pers. comm. 2007).

**Records. USA:** AZ – Mexico

**Note.** Horn (1876d: 275) listed this name as a junior synonym of *Chlaenius cursor* Chevrolat, 1835 described from “Orixaba” in Veracruz. However, both names apply to distinct species (Robert L. Davidson pers. comm. 2007).

**[laticollis group]*****Chlaenius erythropus* Germar, 1824**

*Chlaenius erythropus* Germar, 1824: 11. Type locality: «America septentrionali» (original citation), restricted to «Mobile [Mobile County], Alab[ama]» by Lindroth (1969a: 982). Lectotype (♂), designated by Lindroth (1969a: 982), in ZMHB.



*Chlaenius rufilabris* Dejean, 1826: 329. Type locality: «Louisiane; Géorgie» (original citation). Syntype(s) [2 originally cited] in MHNP. Synonymy established with doubt by Dejean (1826: 329), confirmed by Chaudoir (1856: 278).

*Chlaenius umbratarsis* Casey, 1920: 291. Type locality: «Louisiana» (original citation). One syntype in USNM [# 47698]. Synonymy established by Bell (1960: 130).

*Chlaenius oblongipennis* Casey, 1920: 292. Type locality: «Lake Worth [Palm Beach County], Florida» (original citation). One syntype in USNM [# 47699]. Synonymy established by Bell (1960: 130).

**Distribution.** This species ranges from New Jersey (Bell 1960: 131) to eastern South Dakota (Kirk and Balsbaugh 1975: 36), including southernmost Ontario (Lindroth 1969a: 982), south to northeastern New Mexico (Union County, CNC), southeastern Texas, and southern Florida (Bell 1960: 131).

**Records.** CAN: ON USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MI, MN, MO, MS, NC, NE, NJ, NM, OH, OK, PA, SC, SD, TN, TX, VA, WI

### *Chlaenius fuscicornis* Dejean, 1831

*Chlaenius fuscicornis* Dejean, 1831: 647. Type locality: «Amérique septentrionale» (original citation), herein restricted to New Orleans, Orleans Parish, Louisiana (see Bell 1960: 130). One syntype in MHNP (Lindroth 1955b: 25).

**Distribution.** This species is found in southeastern United States from South Carolina (Kirk 1970: 16; Ciegler 2000: 80) to northern Arkansas, south to southeastern Texas and southeastern Georgia (Bell 1960: 130). The records from Illinois (Leng and Beutenmüller 1893: 143; Blatchley 1910: 166), “Iowa” (Jaques and Redlinger 1946: 296), Kansas (Popenoe 1877: 23; Snow 1903: 193), “Oklahoma” (Arnold 2008), and Missouri (Summers 1873: 145) need confirmation; that from southeastern Pennsylvania (Rathvon 1869: 525) must be in error.

**Records.** USA: AL, AR, GA, LA, MS, SC, TN, TX [IA, IL, KS, MO, OK]

### *Chlaenius laticollis* Say, 1823

*Chlaenius laticollis* Say, 1823a: 64. Type locality: «Tonganoxie [Leavenworth County], Ka[nsas]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 351), in MCZ [# 32978]. NOTE. «the Missouri» was the area originally cited by Say (1823a: 64).

*Chlaenius rufipes* Dejean, 1826: 331. Type locality: «Caroline» (original citation). One syntype in MHNP (Lindroth 1955b: 25). Synonymy established by LaFerté-Sénectère (1851: 252), confirmed by Lindroth (1955b: 25).

*Chlaenius brevicollis* LeConte, 1847: 432 [secondary homonym of *Chlaenius brevicollis* (Chaudoir, 1843)]. Type locality: «Georgia» (original citation). One syntype in MCZ [# 5858]. Synonymy established, under the name *C. rufipes* Dejean, by LeConte (1863b: 10).

*Chlaenius brachyderus* Chaudoir, 1856: 279. Type locality: «Louisiane» (original citation). Syntype(s) in MHNP. Synonymy established with the name *C. brevicollis* LeConte by Chaudoir (1856: 279).

**Distribution.** This species ranges from southern Maine (Majka et al. 2011: 47) to southeastern Nebraska (Nemaha County, Foster F. Purrington pers. comm. 2012), including southernmost Ontario (Bousquet 1987a: 132), south to Durango and Nuevo León (Davidson 1980: 92) in Mexico and southern Florida (Bell 1960: 129), west along southern United States to southeastern Arizona (Dajoz 2004: 116). The record from Tabasco in Mexico (Davidson 1980: 92) is suspect; that from southern Wisconsin (Rauterberg 1885: 18) needs confirmation.

**Records.** CAN: ON USA: AL, AR, AZ, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NM, NY, OH, OK, PA, SC, TN, TX, VA, WV [WI] – Mexico

### *Chlaenius orbis* Horn, 1871

*Chlaenius orbis* G.H. Horn, 1871: 326. Type locality: «central and western Texas» (original citation), herein restricted to Temple, Bell County (see Bell 1960: 128). Syntype(s) in MCZ [# 34529] and IZWP [# 1319] (Mroczkowski 1960: 379).

**Distribution.** This species ranges from southeastern Arizona to southeastern Texas, south to Oaxaca in Mexico (Bell 1960: 128); also recorded from San Bernardino County in southeastern California (Dajoz 2007: 20).

**Records.** USA: AZ, CA, NM, TX – Mexico

### [sericeus group]

#### *Chlaenius sericeus* (Forster, 1771)

*Carabus sericeus* Forster, 1771: 58. Type locality: «America septentrionali» (original citation), restricted to «W[est] Roxbury [Suffolk County], Mass[achusetts]» by Lindroth (1969a: 982). Syntype(s) probably lost (Lindroth 1969a: 982).

*Carabus forsteri* Turton, 1802: 464. Unnecessary replacement name for *Carabus sericeus* Forster, 1771. Etymology. The specific name was proposed for Johann Reinhold Forster [1729-1798], an English Lutheran pastor who served as naturalist on James Cook's second circumnavigation of the globe on the *Resolution*. He was the father of the naturalist Georg Adam Forster [1754-1794] who often travelled with him.

*Chlaenius viridifrons* Eschscholtz, 1833: 27. Type locality: «bei St. Franzisco [San Francisco County], Californien» (original citation). Syntype(s) location unknown (possibly in ZMMU). **New synonymy.**

*Chlaenius perviridis* LeConte, 1847: 434. Type locality: «ad Rocky Mountains» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5856]. Synonymy established by LeConte (1856b: 27) and Chaudoir (1856: 286).

*Chlaenius regularis* LeConte, 1851: 179. Type locality: «ad flumina Colorado et Gila» (original citation). One syntype in MCZ [# 73]. Synonymy established, under the name *C. sericeus* var. *perviridis* LeConte, by Chaudoir (1876b: 218).

*Chlaenius regularis apacheanus* Casey, 1914: 34. Type locality: «Arizona (southwestern) and the adjacent parts of California» (original citation). Five syntypes [5 originally cited] in USNM [# 47700]. Synonymy established, under the name *C. sericeus regularis* LeConte, by Bell (1960: 126).

*Chlaenius sericeus uteanus* Casey, 1914: 35. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 144), in USNM [# 47701]. Synonymy established by Bell (1960: 123).

*Chlaenius sierricola* Casey, 1914: 36. Type locality: «Mokelumne Hill, Calaveras Co[unty], California» (original citation). One syntype in USNM [# 47711]. **New synonymy.**

**Distribution.** This transamerican species ranges from Newfoundland (Lindroth 1955a: 135) to southwestern British Columbia (Lindroth 1969a: 983), south to southern California (Bell 1960: 125, 127), Chihuahua (Davidson 1980: 84) and northern Sonora (Bates 1884: 267, as *C. regularis*) in Mexico, and central Florida (Peck and Thomas 1998: 20).

**Records.** **CAN:** AB, BC, MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY – Mexico

**Note.** Bell (1960: 123–128) recognized four subspecies within *C. sericeus*: *sericeus s.str.*, *regularis*, *viridifrons*, and *sierricola*, all separated by color and relatively minor differences in the pronotum shape.

### Subgenus *Lithochlaenius* Kryzhanovskij, 1976

*Hemichlaenius* Lutshnik, 1933b: 169 [junior homonym of *Hemichlaenius* Bates, 1892]. Type species: *Chlaenius rambouseki* Lutshnik, 1933 by monotypy. Etymology. From the Greek prefix *hemi-* (half) and the generic name *Chlaenius* [*q.v.*] [masculine].

*Lithochlaenius* Kryzhanovskij, 1976b: 9, 12. Replacement name for *Hemichlaenius* Lutshnik, 1933. Etymology. From the Greek *lithos* (stone) and the generic name *Chlaenius* [*q.v.*] [masculine].

*Agilochlaenius* Kirschenhofer, 1997: 116. Type species: *Chlaenius latro* LaFerté-Sénectère, 1851 by original designation. Synonymy established by Kirschenhofer (2000: 58). Etymology. From the Latin *agilis* (quick, nimble) and the generic name *Chlaenius* [*q.v.*] [masculine].

**Diversity.** Nineteen species can be assigned to this subgenus: five in North America (Bell 1960: 109, as *solitarius* group), six in the Neotropical Region (*C. argentinus* Jedlička, *C. chlorochrous* Chaudoir, *C. ecuadoricus* Jedlička, *C. leucoscelis* Chevrolat, *C.*

*peruanus* Erichson, and *C. purpureus* Chaudoir), and ten in the Palearctic Region (see Liu et al. 2011), of which one extends into the Oriental Region.

**Taxonomic Note.** Liu et al. (2011: 22) argued that it is premature to place any of the Western Hemisphere species of *Chlaenius* in the subgenus *Lithochlaenius* because they differ from the Palearctic species of *Lithochlaenius* in having the lateral edge of elytron rounded at level of the humerus, instead of being angulate. However, I agree with Robert L. Davidson (pers. comm.) that the Western Hemisphere species related to *C. prasinus* are closely related to the Palearctic species of *Lithochlaenius* and at this time I prefer to include these species in the subgenus *Lithochlaenius*.

### ***Chlaenius cordicollis* Kirby, 1837**

*Chlaenius cordicollis* Kirby, 1837: 22. Type locality: «Canada» (original citation), restricted to «S[outh] Cajuga, Ont[ario]» by Lindroth (1969a: 979). Two syntypes in BMNH (Lindroth 1953b: 169).

**Distribution.** This species ranges from New Brunswick (Restigouche and Queens Counties, CNC) to southern Manitoba (Lindroth 1969a: 981), south to northwestern Arkansas (Bell 1960: 112), northwestern Mississippi (Coahoma County, Drew A. Hildebrandt pers. comm. 2008), and North Carolina (Robert L. Davidson pers. comm. 1992). The record from southwestern Colorado (Elias 1987: 634) needs confirmation.

**Records.** CAN: MB, NB, ON, QC USA: AR, CT, DC, DE, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, ND, NH, NJ, NY, OH, PA, SD, TN, VA, VT, WI, WV [CO]

### ***Chlaenius leucoscelis monachus* LeConte, 1851**

*Chlaenius monachus* LeConte, 1851: 180. Type locality: «valle fluminis Gilae» (original citation), herein restricted to Phoenix, Maricopa County, Arizona (see Bell 1960: 114). Holotype [by monotypy] (♂) in MCZ [# 75].

*Chlaenius gilensis* Casey, 1914: 35. Type locality: «Yuma [Yuma County], Arizona» (original citation). Two syntypes [2 originally cited] in USNM [# 47708]. Synonymy established by Bell (1960: 114).

**Distribution.** This subspecies is found in the drainage basin of the Colorado River in southwestern Colorado, southern Utah, Arizona, and southeastern California (Bell 1960: 114).

**Records.** USA: AZ, CA, CO, UT

### ***Chlaenius leucoscelis sanantonialis* Casey, 1914**

*Chlaenius sanantonialis* Casey, 1914: 36. Type locality: «Texas» (original citation), herein restricted to Hot Springs (Big Bend National Park), Brewster County (see Bell 1960: 115). Two syntypes [2 ♂ originally cited] in USNM [# 47707].

**Distribution.** This subspecies ranges from central Colorado to southernmost New Mexico and central Texas (Bell 1960: 115), including northwestern Oklahoma (Cimarron County, CMNH, CNC).

**Records. USA:** CO, NM, OK, TX

***Chlaenius leucoscelis sonomae* Casey, 1920**

*Chlaenius sonomae* Casey, 1920: 294. Type locality: «north of San Francisco, California» (original citation). Ten syntypes [10 originally cited] in USNM [# 47705].

*Chlaenius recticollis* Casey, 1920: 294. Type locality: «California» (original citation). One syntype in USNM [# 47706]. Synonymy established by Bell (1960: 114).

**Distribution.** This subspecies is known from southwestern Oregon (Hatch 1953: 163, as *C. leucoscelis*) and through much of California as far south as Kern County (Bell 1960: 114).

**Records. USA:** CA, OR

***Chlaenius prasinus* Dejean, 1826**

*Chlaenius prasinus* Dejean, 1826: 345. Type locality: «Amérique septentrionale» (original citation), herein restricted to Vicksburg, Warren County, Mississippi (see Casey 1920: 292, as *C. regestus*). One syntype in MHNP (Lindroth 1955b: 25).

*Chlaenius smaragdinus* Chaudoir, 1843b: 755. Type locality: «près de la Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) in MHNP. Synonymy established by Melsheimer (1853: 13).

*Chlaenius regestus* Casey, 1920: 292. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). One syntype in USNM [# 47704]. Synonymy established by Bell (1960: 110).

**Distribution.** This species ranges from Massachusetts to “Colorado” (Horn 1876d: 267), including southern Michigan and “Minnesota” (Gandhi et al. 2005: 929), south at least to central Texas and southern Florida (Bell 1960: 110–111).

**Records. USA:** AL, AR, CO, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WI, WV

***Chlaenius purpureus* Chaudoir, 1876**

*Chlaenius purpureus* Chaudoir, 1876b: 246. Type locality: «Orizaba [Veracruz], Mexique» (original citation). Holotype [by monotypy] (♂) in MHNP.

**Distribution.** This species ranges from central Missouri (Morgan County, CMNH) to Arizona (Bell 1960: 110), south to Nicaragua (Bates 1882a: 45); also found along the Baja California Peninsula (Davidson 1980: 69).

**Records. USA:** AZ, KS, MO, NM, TX – Guatemala, Mexico, Nicaragua



***Chlaenius solitarius* Say, 1823**

*Chlaenius solitarius* Say, 1823a: 65. Type locality: «Opposite Dubuque [Dubuque County], Iowa» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 351), in MCZ [# 32991]. NOTE. «on the Missouri» was the area originally cited by Say (1823a: 66).

*Chlaenius chlorophanus* Dejean, 1831: 662. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 25). Synonymy established by LeConte (1867a: 347), confirmed by Lindroth (1955b: 25).

**Distribution.** This species inhabits the Great Plains and the Great Central Plains from southern Alberta to southwestern Pennsylvania (Allegheny and Westmoreland Counties, Robert L. Davidson pers. comm. 2008), south to northern Mississippi (Drew A. Hildebrandt pers. comm. 2007), east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009), central Texas, and central New Mexico (Bell 1960: 111). The records from southwestern Ohio (Dury 1906: 257) and “Utah” (Bousquet and Laroche 1993: 206) need confirmation. The record from “Georgia” (J.E. LeConte 1849: 26) is probably in error; that from Beaver Islands in Michigan (Hatch 1925: 553) was based on misidentified specimens of *C. cordicollis* (Dunn 1985a: 10). The specimen labeled from northeastern Florida (see Bell 1960: 111) is probably mislabeled (Robert L. Davidson pers. comm. 1992). Old specimens simply labeled from Michigan and Minnesota are known (Bell 1960: 111).

**Records.** CAN: AB USA: AR, CO, IA, IL, IN, KS, KY, LA, MO, MS, MT, ND, NE, NM, OK, PA, SD, TN, TX, WI, WY [MI, MN, OH, UT]

**Subgenus *Chlaeniellus* Reitter, 1908**

*Chlaeniellus* Reitter, 1908: 185. Type species: *Carabus vestitus* Paykull, 1790 designated by Jeannel (1942: 971). Etymology. From the generic name *Chlaenius* [*q.v.*] and the Latin suffix *-ellus* (small, little) [masculine].

*Agrochlaenius* Basilewsky and Grundmann, 1954: 240. Type species: *Buprestis variegatus* Geoffroy, 1785 (= *Chlaenius olivieri* Crotch, 1870) by original designation. Etymology. From the Greek *agros* (field) and the generic name *Chlaenius* [*q.v.*] [masculine]. NOTE. This name was first proposed by Lutshnik (1933b: 171). However, because he failed to designate a type species, the name cannot be attributed from this publication (ICZN 1999: Article 13.3).

**Diversity.** About 80 species in all zoogeographical regions except the Australian Region. The subgenus is best represented in the Northern Hemisphere with 58 species (about 73.5% of the world fauna) of which 17 are found in North America.

**[*circumcinctus* group]*****Chlaenius circumcinctus* Say, 1830**

*Chlaenius circumcinctus* Say, 1830b: (3) [3]. Type locality: «L[ouisian]a» (neotype label), herein restricted to New Orleans, Orleans Parish (see Chaudoir, 1843b: 753,

as *C. virens*). Neotype (♂), designated by Lindroth and Freitag (1969: 351), in MCZ [# 32994]. NOTE. «Louisiana» was the area originally cited by Say (1830b: (3) [3]).

*Chlaenius perplexus* Dejean, 1831: 655. Type locality: «Sénégal» (original citation), which is incorrect. Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 25).

Synonymy established by Horn (1876d: 276), confirmed by Lindroth (1955b: 25).

*Chlaenius virens* Chaudoir, 1843b: 753. Type locality: «Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) in MHNP. Synonymy established with doubt by LeConte (1847: 440), confirmed by Chaudoir (1856: 284).

*Chlaenius poeyi* Chevrolat, 1863: 194. Type locality: «Cuba» (original citation). Syntype(s) location unknown (possibly in UMO). Synonymy established, under the name *C. perplexus* Dejean, by Chaudoir (1876b: 237). Etymology. The specific name was proposed for the Cuban ichthyologist and entomologist Felipe Poey y Aloy [1799-1891]. Poey went to Paris and studied under Cuvier. In 1842 he was appointed professor and eventually director of the Zoological Museum in Havana.

**Distribution.** This species ranges from southern Georgia (Fattig 1949: 43) and throughout Florida west along the Gulf Coast to southeastern Texas, north to north-central Oklahoma (Alfalfa County, CMNH) and central Arkansas (Pulaski County, Robert L. Davidson pers. comm. 2012), south at least to Veracruz along the Gulf Coast (Bell 1960: 146, as *C. perplexus* Dejean); also known from Cuba and Puerto Rico (Bell 1960: 146, as *C. perplexus* Dejean) and the Dominican Republic (CMNH).

**Records. USA:** AL, AR, FL, GA, LA, MS, OK, TX – Cuba, Dominica Republic, Mexico, Puerto Rico

**Note.** This species has been known for a long time under the name *C. perplexus* Dejean, 1831 but Say's name has priority (see Bousquet 1993: 6).

#### [glaucus group]

#### *Chlaenius glaucus* LeConte, 1856

*Chlaenius glaucus* LeConte, 1856b [25 March]: 28. Type locality: «Colorado river, near the junction of the Gila» (original citation). Syntype(s) in MCZ [# 5862].

*Chlaenius sericinitens* Chaudoir, 1856 [after 25 November]: 284. Type locality: «Rio Colorado, Californie» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by LeConte (1863b: 11).

**Distribution.** This species is found from central California (Bell 1960: 144) to western Texas (Jeff Davis, Ken Karns pers. comm. 2009), south to northern Sonora (Bates 1884: 267).

**Records. USA:** AZ, CA, NM, TX – Mexico

#### *Chlaenius simillimus* Chaudoir, 1856

*Chlaenius simillimus* Chaudoir, 1856: 283. Type locality: «près de S[an] Francisco, Californie» (original citation). Syntype(s) in MHNP.

**Distribution.** This species is known only from a few specimens collected in the lower Sacramento River Valley of northwestern California (Bell 1960: 145).

**Records. USA:** CA

[**impunctifrons group**]

***Chlaenius impunctifrons* Say, 1823**

*Chlaenius impunctifrons* Say, 1823a: 64. Type locality: «Dorchester [Suffolk County], Ma[ssachusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 350), in MCZ [# 32995].

**Distribution.** This species ranges from New Brunswick (Webster and Bousquet 2008: 21) to North Dakota (Tinerella 2003: 635), north to southern Manitoba (Lindroth 1969a: 984), south to eastern Texas (Houston County, CNC; Riley 2011) and southern Florida (Bell 1960: 137). The records from “Wyoming” and “Colorado” (Bousquet and Larochelle 1993: 207) are likely in error.

**Records. CAN:** MB, NB, ON, QC **USA:** AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

**Note.** The name *Chlaenius indutus* LaFerté-Sénectère, 1851 is often listed as a junior synonym of this species (e.g., Bell 1960: 136; Lindroth 1969a: 983). However LaFerté-Sénectère never provided a description of the taxon and the name is a *nomen nudum*.

[**nemoralis group**]

***Chlaenius brevilabris* LeConte, 1847**

*Chlaenius brevilabris* LeConte, 1847: 437. Type locality: «ad Insulam Longam NovEboraci [= Long Island, New York]» (original citation). Three syntypes in MCZ [# 5864].

*Chlaenius consimilis* LeConte, 1847: 437 [*nomen dubium*]. Type locality: «ad Rocky Mountains» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5865]. Synonymy established by Horn (1876d: 276). **NOTE.** According to Bell (1960: 143), the holotype of *C. consimilis* is a deformed specimen that could be instead an abnormal *C. tricolor*.

*Chlaenius texanellus* Casey, 1914: 37. Type locality: «Galveston [Galveston County], Texas» (original citation). Nineteen syntypes in USNM [# 47712]. **New synonymy.** **NOTE.** Bell (1960: 143) retained this name for a subspecies of *C. brevilabris* based on different forebody metallic lustre; I believe the form does not warrant subspecific status.

**Distribution.** This species ranges from south-central New Hampshire (Merrimack County, Ross T. Bell pers. comm. 2008) to eastern South Dakota (Kirk and Balsbaugh 1975: 35), including southern Ontario (Lindroth 1969a: 987), south to southern Texas (Bell 1960: 143) and southwestern South Carolina (Hampton County, CMNH).

The records from “Utah” (Bousquet and Larochelle 1993: 207) and New Mexico (Fall and Cockerell 1907: 160) need confirmation.

**Records.** CAN: ON USA: AL, AR, CT, DC, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NE, NH, NJ, NY, OH, OK, PA, SC, SD, TN, TX, VA, VT, WI, WV [NM, UT]

### *Chlaenius nemoralis* Say, 1823

*Chlaenius nemoralis* Say, 1823a: 65. Type locality: «Winter Park [Orange County], Fl[orid]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 351), in MCZ [# 32992]. NOTE. «Pennsylvania; Georgia and Florida» were the areas originally cited by Say (1823a: 65).

*Chlaenius longicollis* Chaudoir, 1843b: 752. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Chaudoir (1876b: 241).

**Distribution.** This species ranges from Massachusetts (Easton 1909: 37) to north-eastern South Dakota (Kirk and Balsbaugh 1975: 36), including southern Ontario (Lindroth 1969a: 984), south to central Texas and southern Florida (Bell 1960: 140). The record from “New Hampshire” (Bousquet and Larochelle 1993: 208) needs confirmation.

**Records.** CAN: ON USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, ND, NE, NJ, NY, OH, OK, ON, PA, RI, SC, SD, TN, TX, VA, WI, WV [NH]

### *Chlaenius oxygonus* Chaudoir, 1843

*Chlaenius oxygonus* Chaudoir, 1843b: 753. Type locality: «Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Holotype [by monotypy] (♂) in MHNP.

**Distribution.** This species occurs from northwestern Georgia and southwestern South Carolina (Hampton County, CMNH) to central Florida, west to eastern Texas, north to central Oklahoma (Grady County, CMNH) and east-central Arkansas (Bell 1960: 141).

**Records.** USA: AL, AR, FL, GA, LA, MS, OK, SC, TX

### *Chlaenius tricolor tricolor* Dejean, 1826

*Chlaenius tricolor* Dejean, 1826: 334. Type locality: «Géorgie» (original citation), herein restricted to Atlanta, Fulton County (see Bell 1960: 141). One syntype in MHNP (Lindroth 1955b: 25).

*Chlaenius quadricollis* Kirby, 1837: 22. Type locality: «Canada» (original citation). One syntype in BMNH (Lindroth 1953b: 169). Synonymy established with doubt by Chaudoir (1856: 283), confirmed by Lindroth (1953b: 169).

*Chlaenius atripennis* LeConte, 1847: 436. Type locality: «provinciis mediis» (original citation). Syntype(s) in MCZ [# 5863]. Synonymy established by LeConte (1853c: 390), confirmed by Lindroth (1969a: 986).

**Distribution.** This subspecies ranges from Newfoundland (Lindroth 1955a: 134) to northwestern Montana (Russell 1968: 66), south to central New Mexico (Fall and Cockerell 1907: 160), central Texas, northwestern Georgia, and northern South Carolina (Bell 1960: 142).

**Records.** CAN: AB, NB, NF, NS, ON, QC, SK USA: AL, AR, CO, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

**Note.** Bell (1960: 142) noted the presence of intergrade specimens between the two forms of *C. tricolor* in the area immediately west of the Rocky Mountains.

### *Chlaenius tricolor vigilans* Say, 1830

*Chlaenius vigilans* Say, 1830b: (3) [3]. Type locality: «Mexico» (original citation). Syntype(s) lost.

*Chlaenius chalybeipennis* Chevrolat, 1835a: [no. 72]. Type locality: «[apparently] environs de la Vera-Cruz [Mexico]» (original citation). Syntype(s) location unknown (possibly in UMO). Synonymy established by Chaudoir (1876b: 241).

*Chlaenius jacinto* Casey, 1920: 295. Type locality: «California (southern) and Arizona» (original citation). Six syntypes [6 originally cited] in USNM [# 47710]. Synonymy established by Bell (1960: 142).

**Distribution.** This subspecies ranges from southern British Columbia, including Vancouver Island (Lindroth 1969a: 986), to southern California (Bell 1960: 142) and Guatemala (Bates 1882a: 44).

**Records.** CAN: BC (VCI) USA: AZ, CA, ID, NV, OR, UT, WA – Guatemala, Mexico

### [pennsylvanicus group]

### *Chlaenius flaccidus* Horn, 1876

*Chlaenius flaccidus* G.H. Horn, 1876d: 265. Type locality: «Waco County, Texas» (original citation). Holotype [by monotypy] (♀) in MCZ [# 8003].

**Distribution.** This species is known only from a few localities in central and southern Texas (Bell 1960: 149). The record from Georgia (Fattig 1949: 43) is likely in error (Bell 1960: 149).

**Records.** USA: TX

### *Chlaenius floridanus* Horn, 1876

*Chlaenius floridanus* G.H. Horn, 1876d: 263. Type locality: «Florida» (original citation), herein restricted to Winter Park, Orange County (MCZ). Syntype(s) [3 originally cited] in MCZ [# 8002] and possibly CMNH (collection Ulke).

**Distribution.** This species is known from northern Georgia (Fattig 1949: 43) to southern Florida (Peck and Thomas 1998: 20) and from Inagua in the Bahamas (Darlington 1953: 8).

**Records.** USA: FL, GA – Bahamas



***Chlaenius nebraskensis* LeConte, 1856**

*Chlaenius nebraskensis* LeConte, 1856b: 28. Type locality: «Yellowstone River [probably in Montana]; Santa Fe [New Mexico]» (original citation), restricted to «Yellowstone River» by Bell (1960: 148). Syntype(s) in MCZ [# 5861].

*Chlaenius sedulus* Casey, 1920: 296. Type locality: «Amarillo [Potter County], Texas» (original citation). One syntype in USNM [# 47714]. Synonymy established by Bell (1960: 148).

**Distribution.** This species is found from southern Saskatchewan and southern Alberta (Lindroth 1969a: 988) south to southern Arizona and southern Texas (Bell 1960: 148).

**Records.** CAN: AB, SK USA: AZ, CO, KS, MT, ND, NE, NM, NV, OK, SD, TX, UT

***Chlaenius pennsylvanicus blanditus* Casey, 1920**

*Chlaenius blanditus* Casey, 1920: 297. Type locality: «Vineyard [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 144), in USNM [# 47713].

**Distribution.** This subspecies ranges from northern Utah to southern Arizona, east to western Texas (Bell 1960: 147).

**Records.** USA: AZ, NM, TX, UT

***Chlaenius pennsylvanicus pennsylvanicus* Say, 1823**

*Chlaenius pennsylvanicus* Say, 1823a: 66. Type locality: «Penn[sylvania]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 351), in MCZ [# 32993].

*Chlaenius pubescens* T.W. Harris, 1828d: 132. Type locality not stated. Syntype(s) presumably lost. Synonymy established by LeConte (1856b: 27).

*Chlaenius vicinus* Dejean, 1831: 659. Type locality: «Amérique septentrionale» (original citation). Two syntypes in MHNP (Lindroth 1955b: 25). Synonymy established, with *C. pubescens* Harris, by Dejean (1833: 25), confirmed by Lindroth (1955b: 25).

*Chlaenius impunctifrons* Kirby, 1837: 21 [primary homonym of *Chlaenius impunctifrons* Say, 1823]. Type locality: northern parts of British America (inferred from title of the paper). One syntype in BMNH (Lindroth 1953b: 169). Synonymy established by LeConte (1870: 397), confirmed by Lindroth (1953b: 169).

*Chlaenius fulgiceps* Newman, 1838a: 490. Type locality: «Ohio» (original citation). Syntype(s) probably lost (Lindroth 1969a: 987). Synonymy established by LeConte (1847: 436).

**Distribution.** This subspecies ranges from Newfoundland (Lindroth 1955a: 134) to Vancouver Island (Lindroth 1969a: 987), south at least to southwestern Oregon,

southern Colorado along the Rocky Mountains (Bell 1960: 147), southeastern Louisiana (Saint Tammany Parish, Igor M. Sokolov pers. comm. 2009; Summers 1874a: 80), and southern Florida (Peck and Thomas 1998: 20). The record from southwestern California (Moore 1937: 12) is probably in error.

**Records.** **FRA:** PM **CAN:** AB, BC (VCI), MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** AL, AR, CO, CT, DC, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SC, SD, TN, VA, VT, WA, WI, WV, WY

[**vafer group**]

***Chlaenius pertinax* Casey, 1920**

*Chlaenius pertinax* Casey, 1920: 295. Type locality: «New Augustine [= Saint Augustine, Saint Johns County], Florida» (original citation). One syntype in USNM [# 47709].

**Distribution.** This species is endemic to the Florida Peninsula (Bell 1960: 165; Peck and Thomas 1998: 20).

**Records.** **USA:** FL

***Chlaenius texanus* Horn, 1876**

*Chlaenius texanus* G.H. Horn, 1876d: 261. Type locality: «Texas» (original citation), herein restricted to Brownsville, Cameron County (MCZ). Syntype(s) [2 originally cited] in MCZ [# 34531].

**Distribution.** This species is known from southern Mississippi (Hancock County, Drew A. Hildebrandt pers. comm. 2008), southern Texas, and northern Mexico (Bell 1960: 151).

**Records.** **USA:** MS, TX – Mexico

***Chlaenius vafer* LeConte, 1852**

*Chlaenius vafer* LeConte, 1852b: 66. Type locality: «Creek Boundary [= boundary of the Creek Indian Reservation at that time, located near or in Oklahoma]» (original citation). Syntype(s) in MCZ [# 5860]. NOTE. LeConte (1852b: 65) stated that this and most of the other species from the expedition were collected “from the boundary of the tract of land ... set apart for the Creek Indians.”

**Distribution.** This species ranges from southeastern Nebraska (Lancaster County, Foster F. Purrington pers. comm. 2010) and central Missouri (Boone County, CMNH) south to Mississippi (CMNH), southwestern Louisiana (Hine 1906: 77), and southern Texas (Bell 1960: 151). The record from eastern South Dakota (Kirk and Balsbaugh 1975: 36) needs confirmation.

**Records.** **USA:** AR, KS, LA, MO, MS, NE, OK, TX [SD]

[**variabilipes** group]***Chlaenius obsoletus* LeConte, 1851**

*Chlaenius obsoletus* LeConte, 1851: 180. Type locality: «San Diego et Colorado [River] [California]» (original citation), herein restricted to San Diego, San Diego County. Syntype(s) in MCZ [# 74].

*Chlaenius rogator* Motschulsky, 1859a: 157. Type locality: «St. Francisco [San Francisco County, California]» (original citation). One syntype in ZMMU (Keleinikova 1976: 214). Synonymy established with doubt by Chaudoir (1876b: 244).

**Distribution.** This species ranges from central California (Bell 1960: 150) south to “Nicaragua” (Bates 1882a: 44) and the Baja California Peninsula (Horn 1894: 311), including western New Mexico (Catron County, UASM; Snow 1885: 67; Fall and Cockerell 1907: 160) and western Texas (Jeff Davis County, UASM). The record from “Utah” (Bousquet and Larochelle 1993: 208) needs confirmation.

**Records. USA:** AZ, CA (CHI), NM, TX [UT] – Guatemala, Mexico, Nicaragua

***Chlaenius variabilipes* Eschscholtz, 1833**

*Chlaenius variabilipes* Eschscholtz, 1833: 27. Type locality: «bei St. Franzisco [San Francisco County], Californien» (original citation). Syntype(s) location unknown.

*Chlaenius asperulus* Ménétriés, 1843: 55. Type locality: «Californie» (original citation). One syntype in ZMH (collection Mannerheim) (Silfverberg 1987: 12). Synonymy established by LeConte (1856b: 28).

*Chlaenius obscurus* LeConte, 1851: 179. Type locality: «San Jose, et ad flumen Colorado» (original citation). Six syntypes in MCZ [# 70]. Synonymy established by LeConte (1856b: 28) and Chaudoir (1856: 270).

**Distribution.** The range of this species extends from southeastern Oregon (Harney County, James R. LaBonte pers. comm. 1992) and west-central Nevada (Bell 1960: 150) south to the Baja California Peninsula (Horn 1894: 311) and at least Durango in Mexico (Ball and Shpeley 1992a: 61). The specimens labeled from Texas (Bell 1960: 150) are probably mislabeled or represent strays.

**Records. USA:** AZ, CA, NV, OR, UT [TX] – Mexico

**Subgenus *Callistometus* Grundmann, 1956**

*Callistometus* Grundmann, 1956: 265. Type species: *Chlaenius ruficauda* Chaudoir, 1856 by original designation. Etymology. Uncertain, possibly from the Greek prefix *callo-* (beautiful), *stoma* (mouth), and the Latin suffix *-etus* (provided with) [masculine].

**Diversity.** Three species in southwestern North America (one species) and Mexico (three species).

***Chlaenius ruficauda* Chaudoir, 1856**

*Chlaenius apicalis* LeConte, 1851: 179 [secondary homonym of *Chlaenius apicalis* (Wiedemann, 1819)]. Type locality: «ad fluminis Colorado ripas» (original citation). Three syntypes in MCZ [# 71].

*Chlaenius posticus* LeConte, 1853c: 390 [secondary homonym of *Chlaenius posticus* (Fabricius, 1798)]. Replacement name for *Chlaenius apicalis* LeConte, 1851.

*Chlaenius ruficauda* Chaudoir, 1856: 194. Replacement name for *Chlaenius apicalis* LeConte, 1851 and *Chlaenius posticus* LeConte, 1853.

**Distribution.** This species ranges from southern California to southwestern New Mexico, south to Oaxaca in Mexico (Bell 1960: 116).

**Records. USA:** AZ, CA, NM – Mexico

**Note.** The name *Chlaenius dimidiatus* Motschulsky, 1858 is often listed as a junior synonym of this species (e.g., Csiki 1931: 971; Bell 1960: 115). However, Motschulsky never provided a description of the taxon and the name is a *nomen nudum*.

**Subgenus *Brachylobus* Chaudoir, 1876**

*Brachylobus* Chaudoir, 1876b: 287. Type species: *Chlaenius lithophilus* Say, 1823 by monotypy. Etymology (original). From the Greek *brachys* (short) and *lobos* (lobes), alluding to the markedly short lateral lobes of the mentum (“*mentum vix emarginatum, lobis cum parte media confusis, nec eandem superantibus*”) of the adult [masculine].

**Diversity.** Two species in the boreal and temperate regions of North America.

***Chlaenius caurinus* (Horn, 1885)**

*Brachylobus caurinus* G.H. Horn, 1885a: 134. Type locality: «near Yreka [Siskiyou County], Cal[iforni]a» (original citation). Holotype [by monotypy] (♂) in MCZ [# 34536].

**Distribution.** This species is known only from the type locality in north-central California (Bell 1960: 139).

**Records. USA:** CA

**Note.** Bell (1960: 139) stated that the holotype and still only known specimen may simply be an aberrant individual of *Chlaenius lithophilus*.

***Chlaenius lithophilus* Say, 1823**

*Chlaenius lithophilus* Say, 1823a: 62. Type locality: «Rivervale [Morris County], N[ew] J[ersey]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 352), in MCZ [# 32976].

*Chlaenius viridanus* Dejean, 1831: 660. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 26). Synonymy established by LeConte (1847: 434), confirmed by Lindroth (1955b: 26).

*Chlaenius smaragdiger* Motschulsky, 1865: 338. Type locality: «Pensylvanie» (original citation). One syntype in ZMMU (Keleinikova 1976: 217). Synonymy established by Chaudoir (1876b: 288).

*Brachylobus lithophilus indigaceus* Casey, 1914: 41. Type locality: «Texas» (original citation). Two syntypes [2 originally cited] in USNM [# 47723]. **New synonymy.** NOTE. Bell (1960: 138) retained *C. indigaceus* Casey as a subspecies but I believe, as done implicitly by Lindroth (1969a: 989), that the form, which is based exclusively on color, does not warrant a subspecific status.

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 135) to central British Columbia, north to Fort Smith in southern Northwest Territories (Lindroth 1969a: 989), south to northeastern Washington (Hatch 1953: 163), “New Mexico” (Robert L. Davidson pers. comm. 1992), northern Texas (Cooke County, CNC), and northeastern Georgia (Bell 1960: 138). The record from “Oregon” (Wickham 1896c: 135) needs confirmation.

**Records.** **CAN:** AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK **USA:** AL, AR, CO, CT, DC, GA, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY [OR]

### Subgenus *Agostenus* Fischer von Waldheim, 1829

*Agostenus* Fischer von Waldheim, 1829a: 15. Type species: *Carabus sulcicollis* Paykull, 1798 designated by Jeannel (1942: 971). Etymology. Uncertain, possibly from the Greek *agon* (gathering) or *agos* (leader) or the incorrect transcription of *agan* (very) and *stenos* (narrow, tight) [masculine]. The name was proposed by Franz Anton Ziegler and made available by Fischer von Waldheim. NOTE. This name has been incorrectly credited to Motschulsky (1850a: x, 65) until Kryzhanovskij et al. (1995: 158).

*Pelasmus* Fischer von Waldheim, 1829a: 15. Type species: *Carabus quadrisulcatus* Paykull *sensu* Illiger, 1798 (= *Agostenus costulatus* Motschulsky, 1859) by monotypy. NOTE. This name has been incorrectly credited to Motschulsky (1850a: x, 65, as *Pelasmus*) until Kryzhanovskij et al. (1995: 158).

*Agostenops* Lutshnik, 1933b: 171. Type species: *Chlaenius alutaceus* Gebler, 1830 by monotypy. Synonymy established by Kryzhanovskij et al. (1995: 158). Etymology. From the generic name *Agostenus* [*q.v.*] and the Greek suffix *-ops* (having the appearance of) [masculine].

**Diversity.** Nine species in the Nearctic (five species), Neotropical (one Mexican species also found in Arizona), and Palaearctic (four species) Regions.



***Chlaenius alternatus* Horn, 1871**

*Chlaenius alternatus* G.H. Horn, 1871: 327. Type locality: «Saskatchewan region» (original citation), herein restricted to Meota, Saskatchewan (CNC). Holotype [by monotypy] (♂) in MCZ [# 34534].

*Chlaenius albertanus* Casey, 1924: 93. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47716]. Synonymy established by Bell (1960: 134).

**Distribution.** This species ranges from Newfoundland (Larson and Langor 1982: 594) to central Alaska (Lindroth 1969a: 993), south to northeastern Washington (Hatch 1953: 162), central Colorado along the Rocky Mountains, western South Dakota (Meade County, Foster F. Purrington pers. comm. 2010), and eastern Minnesota (Bell 1960: 134). The species is unknown east of the Mississippi south of the Canadian border. Fossil remnants of this species, dated between about 16,700 and 25,200 years B.P., have been unearthed in southeastern Iowa (Baker et al. 1986: 96) and southeastern Illinois (Schwert 1992: 78).

**Records.** CAN: AB, BC, MB, NB, NF, NS, NT, ON, QC, SK USA: AK, CO, MN, MT, ND, SD, WA, WY

***Chlaenius caeruleicollis* Chaudoir, 1876**

*Chlaenius caeruleicollis* Chaudoir, 1876b: 78. Type locality: «Las Peras [Oaxaca], Mexique» (original citation). Syntype(s) in MHNP.

*Chlaenius insperatus* G.H. Horn, 1885a: 134. Type locality: «Arizona» (original citation). Three syntypes in MCZ [# 34532]. Synonymy established by Horn (1886b: xii).

**Distribution.** This species is known from a few specimens simply labeled from Arizona and from Mexico as far south as Oaxaca and central Veracruz (Bell 1960: 132; Davidson 1980: 31).

**Records.** USA: AZ – Mexico

***Chlaenius harpalinus* Eschscholtz, 1833**

*Chlaenius harpalinus* Eschscholtz, 1833: 27. Type locality: «bei St. Franzisco [San Francisco County], Californien» (original citation). Syntype(s) location unknown (Lindroth 1969a: 990).

*Chlaenius crestonensis* Brown, 1933: 43. Type locality: «Creston, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CNC [# 3401]. Synonymy established by Hatch (1953: 161), confirmed by Bell (1960: 132).

**Distribution.** This species ranges from southeastern Alberta to Vancouver Island (Lindroth 1969a: 990-991), south at least to central California and northern Utah (Bell 1960: 133). One old specimen labeled from “Arizona” is also known (Bell 1960: 133).

**Records.** CAN: AB, BC (VCI) USA: CA, ID, MT, NV, OR, UT, WA [AZ]

***Chlaenius interruptus* Horn, 1876**

*Chlaenius interruptus* G.H. Horn, 1876d: 259. Type locality: «Washington County, Oregon» (original citation). One syntype [2 originally cited] in MCZ [# 34533] and one in CMNH (collection Ulke).

**Distribution.** This species is restricted to the Pacific Coast ranging from southern British Columbia, including Vancouver Island (Lindroth 1969a: 993), south through the Coast Range to northern California (Bell 1960: 135). The record from Inyo County, California (Dajoz 2007: 19) needs confirmation. Fossil remnants from a Plio-Pleistocene sequence have been unearthed in northwestern Greenland (Böcher 1995: 25).

**Records.** CAN: BC (VCI) USA: CA, OR, WA

***Chlaenius niger* Randall, 1838**

*Chlaenius niger* Randall, 1838b: 34. Type locality: «vicinity of Boston [Massachusetts]» (original citation). Syntype(s) lost.

*Chlaenius niger* var. *ludoviciana* Leng, 1915: 592. Type locality: «Louisiana» (original citation). Holotype location unknown. Synonymy established by Bell (1960: 133).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 133) to south-central British Columbia (Lindroth 1969a: 992), south to northeastern Washington (Hatch 1953: 162), “Wyoming” (Robert L. Davidson pers. comm. 1992), east-central Texas, southern Florida, and Cuba (Bell 1960: 133-134). The record from “Yukon Territory” (Ball and Currie 1997: 453) could not be confirmed.

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, MT, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WA, WI, WY, TX [YT] – Cuba

**Note.** The name *Chlaenius exaratus* LaFerté-Sénectère, 1851 is often listed as a junior synonym of this species (e.g., Bell 1960: 133; Lindroth 1969a: 991). However, LaFerté-Sénectère never provided a description of the taxon and the name is a *nomen nudum*.

**Subgenus *Randallius* Bousquet, n.subg.**

*Randallius* Bousquet, n.subg. Type species: *Chlaenius purpuricollis* Randall, 1838. Etymology. The generic name is proposed in honor of John Witt Randall [1813-1892] who in his 20s published two descriptive papers on the beetles of Maine and Massachusetts. One of his new species is the type species of this subgenus. Randall did not publish anything else on entomology after these two papers but wrote a volume of poems in 1856 entitled “Consolations of Solitude.” His collection is lost (Sprague 1875: 374). The gender of the name is masculine.

**Diversity.** One North American species.

**Taxonomic Note.** In my opinion, *Chlaenius purpuricollis* is taxonomically isolated and within the actual structure of the genus *Chlaenius* deserves to be placed in its own sub-

genus. See Bell (1960: 135) and Lindroth (1969a: 994) as “*purpuricollis* group” for the descriptive character states of this new taxon.

### ***Chlaenius purpuricollis* Randall, 1838**

*Chlaenius purpuratus* T.W. Harris, 1836: 67 [*nomen dubium*]. Type locality: North America (inferred from title of the paper). Syntype(s) lost. NOTE. This species was briefly described mainly by comparison with two specimens that Harris attributed with doubt to *Chlaenius aestivus*. Its identity is doubtful but for convenience the name is listed in synonymy with *C. purpuricollis*.

*Chlaenius purpuricollis* Randall, 1838b: 35. Type locality: Massachusetts (inferred from title of the paper). Syntype(s) lost. **New synonymy.**

*Chlaenius frostii* Carr, 1920: 219. Type locality: «Edmonton, Al[ber]ta» (original citation). Holotype (♂) in CNC [# 440]. **New synonymy.** NOTE. Bell (1960: 136) retained *C. frostii* Carr as a subspecies but I believe, as done implicitly by Lindroth (1969a: 994), that the form does not warrant subspecific status.

*Chlaenius punctipennis* Casey, 1920: 298. Type locality: «Wildur [= Wilbur, Lincoln County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 144), in USNM [# 47715]. Synonymy established by Hatch (1953: 162).

**Distribution.** This species is found from southern Quebec (Lindroth 1969a: 994) to southeastern British Columbia (CNC), north to Fort Smith in southern Northwest Territories (Bousquet 1987a: 132), south to Oregon (Bell 1960: 136), New Mexico (Perrault 1970: 56), Kansas (Popenoe 1878: 78; Bell 1960: 136), and “New Jersey” (Smith 1890: 92; Smith 1910: 213).

**Records.** CAN: AB, BC, MB, NT, ON, QC, SK USA: CO, CT, IA, ID, IL, IN, KS, MA, MI, MN, ND, NE, NH, NJ, NM, NY, OR, PA, RI, UT, WA, WI, WY

### **Supertribe HARPALITAE Bonelli, 1810**

Harpalii Bonelli, 1810: Tabula Synoptica. Type genus: *Harpalus* Latreille, 1802.

**Diversity.** Worldwide, with about 13,200 species placed in the following 32 tribes: Anthiini (about 130 species), Atranini (two species), Calophaenini (about 50 species), Catapieseini (nine species), Corsyrini (six species), Ctenodactylini (about 65 species), Cyclosomini (about 120 species), Dryptini (about 85 species), Enoicini (five South African species), Galeritini (about 135 species), Geobaenini (four species), Ginemini (one South American species), Graphipterini (about 155 species), Harpalini (about 2,725 species), Helluonini (about 180 species), Hexagoniini (about 65 species), Lachnophorini (about 115 species), Lebiini (about 4,260 species), Licinini (about 235 species), Masoreini (about 50 species), Odacanthini (about 325 species), Omphreini (14 species), Pentagoniini (about 165 species), Perigonini (about 120 species), Physocrotaphini (about 40 species), Platynini (about 2,670 species), Pseudomorphini (about 320 species), Sarothrocrepidini (about 25 species), Somoplatini (13 species), Sphodrini (about 825 species), Xenaroswellianini (one species), and Zuphiini (about 290 species).

### Tribe LICININI Bonelli, 1810

Licinii Bonelli, 1810: Tabula Synoptica. Type genus: *Licinus* Latreille, 1802.

**Diversity.** Worldwide, with about 235 species arrayed in four subtribes: Dicaelina (45 species), Dicrochilina (30 species), Lestignathina (about 60 species), and Licinina (about 100 species). The Northern Hemisphere is represented by about 150 species (roughly 64% of the world fauna) and North America alone by 62 species (approximately 26.5 %).

### Subtribe DICAELINA Laporte, 1834

Dicoelidae Laporte, 1834: 83. Type genus: *Dicoelus* Agassiz, 1846 (unjustified emendation of *Dicaelus* Bonelli, 1813 not in prevailing usage) (= *Dicaelus* Bonelli, 1813). Rembidae Gistel, 1848: [2]. Type genus: *Rembus* Macleay, 1825.

**Diversity.** Forty-five species arrayed in two genera, both represented in the Nearctic Region.

### Genus *DIPLOCHEILA* Brullé, 1835

*Rembus* W.S. Macleay, 1825: 16 [junior homonym of *Rembus* Germar, 1824]. Type species: *Carabus impressus* Fabricius, 1798 (= *Rembus daldorfi* Crotch, 1871) designated by Westwood (1838: 5). Etymology. Uncertain, possibly from the Greek *rhembo* (turn, revolve, roll) [masculine]. NOTE. This taxon was made available also by Lepeletier and Audinet-Serville [in Latreille et al.] the same year but the work of Latreille et al. was issued in October 1825 (Evenhuis 1997a: 228) while that of Macleay in July 1825 (Evenhuis 1997b: 507).

*Diplocheila* Brullé, 1835a: 407. Replacement name for *Rembus* Macleay, 1825. Etymology (original). From the Greek *diplo* (double) and *cheilos* (lip), alluding to the markedly emarginate labrum (“*lèvre supérieure ... presque divisée en deux parties*”) of the adult [feminine].

*Diplochila* Agassiz, 1846: 125. Unjustified emendation of *Diplocheila* Brullé, 1835.

*Rhembus* Agassiz, 1846: 322, 323. Unjustified emendation of *Rembus* Macleay, 1825.

**Distribution.** Twenty-nine species in the boreal, temperate, and tropical areas of the Nearctic (nine species), Oriental (12 species), Palearctic (nine species), and Afrotropical (two species) Regions. The species are placed in three subgenera: *Diplocheila* (nine Oriental and one east Palearctic species), *Isorembus* (18 species), and *Neorembus* Ball (one Asian species).

**Identification.** Ball (1959) revised the species of this genus. Since this publication, one new North American species has been described by Will (1998) and a few nomenclatural changes affecting the Nearctic species have been introduced by Lindroth (1968-1969a): Ball’s *D. modesta* corresponds to *D. assimilis* and his *D. assimilis* to *D. impressicollis*. Lindroth’s (1968: 940-941) key encompasses seven North American species.



**Subgenus *Isorembus* Jeannel, 1949**

*Isorembus* Jeannel, 1949a: 771. Type species: *Rembus aegyptiacus* Dejean, 1831 by original designation. Etymology. From the Greek *isos* (equal) and the generic name *Rembus* [*q.v.*] [masculine].

*Submera* Habu, 1956a: 50, 58. Type species: *Rembus zeelandicus* Redtenbacher, 1868 by original designation. Synonymy established by Ball (1959: 48). Etymology (original). From the generic name *Rembus* [*q.v.*] spelled in reverse with the addition of a terminal *a* [feminine]. NOTE. Lafer and Kataev (2008) argued that *Submera* should be considered as a valid subgenus.

*Shirahataia* Habu, 1956a: 50, 63. Type species: *Submera macromandibularis* Habu and Tanaka, 1956 by original designation. Synonymy established by Ball (1959: 48). Etymology. The generic name was proposed for Kôtarô Shirahata [1914-1980], a Japanese policeman interested mainly in Odonata but also in various groups of beetles. After his retirement in 1969, Shirahata (born K. Suzuki) worked as a part-time researcher at the Yamagata Prefectural Museum (Shun-Ichi Uéno pers. comm. 2009).

**Diversity.** Eighteen species in the Nearctic (nine species), Oriental (three species), Palearctic (five species), and Afrotropical (two species, one shared with northern Africa and Spain) Regions. Several species listed in this subgenus by Lorenz (2005: 342-343) belong to the subgenus *Diplocheila s.str.*

***Diplocheila assimilis* (LeConte, 1844)**

*Rembus assimilis* LeConte, 1844: 51. Type locality: «Georgia» (original citation). One syntype in MCZ [# 5703].

*Diplocheila modesta* Casey, 1920: 203. Type locality: «Montreal [Quebec]» (original citation). One syntype in USNM [# 47379]. Synonymy established by Lindroth (1968: 943).

**Distribution.** This species is found from New Brunswick (Webster and Bousquet 2008: 20) to east-central South Dakota (Kirk 1971: 239), south to “Georgia” (LeConte 1844: 51).

**Records.** CAN: NB, ON, QC USA: CT, GA, IA, IL, IN, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, SC, SD, VT, WI

***Diplocheila crossi* Will, 1998**

*Diplocheila crossi* Will, 1998: 96. Type locality: «Leroy Percy S[tate] P[ark], Washington Co[unty], Mississippi» (original citation). Holotype (♀) in CUIC [# 6971]. Etymology. The specific name was proposed for the American entomologist William Henley Cross [1928-1984] who is best known for his work on the ecology of the boll weevil with the USDA in Starkville, Mississippi.



**Distribution.** This species is known from a few localities in the Florida Panhandle and along the Mississippi Basin in northwestern Mississippi, western Tennessee, and southern Illinois [see Will 1998: Fig. 10].

**Records. USA:** FL, IL, MS, TN

***Diplocheila impressicollis* (Dejean, 1831)**

*Rembus impressicollis* Dejean, 1831: 682. Type locality: “Amérique septentrionale” (original citation), restricted to «Syracuse [Onondaga County], N[ew] Y[ork]» by Lindroth (1968: 944). One syntype in MHNP (Lindroth 1955b: 17).

*Rembus laticollis* LeConte, 1847: 419. Type locality: «Syracusas NovEboraci [= Syracuse, Onondaga County, New York]» (original citation). Two syntypes in MCZ [# 5702]. Synonymy established by Lindroth (1955b: 17).

*Diplochila cliens* Casey, 1897: 348. Type locality: «Kansas» (original citation). One syntype in USNM [# 47376]. Synonymy established by Lindroth (1968: 944).

*Diplochila planulata* Casey, 1913: 149. Type locality: «Austin [Travis County], Texas» (original citation). One syntype in USNM [# 47377]. Synonymy established by Lindroth (1968: 944).

*Diplocheila foveata* Casey, 1920: 201. Type locality: «Lake Champlain, New York» (original citation). One syntype in USNM [# 47378]. Synonymy established by Lindroth (1968: 944).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 80) to west-central South Dakota (Kirk and Balsbaugh 1975: 34), south to central New Mexico (Ball 1959: 71, as *D. assimilis*), the Rio Grande in southeastern Texas (Ball 1959: 72, as *D. assimilis planulata*), and southern Virginia (Hoffman 2010: 22). The records from “North Dakota” (Bousquet and Larochelle 1993: 209) and Connecticut (Britton 1920: 214, as *D. laticollis*; see Krinsky and Oliver 2001: 4) need confirmation.

**Records. CAN:** ON, QC **USA:** DC, IA, IL, IN, KS, MA, MD, MI, MN, MO, MS, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SD, TX, VA, VT, WI [CT, ND]

***Diplocheila major major* (LeConte, 1847)**

*Rembus major* LeConte, 1847: 418. Type locality: «urbes Detroit et NovAurelianum [= New Orleans, Louisiana]» (original citation), restricted to «Detroit [Wayne County], Mich[igan]» by Lindroth (1969a: 945). Three syntypes in MCZ [# 5704].

*Diplochila expansa* Casey, 1913: 148. Type locality: «Keokuk [Lee County], Iowa» (original citation). Two syntypes in USNM [# 47372]. Synonymy established by Ball (1959: 75).

*Diplochila oblonga* Casey, 1913: 148. Type locality: «Kansas» (original citation). Three syntypes in USNM [# 47374]. Synonymy established by Ball (1959: 75).

*Diplocheila procera* Casey, 1920: 200. Type locality: «Lake Superior» (original citation). One syntype in USNM [# 47373]. Synonymy established by Ball (1959: 75).

**Distribution.** This subspecies ranges from “Rhode Island” to east-central South Dakota (Ball 1959: 78), south to east-central Kansas (Snow 1880: 78; Ball 1959: 78), “Missouri” (Ball 1960b: 78), and New Jersey (Smith 1890: 82; Smith 1910: 206). The records from Louisiana (Summers 1874a: 80; Casey 1913: 148) and Alabama (Löding 1945: 18) refer to subspecies *melissisa*; those from “North Dakota” (Bousquet and Laroche 1993: 209) and north-central Colorado (Wickham 1902: 238) need confirmation.

**Records.** CAN: ON USA: CT, IA, IL, IN, KS, MI, MN, MO, NE, NJ, NY, OH, PA, RI, SD, WI [CO, ND]

***Diplocheila major melissisa* Ball, 1959**

*Diplocheila major melissisa* Ball, 1959: 78. Type locality: «Clewiston, Hendry County, Fl[orid]a» (original citation). Holotype (♀) in MCZ [# 31159].

**Distribution.** This subspecies ranges along the Coastal Plain from eastern Virginia (Hoffman et al. 2006: 24) to southern Florida (Peck and Thomas 1998: 21), west to southeastern Texas (Ball 1959: 80); also recorded from Cuba (Ball 1959: 80).

**Records.** USA: AL, FL, LA, MS, NC, SC, TX, VA – Cuba

***Diplocheila nupera* Casey, 1897**

*Diplocheila nupera* Casey, 1897: 348. Type locality: «Lake Worth [Palm Beach County], Florida» (original citation). Holotype [by monotypy] (♀) in USNM [# 47382].

*Rembus angusticollis* Blatchley, 1928b: 61. Type locality: «Dunedin [Pinellas County], Fl[orid]a» (original citation). Holotype [by monotypy] (♀) in PURC. Synonymy established by Ball (1959: 72).

**Distribution.** As far as known, this species is endemic to the southern half of the Florida Peninsula (Ball 1959: 73).

**Records.** USA: FL

***Diplocheila obtusa* (LeConte, 1847)**

*Rembus obtusus* LeConte, 1847: 420. Type locality: «Longs’s Peak [Boulder County, Colorado]» (original citation). Three syntypes in MCZ [# 5706].

*Diplocheila parallela* Casey, 1920: 204. Type locality: «Homer [Champaign County], Illinois» (original citation). One syntype in USNM [# 47383]. Synonymy established by Lindroth (1954b: 136).

**Distribution.** This species occurs from Cape Breton Island (Bousquet 1987d: 107) to south-central British Columbia, north to central Northwest Territories along the Mackenzie River (Lindroth 1969a: 948), south to eastern Washington, “Nevada” (Ball 1959: 82), the Sierra Blanca in south-central New Mexico (Fall and Cockerell 1907: 159), northwestern Texas (Oldham County, Foster F. Purrington pers. comm. 2010), “Missouri” (Ball 1959: 82), northwestern Tennessee (Stewart County, Foster F. Purrington pers. comm. 2010), and western Virginia (Hoffman et al. 2006: 24). The record

from southern Louisiana (Summers 1874a: 80) is probably in error; that from “Arkansas” (Bousquet and Laroche 1993: 209) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NS (CBI), NT, ON, PE, QC, SK USA: CO, CT, IA, ID, IL, IN, KS, MA, ME, MI, MN, MO, MT, ND, NE, NH, NM, NV, NY, OH, PA, SD, TN, TX, VA, VT, WA, WI, WY [AR]

### *Diplocheila oregona* (Hatch, 1951)

*Rembus oregona* Hatch, 1951: 119. Type locality: «McMinnville [Yamhill County], Ore[gon]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species ranges from southeastern Manitoba to the Okanagan Valley in southern British Columbia (Lindroth 1968: 943), south to northwestern Oregon (Hatch 1951: 119), “Utah” (Ball 1959: 64), northwestern Wyoming (Sikes 1994), and “North Dakota” (Donald P. Schwert pers. comm. 1989).

**Records.** CAN: AB, BC, MB, SK USA: MT, ND, NV, OR, UT, WY

### *Diplocheila striatopunctata* (LeConte, 1844)

*Rembus striatopunctatus* LeConte, 1844: 50. Type locality: «Carlisle [Cumberland County], Pennsylvania» (original citation). Syntype(s) in MCZ [# 2729].

*Diplochila alternans* Casey, 1897: 347. Type locality: «Bayfield [Bayfield County, Wisconsin]» (original citation). One syntype in USNM [# 47375]. Synonymy established by Ball (1959: 60).

*Diplocheila amplipennis* Casey, 1920: 202. Type locality: «Lake Superior» (original citation). One syntype in USNM [# 47380]. Synonymy established by Ball (1959: 60).

*Diplocheila brevicollis* Casey, 1920: 203. Type locality: «Ogdensburg [Saint Lawrence County], New York» (original citation). One syntype in USNM [# 47381]. Synonymy established by Ball (1959: 60).

**Distribution.** This species ranges from central Nova Scotia (Majka et al. 2007: 10) to the Okanagan Valley in British Columbia, north to Fort Smith in southern Northwest Territories (Lindroth 1968: 941), south to Inyo County in California (Dajoz 2007: 19), southeastern Arizona (Dajoz 2007: 21, as *Diplochaetus striatopunctata*), “Kansas,” and northeastern New Jersey (Ball 1959: 63). Old specimens simply labeled from Texas and Georgia are known (Ball 1959: 63). The record from “Virginia” (Bousquet and Laroche 1993: 209) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NS, NT, ON, QC, SK USA: AZ, CA, IA, ID, IL, IN, KS, MI, MN, MO, MT, ND, NE, NH, NJ, NY, OH, OR, PA, SD, UT, VT, WA, WI [GA, TX, VA]

### *Diplocheila undulata* Carr, 1920

*Diplochila undulata* Carr, 1920: 218. Type locality: «Edmonton, Al[ber]ta» (original citation). Holotype (♂) in CNC [# 408].

**Distribution.** This species is known from Alberta, as far north as Edmonton, southern Manitoba (Lindroth 1969a: 946), Minnesota (Tinerella and Rider 2001: 321; Kamal J.K. Gandhi pers. comm. 2008), Wisconsin (Messer 2010: 39), “Illinois” (Ball 1959: 83), and southeastern Nebraska (Hall County, UASM).

**Records.** CAN: AB, MB USA: IL, MN, NE, WI

### Genus *DICAELUS* Bonelli, 1813

*Dicaelus* Bonelli, 1813: 446. Type species: *Dicaelus violaceus* Bonelli, 1813 (= *Dicaelus purpuratus* Bonelli, 1813) designated by Hope (1838: 82). Etymology. From the Greek *dis* (double) and *coilos* (hollow), alluding to the pair of impressions on the anterior part of the frons (“*la tête porte sur le devant deux enfoncements très-considérables ... c’est de ces deux impressions que j’ai tiré le nom Dicaelus*”) of the adult [masculine].

*Dicoelus* Agassiz, 1846: 122, 123. Unjustified emendation of *Dicaelus* Bonelli, 1813.

**Distribution.** Sixteen species (24 species-group taxa) restricted to the temperate and tropical zones of North America and Mexico (south to the vicinity of Mexico City). Three subgenera are recognized: *Dicaelus s.str.*, *Paradicaelus*, and *Liodicaelus*.

**Identification.** Ball (1959) revised the species of this genus. Since the publication of this work, Ball (1992a) described one new Mexican species (*D. franclemonti*), one Mexican subspecies was raised to specific level (*D. abbreviatus* Bates), and another one (*D. laevipennis dicaeloides*) was placed in synonymy. A few changes are introduced here: *D. subtropicus* and *D. quadratus* treated as subspecies are raised to specific level, and *D. purpuratus darlingtoni* is placed in synonymy with *D. quadratus*.

### Subgenus *Paradicaelus* Ball, 1959

*Paradicaelus* Ball, 1959: 103. Type species: *Dicaelus furvus* Dejean, 1826 by original designation. Etymology. From the Greek *para* (near) and the generic name *Dicaelus* [q.v.] [masculine].

**Diversity.** Seven North American species arrayed in three species groups.

#### [*elongatus* group]

### *Dicaelus elongatus* Bonelli, 1813

*Dicaelus elongatus* Bonelli, 1813: 448. Type locality: «Amérique septentrionale» (original citation, see page 449), restricted to «Blacks M[oun]t[ain]s, N[orth] C[arolina]» by Lindroth (1969a: 950). Syntype(s) location unknown (possibly in MHNG in collection Jurine, see Casale and Giachino 1998: 68).

*Dicaelus simplex* Dejean, 1826: 389. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 18). Synonymy established by Horn (1880b: xvii).



*Dicaelus obscurus* LeConte, 1847: 429. Type locality: «provinciis australibus» (original citation). Syntype(s) in MCZ [# 5716]. Synonymy established, under the name *D. simplex* Dejean, by LeConte (1853c: 389), confirmed by Ball (1959: 106).

*Dicaelus debiliceps* Casey, 1913: 151. Type locality: «Buena Vista Spring, Franklin Co[unty], Pennsylvania» (original citation). One syntype in USNM [# 47359]. Synonymy established by Ball (1959: 106).

*Dicaelus ashevillensis* Casey, 1920: 205. Type locality: «Asheville [Buncombe County], North Carolina» (original citation). Holotype [by monotypy] (♂) in USNM [# 47360]. Synonymy established by Ball (1959: 106).

**Distribution.** This species ranges from Maine (Foss 2001: 14) to eastern South Dakota (Kirk and Balsbaugh 1975: 35), including southern Ontario (Lindroth 1969a: 950), south to east-central Texas (Riley 2011) and southern Florida, including the Keys (Peck and Thomas 1998: 21). The record from Montreal, Quebec (Perrault 1977: 153) needs confirmation.

**Records.** CAN: ON USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI [QC]

#### [*furvus* group]

#### *Dicaelus dilatatus dilatatus* Say, 1823

*Dicaelus dilatatus* Say, 1823a: 68. Type locality: «Camp Hill[s] [Cumberland County], P[ennsylvania]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33026]. NOTE. Say (1823a) did not indicate the area where his specimen(s) came from but later (Say 1825: [53]) noted that the species was “an inhabitant of Pennsylvania.”

*Dicaelus dejeanii* Dejean, 1831: 687. Type locality: «Amérique septentrionale» (original citation), restricted to «coastal plain of Georgia» by Ball (1959: 126). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 17). Synonymy established by Brullé (1835c: 282).

*Dicaelus planicollis* LeConte, 1847: 427. Type locality: «Georgia ad montes» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5709]. Synonymy established by Ball (1959: 130).

*Dicaelus carolinensis* Casey, 1913: 150. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Holotype [by monotypy] (♂) in USNM [# 47357]. Synonymy established by Ball (1959: 130).

**Distribution.** This subspecies ranges from “Maine” (Larochelle and Larivière 1990a: 32) to west-central New York, south to northern Florida (Ball 1959: 131-132), west to eastern Texas (Sabine County, Brian Raber pers. comm. 2010).

**Records.** USA: AL, CT, DC, DE, FL, GA, MA, MD, ME, MS, NC, NH, NJ, NY, PA, RI, SC, TX, VA, VT, WV



**Note.** Ball (1959: 132) reported the presence of intergrade populations of this and the *sinuatus* forms in Mississippi, Alabama, northern Florida, Georgia, South Carolina, and North Carolina. For practical reasons, these populations are considered to belong to the nominotypical subspecies.

***Dicaelus dilatatus sinuatus* Ball, 1959**

*Dicaelus dilatatus sinuatus* Ball, 1959: 132. Type locality: «Mount Pleasant, Henry County, Iowa» (original citation). Holotype (♂) location unknown. NOTE. The holotype was originally deposited in the Iowa Natural History Survey Collection. The whereabouts of that collection is unknown to the author. Paratypes of the species are in SMEK [# 5445] (Byers and Karren 1968: 3).

**Distribution.** This subspecies ranges from western Pennsylvania to southeastern Iowa (Ball 1959: 134) and west-central Illinois (Willand et al. 2011: 273 as *D. dilatatus*), south to southern Tennessee and southwestern North Carolina (Ball 1959: 134).

**Records. USA:** IA, IL, IN, KY, NC, OH, PA, TN, VA, WV

***Dicaelus furvus carinatus* Dejean, 1831**

*Dicaelus carinatus* Dejean, 1831: 689. Type locality: «Amérique septentrionale» (original citation), restricted to «coastal plain of Georgia» by Ball (1959: 123). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 18).

**Distribution.** This subspecies ranges from eastern Minnesota (Gandhi et al. 2005: 929) south to eastern Texas (Sabine County, Brian Raber pers. comm. 2010) and southern Mississippi, east to northwestern Georgia (Ball 1959: 123).

**Records. USA:** AL, AR, GA, IA, KS, MN, MO, MS, NE, OK, TX

***Dicaelus furvus furvus* Dejean, 1826**

*Dicaelus furvus* Dejean, 1826: 388. Type locality: «Amérique septentrionale» (original citation), restricted to «Pennsylvania, east of the Susquehanna River» by Ball (1959: 121). One syntype in MHNP (Lindroth 1955b: 18).

*Dicaelus ovalis* LeConte, 1847: 427. Type locality: United States east of the Rocky Mountains (inferred from title of the paper). Syntype(s) in MCZ [# 5715]. Synonymy established by Ball (1959: 120).

**Distribution.** This subspecies ranges from eastern Pennsylvania to west-central Illinois (McCravy and Willand 2008: 157), south to Tennessee (Ball 1959: 122) and South Carolina (Kirk 1969: 14; Kirk 1970: 15; Ciegler 2000: 84). The records from New York (Notman 1928: 229, as *D. ovalis*) and “Georgia” (J.E. LeConte 1849: 26) need confirmation; that from southern Louisiana (Summers 1874a: 80) is probably in error.

**Records. USA:** DC, DE, IL, IN, KY, MD, NC, NJ, OH, PA, SC, TN, VA, WV [GA, NY]

**Note.** Ball (1959: 122) reported the presence of intergrade populations between this and the *carinatus* forms in Ohio, Indiana, Illinois, Tennessee, and North Carolina. For practical reasons, these populations are considered here to belong to the nominotypical subspecies.

***Dicaelus sculptilis intricatus* LeConte, 1873**

*Dicaelus sculptilis intricatus* LeConte, 1873b: 324. Type locality: North America (inferred from title of the paper); restricted to «eastern Pennsylvania» by Ball (1959: 143). Syntype(s) location unknown (Lindroth 1969a: 952).

**Distribution.** This subspecies is found from southernmost Ontario and southeastern Michigan south to southern Indiana and central Maryland (Ball 1959: 143–144).

**Records.** CAN: ON USA: IN, MD, MI, OH, PA, VA, WV

***Dicaelus sculptilis sculptilis* Say, 1823**

*Dicaelus sculptilis* Say, 1823a: 68. Type locality: «Platte Co[unty], M[iss]o[uri]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 345), in MCZ [# 33025]. NOTE. «Missouri [Territory]» was the area originally cited by Say (1823a: 69).

*Dicaelus ocellatus* Blatchley, 1912: 77. Type locality: «H[ot] Springs [Garland County], Ark[ansas]» (original citation). Lectotype (♂), designated by Blatchley (1930: 37), in INHS. Synonymy established by Ball (1959: 141).

**Distribution.** This subspecies is found in the southern part of the Great Plains from northeastern Kansas to central Iowa, south to central Arkansas and eastern Oklahoma (Ball 1959: 142) including southwestern Illinois (Union County, CNC). The record from western Pennsylvania by LeConte (1859d: 53) is probably in error.

**Records.** USA: AR, IA, IL, KS, MO, OK

**Note.** Ball (1959: 142) reported the presence of intergrade populations between all three subspecies of *D. sculptilis* in Iowa.

***Dicaelus sculptilis upioides* Ball, 1959**

*Dicaelus sculptilis upioides* Ball, 1959: 144. Type locality: «Winnipeg, Manitoba» (original citation). Holotype (♂) in CUIC [# 3516].

**Distribution.** This subspecies ranges from western Ontario to Saskatoon in Saskatchewan (Lindroth 1969a: 953), south to southern New Mexico (Ball 1959: 145), southeastern Nebraska (Lancaster County, Foster F. Purrington pers. comm. 2009), and southern Illinois (Ball 1959: 145).

**Records.** CAN: MB, ON, SK USA: CO, IA, IL, MN, ND, NE, NM, SD, WI, WY

**[politus group]*****Dicaelus ambiguus* LaFerté-Sénectère, 1841**

*Dicaelus ambiguus* LaFerté-Sénectère, 1841a: 44. Type locality: «Amer[ica] bor[ealis]» (original citation in Dejean 1836: 31), herein restricted to Columbia, Lancaster County, Pennsylvania (see LeConte, 1847: 430, as *D. reflexus*). Syntype(s) probably in MHNP (collection Chaudoir).

*Dicaelus opacus* LaFerté-Sénectère, 1841a: 43. Type locality: Texas (inferred from title of the paper). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established by LeConte (1873b: 324).

*Dicaelus reflexus* LeConte, 1847: 430. Type locality: «Columbiam [= Columbia, Lancaster County] Pensylvaniae» (original citation). Syntype(s) in MCZ [# 5717]. Synonymy established with doubt by LeConte (1863b: 10), confirmed by Ball (1959: 112).

*Dicaelus turbulentus* LeConte, 1863c: 12. Type locality: «Missouri» (original citation). Four syntypes in MCZ [# 5718]. Synonymy established by Horn (1880b: xvii), confirmed by Ball (1959: 112).

**Distribution.** This species is known from northern New Jersey (Smith 1910: 207) to southeastern Iowa, south to southeastern Texas (Ball 1959: 113) and the Florida Panhandle (Peck and Thomas 1998: 21).

**Records. USA:** AL, AR, DC, FL, GA, IA, IL, IN, KY, LA, MD, MO, MS, NC, NJ, OH, OK, PA, SC, TN, TX, VA

***Dicaelus politus* Dejean, 1826**

*Dicaelus politus* Dejean, 1826: 391. Type locality: «Amérique septentrionale» (original citation), restricted to «Uniontown, Penns[ylv]ania» by Lindroth (1969a: 951). One syntype in MHNP (Lindroth 1955b: 18).

*Dicaelus leonardii* T.W. Harris, 1828d: 132. Type locality not stated. Possible syntype(s) in MCZ. Synonymy established by Harris (1829: 1), confirmed by Ball (1959: 110). NOTE. Harris's collection contains two specimens under the name *D. politus*, both from New Hampshire. Ball (1959: 110) reported the presence of one syntype in MCZ, probably referring to the ♂ specimen in LeConte's collection labeled "[pink disc] / *D. politus* Dej. Leonardii Harris. [handwritten]."

*Dicaelus angustus* Casey, 1913: 152. Type locality: «Tennessee» (original citation). One syntype in USNM [# 47363]. Synonymy established by Ball (1959: 110).

**Distribution.** This species ranges from southern Quebec (Laroche 1975: 80) to northern Iowa, south to northern Alabama (Ball 1959: 111) and South Carolina (Cieglar 2000: 84). The record from "Florida" (Horn 1880c: 52) needs confirmation.

**Records. CAN:** ON, QC **USA:** AL, CT, DC, DE, GA, IA, IL, IN, KY, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV [FL]

***Dicaelus teter* Bonelli, 1813**

*Dicaelus teter* Bonelli, 1813: 449. Type locality: «Amérique septentrionale» (original citation), restricted to «Pike [Wyoming County], N[ew] Y[ork]» by Lindroth (1969a: 952). Syntype(s) probably in MHNP (Casale and Giachino 1998: 68).

*Dicaelus ovipennis* Casey, 1913: 152. Type locality: «North Carolina» (original citation). One syntype in USNM [# 47362]. Synonymy established by Ball (1959: 114).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 80) to southwestern Indiana, south to northern Alabama (Ball 1959: 115), northern Georgia (Fattig 1949: 31), and northwestern South Carolina (Ciegler 2000: 85). The record from South Dakota (Kirk and Balsbaugh 1975: 35) is likely in error.

**Records.** CAN: ON, QC USA: AL, CT, DC, GA, IN, KY, MA, MD, MI, NC, NJ, NY, OH, PA, SC, TN, VA, VT, WV

**Subgenus *Dicaelus* Bonelli, 1813**

*Dicaelus* Bonelli, 1813: 446. Type species: *Dicaelus violaceus* Bonelli, 1813 (= *Dicaelus purpuratus* Bonelli, 1813) designated by Hope (1838: 82).

**Diversity.** Six North American species, one of them extending into northern Mexico, arrayed in three species groups.

**[*costatus* group]*****Dicaelus costatus* LeConte, 1853**

*Dicaelus costatus* LeConte, 1853c: 389. Type locality: «Texas» (original citation), herein restricted to Kingsville, Kleberg County (see Ball 1959: 168). Syntype(s) [3 originally cited] in MCZ [# 5708].

*Dicaelus costatus* var. *lerdoensis* Bates, 1891a: 238. Type locality: «Villa Lerdo, in Durango» (original citation). Syntype(s) [2 originally cited] probably in BMNH. Synonymy established by Ball (1959: 166).

**Distribution.** This species is known from eastern Texas south to southern Tamaulipas and Durango (Ball 1959: 167) in Mexico. Two specimens are known from northern Florida and “Virginia” (Ball 1959: 167).

**Records.** USA: TX [FL, VA] – Mexico

**[*crenatus* group]*****Dicaelus alternans* Dejean, 1826**

*Dicaelus alternans* Dejean, 1826: 387. Type locality: «Amérique septentrionale» (original citation), herein restricted to Saint Simons Island, Glynn County, Georgia (see Ball 1959: 164). One syntype in MHNP (Lindroth 1955b: 18).

**Distribution.** This species is known from southeastern coastal Georgia south to southern Florida (Ball 1959: 164).

**Records.** USA: FL, GA



***Dicaelus crenatus* LeConte, 1853**

*Dicaelus crenatus* LeConte, 1853c: 389. Type locality: «Louisiana» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5714].

**Distribution.** This species inhabits the southern part of the Great Plains from “Kansas” to southeastern Missouri (Ball 1959: 162), south to northwestern Mississippi (Coahoma County, Drew A. Hildebrandt pers. comm. 2008), “Louisiana” (LeConte 1853c: 389), and southern Texas (Ball 1959: 162). The records from Alabama (Löding 1945: 18), the Florida Panhandle (Harris and Whitcomb 1974: 99), Georgia (Fattig 1949: 31), and North Carolina (Brimley 1938: 122) need confirmation.

**Records. USA:** AR, KS, LA, MO, MS, OK, TX [AL, FL, GA, NC]

***Dicaelus subtropicus* Casey, 1913**

*Dicaelus subtropicus* Casey, 1913: 151. Type locality: «Palm Beach [Palm Beach County], Florida» (original citation). Six syntypes [6 originally cited] in USNM [# 47358].

**Distribution.** This species is known only from a few localities in the southern third of Florida, including the Keys (Ball 1959: 165).

**Records. USA:** FL

**Note.** This form has been considered as a subspecies of *D. alternans* Dejean by Ball (1959: 164) but I believe it is more appropriately treated as a distinct species.

**[purpuratus group]*****Dicaelus purpuratus purpuratus* Bonelli, 1813**

*Dicaelus purpuratus* Bonelli, 1813: 447. Type locality: «Caroline» (original citation), incorrectly restricted to «Kentucky» by Lindroth (1969a: 953), herein restricted to Raleigh, Wake County, North Carolina (CNC). Syntype(s) location unknown (possibly in MHNG in collection Jurine, see Casale and Giachino 1998: 68).

*Dicaelus violaceus* Bonelli, 1813: 447. Type locality: «Caroline» (original citation). Syntype(s) location unknown (possibly in MHNG in collection Jurine). Synonymy established by LeConte (1863b: 10).

*Dicaelus chalybeus* Dejean, 1826: 385. Type locality: «Louisiane» (original citation). One syntype in MHNP (Lindroth 1955b: 17). Synonymy established with doubt by Dejean (1826: 385), confirmed by Lindroth (1969a: 953).

*Dicaelus cyaneus* Dejean, 1831: 686. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 18). Synonymy established by Horn (1880c: 52).

*Dicaelus confusus* LeConte, 1847: 424. Type locality: «Georgia» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5711]. Synonymy established by Horn (1880c: 52), confirmed by Ball (1959: 154).

*Dicaelus iricolor* LeConte, 1847: 426. Type locality: «urbem S[ain]t Louis [Missouri]» (original citation). Syntype(s) in MCZ [# 5712]. Synonymy established by Horn (1880c: 52), confirmed by Ball (1959: 154).



**Distribution.** The range of this subspecies extends from Massachusetts to western Wisconsin (Ball 1959: 156), south to southeastern Texas (Cameron County, Brian Raber pers. comm. 2010), southern Louisiana (Summers 1874a: 80; Allen 1965: 73), southwestern Alabama (Ball 1959: 156), and central Georgia (Fattig 1949: 30).

**Records.** CAN: ON USA: AL, CT, DC, GA, IA, IL, IN, KY, LA, MA, MD, MI, MO, MS, NC, NJ, NY, OH, PA, SC, TN, TX, VA, WI, WV

### *Dicaelus purpuratus splendidus* Say, 1823

*Dicaelus splendidus* Say, 1823a: 69. Type locality: «Platte Co[unty], M[iss]o[uri]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33024]. NOTE. «Missouri [Territory]» was the area originally cited by Say (1823a: 69).

*Dicaelus decoloratus* LeConte, 1847: 423. Type locality: «Texas» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5710]. Synonymy established with doubt by LeConte (1853c: 388), confirmed by Ball (1959: 156).

*Dicaelus speciosus* Casey, 1913: 152. Type locality: «New Mexico» (original citation). Two syntypes in USNM [# 47361]. Synonymy established by Fall (1932: 20), confirmed by Ball (1959: 156).

**Distribution.** The range of this subspecies extends from “Minnesota” (Ball 1959: 158) to southwestern North Dakota (Tinerella 2003: 636), south to southeastern Arizona, southeastern Texas (Ball 1959: 158), and southeastern Louisiana (Allen 1965: 73), including west-central Illinois (Willand et al. 2011: 273).

**Records.** USA: AR, AZ, CO, IA, IL, KS, LA, MN, MO, ND, NE, NM, OK, SD, TX

### *Dicaelus quadratus* LeConte, 1847

*Dicaelus quadratus* LeConte, 1847: 422. Type locality: «Georgia» (original citation). Two syntypes in MCZ [# 5713].

*Dicaelus lecontei* LaFerté-Sénéctère, 1851: 277. Type locality: «Amer[ica] bor[ealis]» (original citation). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established by LeConte (1853c: 388).

*Dicaelus darlingtoni* Fall, 1932: 19. Type locality: «Homestead [Dade County], Florida» (original citation). Holotype (♀) in MCZ [# 23875]. **New synonymy.**

**Distribution.** This species has been recorded from “Georgia” (LeConte 1847: 422), the Florida Panhandle and Peninsula including the Keys (Peck and Thomas 1998: 21), and southwestern Alabama (Löding 1945: 18; Ball 1959: 159).

**Records.** USA: AL, FL, GA

**Note.** Following Lindroth (1969a: 954), I believe this taxon should be regarded as a valid species, not as a subspecies of *D. purpuratus* Bonelli.

**Subgenus *Liodicaelus* Casey, 1913**

*Liodicaelus* Casey, 1913: 154. Type species: *Liodicaelus evanescens* Casey, 1913 (= *Dicaelus laevipennis* LeConte, 1847) by original designation. Etymology. From the Greek prefix *lio-* (smooth) and the generic name *Dicaelus* [*q.v.*] [masculine].

**Diversity.** Five species in North America (three species) and Mexico (four species, two of them endemic).

***Dicaelus chermocki* Ball, 1959**

*Dicaelus chermocki* Ball, 1959: 175. Type locality: «Carr Canyon (7,500'), Huachuca M[oun]t[ain]s, Cochise County, Arizona» (original citation). Holotype (♀) in MCZ [# 31162]. Etymology. The specific name was given in honor of Ralph Lucien Chermock [1918-1977], professor of biology at the University of Alabama and eventually director of the Alabama Museum of Natural History. His interest, shared with his wife Ottilie Diana Chermock, was directed mainly to Lepidoptera. Each year, the Ralph L. Chermock Prize is presented to the most outstanding graduate student in systematic and ecology at the University of Alabama.

**Distribution.** This species is confined to the Huachuca and Chiricahua Mountains of southeastern Arizona [see Ball 1992a: Fig. 17].

**Records. USA:** AZ

***Dicaelus laevipennis laevipennis* LeConte, 1847**

*Dicaelus laevipennis* LeConte, 1847: 421. Type locality: «flumen Platte, prope rupem caminatum (Chimney) [Colorado]» (original citation). Two syntypes in MCZ [# 5707].

*Liodicaelus evanescens* Casey, 1913: 154. Type locality: «San Bernardino Ranch, Cochise Co[unty], Arizona» (original citation). One syntype in USNM [# 47364]. Synonymy established by Ball (1959: 170).

*Dicaelus laevipennis dicaeloides* Ball, 1959: 172. Type locality: «Cloudcroft (9,000'), Otero County, New Mexico» (original citation). Holotype (♂) in MCZ [# 31161]. Synonymy established by Ball (1992a: 365).

**Distribution.** This subspecies ranges from southeastern Alberta to southwestern South Dakota, south to southeastern Texas, Chihuahua in Mexico, and southeastern Arizona [see Ball 1992a: Fig. 18].

**Records. CAN:** AB **USA:** AZ, CO, KS, MT, NE, NM, OK, SD, TX, UT – Mexico

**Note.** The subspecies *D. laevipennis flobri* Bates is endemic to Mexico ranging from the state of Durango to the Mexico City area (Ball 1992a: 366).

***Dicaelus suffusus* (Casey, 1913)**

*Liodicaelus suffusus* Casey, 1913: 155. Type locality: «Sierra Madre M[oun]t[ain]s, Chihuahua» (original citation), restricted to «vicinity of Madera» by Ball (1992a: 364). Nine syntypes [9 originally cited] in USNM [# 47365].

**Distribution.** This species is known only from the Chiricahua Mountains in southern Arizona and the Sierra Madre Occidental in Chihuahua and Sonora [see Ball 1992a: Fig. 17].

**Records. USA:** AZ – Mexico

**Subtribe LICININA Bonelli, 1810**

Licinii Bonelli, 1810: Tabula Synoptica. Type genus: *Licinus* Latreille, 1802.

Badistidae Gistel, 1856: 357. Type genus: *Badistes* Agassiz, 1846 (unjustified emendation of *Badister* Clairville, 1806, not in prevailing usage) (= *Badister* Clairville, 1806).

**Diversity.** Worldwide, with about 100 species in the Nearctic (14 species of *Badister*), Neotropical (five species, one of them belonging to the Chilean genus *Eutogeneius* Solier), Australian (11 species), Oriental (four species), Palaearctic (68 species), and Afrotropical (three species of *Badister*) Regions. Approximately 82% of the species are found in the Northern Hemisphere.

**Faunistic Note.** Several specimens of *Licinus silphoides* (Rossi) were taken alive in Massachusetts as noted by LeConte (1873b: 324). It is likely that a population persisted for a while but since no specimen has been caught in North America in the xx Century, the species is certainly not established on this continent.

**Genus *BADISTER* Clairville, 1806**

*Badister* Clairville, 1806: 90. Type species: *Carabus bipustulatus* Fabricius, 1792 (= *Carabus bullatus* Schrank, 1798) by monotypy. Etymology. From the Greek *badister*, -os (walker) [masculine].

*Badistes* Agassiz, 1846: 42. Unjustified emendation of *Badister* Clairville, 1806.

**Distribution.** Forty-eight species in the boreal, temperate, and tropical areas in the Nearctic (14 species), Neotropical (five species in Mexico, the West Indies, and Peru), Australian (two species), Oriental (one species), Palaearctic (27 species), and Afrotropical (three species) Regions. The species are arrayed in three subgenera: *Badister* (23 species), *Baudia* (22 species), and *Trimorphus* Stephens (two Palaearctic species).

**Identification.** Ball (1959) revised the North American species. No new North American species have been described since. Lindroth's (1969a) key encompasses all North American species but *B. submarinus*.

**Subgenus *Badister* Clairville, 1806**

*Badister* Clairville, 1806: 90. Type species: *Carabus bipustulatus* Fabricius, 1792 (= *Carabus bullatus* Schrank, 1798) by monotypy.

*Amblychus* Gyllenhal, 1810: 74. Type species: *Carabus bipustulatus* Fabricius, 1792 (= *Carabus bullatus* Schrank, 1798) designated by Jeannel (1942: 1000). Etymology. From the Greek *amblys* (blunt, obtuse) [masculine].

**Diversity.** Twenty-four species in North America (eight species, one of them extending into the Bahamas), Mexico (three species, one of them endemic), Peru (one species), and the Palearctic Region (14 species).

**Identification.** Erwin and Ball (2011: 407-409) published a key to the Western Hemisphere species.

[**elegans group**]

***Badister elegans* LeConte, 1880**

*Badister elegans* LeConte, 1880b: 165. Type locality: «Bosque Co[unty, Texas]» (original citation). Two syntypes [3 originally cited] in MCZ [# 5722].

**Distribution.** This rarely collected species ranges from “Illinois” to eastern Kansas (Ball 1959: 206), south to Coahuila and Tamaulipas (Ball 1992a: 375) in northern Mexico, southeastern Louisiana (East Baton Rouge Parish, Igor M. Sokolov pers. comm. 2009), and western Alabama (Tuscaloosa County, UASM). The records from southwestern New Jersey (Smith 1910: 207), “Florida” (Leng 1915: 580), “Delaware” (Houghton 1905: 211), and “Colorado” (Csiki 1931: 903) need confirmation.

**Records. USA:** AL, AR, IL, KS, LA, MO, OK, TX [CO, DE, FL, NJ] – Mexico

***Badister flavipes flavipes* LeConte, 1853**

*Badister flavipes* LeConte, 1853c: 388. Type locality: «Louisiana» (original citation). Two syntypes [2 originally cited] in MCZ [# 5725].

*Europhilus iridipennis* Motschulsky, 1865: 321. Type locality: «environs de la nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♀), designated by Liebherr (1991b: 120), in ZMMU. Synonymy established by Liebherr (1991b: 120).

*Badister laticeps* Blatchley, 1910: 118. Type locality: «Perry County [Indiana]» (original citation for the lectotype). Lectotype (♀), designated by Blatchley (1930: 33), in PURC. **New synonymy.**

*Badister flavicornis* Casey, 1920: 208. Type locality: «Cedar Rapids [Linn County], Iowa» (original citation). One syntype in USNM [# 47368]. Synonymy established, under the name *B. flavipes laticeps* Blatchley, by Ball (1959: 211).

**Distribution.** This subspecies ranges from south-central New York (Ball 1959: 213) to southeastern Nebraska (Lancaster County, UASM), including southern Wisconsin (Rauterberg 1885: 17; Purrington et al. 2002: 201), south to southern Texas (Gonzales County, CMNH; Brazoria County, Robert L. Davidson pers. comm. 2008) and southern Florida (Peck and Thomas 1998: 21); also recorded from the Bahamas (Darlington 1953: 8).



**Records. USA:** AR, DC, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MO, MS, NE, NY, OH, PA, TN, TX, WI – Bahamas.

**Note.** Ball (1959) recognized three subspecies within this taxon, two of them occurring north of Mexico. Because the differences between the two forms are largely based on color and that intermediate specimens are known from Louisiana (Ball 1959: 210), I prefer not to recognize the color forms as distinct subspecies. *Badister flavipes mexicanus* Van Dyke is endemic to Mexico.

### ***Badister maculatus* LeConte, 1853**

*Badister maculatus* LeConte, 1853c: 387. Type locality: «Lancaster [Lancaster County], P[ennsylvania]a» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5721].

**Distribution.** This rarely collected species ranges from southwestern New Jersey (Smith 1910: 207) to central Kansas (Knaus 1898: 19), south to east-central Texas (Riley 2011), central Louisiana (Concordia Parish, CNC), and northern Florida (Peck and Thomas 1998: 21).

**Records. USA:** AL, AR, DC, FL, GA, IA, IN, KS, KY, LA, MO, MS, NJ, OH, OK, PA, SC, VA, TX

### **[notatus group]**

### ***Badister notatus* Haldeman, 1843**

*Badister notatus* Haldeman, 1843b: 299. Type locality: southeastern Pennsylvania (Haldeman 1843a: 296). Syntype(s) presumably lost.

*Badister terminalis* LeConte, 1844: 51. Type locality: «New York» (original citation). One syntype in MCZ [# 5719]. Synonymy established by LeConte (1847: 417), confirmed by Ball (1959: 215).

*Badister angustus* Casey, 1920: 207. Type locality: «Illinois» (original citation). One syntype in USNM [# 47367]. Synonymy established by Ball (1959: 215).

*Badister gilvipes* Casey, 1920: 207. Type locality: «Long Island, New York» (original citation). One syntype in USNM [# 47366]. Synonymy established by Ball (1959: 215).

**Distribution.** This species is found from southwestern New Brunswick (Webster and Bousquet 2008: 20) to eastern South Dakota (Kirk and Balsbaugh 1975: 35; French et al. 2004: 557), south to east-central Texas (Brazos County, CNC; Riley 2011), northern Georgia (Ball 1959: 216–217), and northwestern South Carolina (Ciegler 2000: 85).

**Records. CAN:** NB, ON, QC **USA:** AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV



## [pulchellus group]

***Badister ferrugineus* Dejean, 1831**

*Badister ferrugineus* Dejean, 1831: 690. Type locality: «Californie» (original citation), herein restricted to San Francisco, San Francisco County (see Eschscholtz 1833: 28). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 18).

*Badister anthracinus* LeConte, 1859a: 83. Type locality: «Oregon» (original citation). One syntype in MCZ [# 5724]. Synonymy established by Lindroth (1969a: 961).

**Distribution.** This species ranges from southwestern British Columbia, including Vancouver Island (Lindroth 1969a: 962), south to southern California (Ball 1959: 200-201). One old specimen labeled “Nev.” is known (Ball 1959: 200).

**Records.** CAN: BC (VCI) USA: CA, OR, WA [NV]

***Badister neopulchellus* Lindroth, 1954**

*Badister neopulchellus* Lindroth, 1954b: 153. Type locality: «West Roxbury [Suffolk County], Massachusetts» (original citation). Holotype (♂) in MCZ [# 29071].

**Distribution.** This species ranges from Cape Breton Island to southwestern British Columbia, north to the Great Slave Lake in Northwest Territories (Lindroth 1969a: 959), south to south-central California (Ball 1992a: 375), northeastern Kansas (Popenoe 1878: 78, as *B. pulchellus*), and northeastern Georgia (Fattig 1949: 31, as *B. pulchellus*). Two specimens simply labeled “Tex” (MCZ) are known (Ball 1959: 196).

**Records.** CAN: AB, BC, MB, NB, NS (CBI), NT, ON, PE, QC, SK USA: CA, CO, CT, DC, GA, IA, ID, IL, IN, KS, MA, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SD, UT, VT, WA, WI, WV, WY [TX]

***Badister obtusus* LeConte, 1878**

*Badister obtusus* LeConte, 1878c: 594. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5723].

**Distribution.** This species is found from Cape Breton Island (Bousquet 1987a: 132) to south-central British Columbia (Jarrett and Scudder 2001: 380), north to central Northwest Territories (Ball 1992a: 375), south to northeastern New Mexico (Ball 1992a: 375) along the Rocky Mountains, the Guadalupe Mountains in western Texas (Ball 1992a: 375), the upper peninsula of Michigan (LeConte 1878c: 594), southern Ontario (Lindroth 1969a: 961), and southern Maine (Majka et al. 2011: 46). The record from the Pacific Northwest (Hatch 1953: 961) refers to *B. neopulchellus* (Lindroth 1969a: 959).

**Records.** CAN: AB, BC, MB, NB, NS (CBI), NT, ON, QC, SK USA: CO, ME, MI, MN, MT, ND, NM, SD, TX, WI

***Badister pulchellus* LeConte, 1847**

*Badister pulchellus* LeConte, 1847: 418. Type locality: «Evansville Indianae, et in provinciis orientalibus» (original citation), restricted to «Evanston [error for Evansville, Vanderburgh County]» by Ball (1959: 204). Three syntypes in MCZ [# 5720].

**Distribution.** This rarely collected species is known from southern Ontario (Lindroth 1969a: 959), northern Ohio (Ashtabula County, Harry J. Lee, Jr. pers. comm. 2008), southern Michigan (Clinton County, CMNH), northern and southwestern Indiana (LeConte 1847: 418; Ball 1959: 205), western Illinois, “Tennessee” (Ball 1959: 205), southwestern Alabama (Lindroth 1954b: 153), and Connecticut (New London County, Foster F. Purrington pers. comm. 2009). Most old (pre-1950s) records of this species refer to *B. neopulchellus*.

**Records.** CAN: ON USA: AL, CT, IL, IN, MI, OH, TN

**Subgenus *Baudia* Ragusa, 1884**

*Baudia* Ragusa, 1884: 3. Type species: *Carabus peltatus* Panzer, 1796 by monotypy. Etymology. From the surname of the Italian entomologist Flaminio Baudi di Selve [1821-1901] [feminine].

**Diversity.** Twenty-two species in the Nearctic (six species), Neotropical (one species shared with North America), Australian (two species, one of them endemic to New Caledonia), Oriental (one species shared with the Australian Region), Palaearctic (11 species), and Afrotropical (three endemic species) Regions.

**[micans group]*****Badister grandiceps* Casey, 1920**

*Badister grandiceps* Casey, 1920: 209. Type locality: «District of Columbia» (original citation). Holotype [by monotypy] (♀) in USNM [# 47369].

**Distribution.** This transamerican species ranges from Cape Breton Island to Vancouver Island, south to “Oregon” (Lindroth 1969a: 964-965), northern Utah (Ball 1959: 225), east-central South Dakota (Kirk and Balsbaugh 1975: 35), northeastern Illinois (Purrington et al. 2002: 200), and the District of Columbia (Ball 1959: 225). The record from “Nebraska” (Bousquet and Laroche 1993: 213) needs confirmation.

**Records.** CAN: AB, BC (VCI), MB, NB, NS (CBI), ON, PE, QC USA: CT, DC, IA, IL, IN, KY, MA, ME, MI, MN, MT, NH, NJ, NY, OH, OR, PA, SD, UT, VT, WA, WI [NE]

***Badister micans* LeConte, 1844**

*Badister micans* LeConte, 1844: 52. Type locality: «Georgia» (original citation). One syntype, a ♂ labeled “[orange disc] / micans 3 [handwritten],” in MCZ (collection LeConte).



**Figure 35.** *Cratacanthus dubius* (Palisot de Beauvois). This widely distributed and morphologically variable species was described by the French naturalist traveler Ambroise Marie Joseph Palisot, Baron de Beauvois, one of the first entomologists to collect and describe American insects. On North American soil, Palisot de Beauvois collected from the Ohio River in the west to Savannah in Georgia. Unfortunately most of his collection was lost in a shipwreck off Nova Scotia in 1798 and his subsequent published descriptions were based on his notes and drawings.

*Badister ocularis* Casey, 1920: 210. Type locality: «Illinois» (original citation). Holotype [by monotypy] (♀) in USNM [# 47370]. Synonymy established with doubt by Bousquet and Laroche (1993: 213), herein confirmed.

**Distribution.** This species occurs from Nova Scotia (Lindroth 1954c: 305) to western Minnesota (Gandhi et al. 2005: 929, as *B. ocularis*), south to northwestern Tennessee (Lake County, UASM) and northern Georgia (Leng 1910: 73; Fattig 1949: 32). The records from “Florida” (Schaupp 1882b: 7), northeastern Kansas (Popenoe 1878: 78), and southern Texas (Wickham 1897: 105) need confirmation.

**Records.** CAN: NB, NS, ON, PE, QC USA: CT, GA, IL, IN, MA, ME, MI, MN, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI [FL, KS, TX]

**Note.** Casey (1920: 206–207), followed by Ball (1959: 227) and Lindroth (1969a: 966), stated that the species described by LeConte in 1844 as *Badister micans* was “very different” from that described under the same name in 1847 (page 418). However the only difference I can see between the 1844 and 1847 descriptions is the size: 4½ lines (= 9 mm) in the 1844 description and .24 [inch] (= 6 mm) in the 1847 description. In 1844, Georgia is listed as the provenance of the specimen(s) and in 1847 he reported he had a specimen from Georgia and one from Long’s Peak. LeConte (1844: 52) added that *Badister micans* “differs very much in its general appearance from all the species of this genus” which also led Casey (1920: 206) to believe that the specimen was “probably not a *Badister*.” However, the other two species of *Badister* described by LeConte in 1844 were *B. terminalis* (= *Badister notatus* Haldeman) and *B. testaceus* (= *Philodes alternans* LeConte). Both species are indeed quite different from *Badister ocularis*. My interpretation is that LeConte made a simple mistake in the size of the species in his 1844 description. Blatchley (1928a: 47) also commented on this species.

### ***Badister parviceps* Ball, 1959**

*Badister parviceps* Ball, 1959: 225. Type locality: «Crusoe Lake, Wayne County, New York» (original citation). Holotype (♂) in CUIC [# 3517].

**Distribution.** This species ranges from southwestern Quebec (Bousquet 1987a: 132) to southeastern Minnesota (Ball 1959: 226), north to southern Manitoba (Lindroth 1969a: 967), south to southeastern Texas (Ball 1992a: 377) and northwestern Alabama (Colbert County, CMNH). One specimen labeled from Creston, British Columbia in UBC seen by Lindroth (1969a: 967) is probably mislabeled.

**Records.** CAN: MB, ON, QC USA: AL, AR, CT, DC, IA, IL, IN, KS, MA, MD, MI, MN, MO, MS, NY, OH, PA, TN, TX, VA, WI, WV

### ***Badister reflexus* LeConte, 1880**

*Badister reflexus* LeConte, 1880b: 166. Type locality: «New York, Michigan, Louisiana» (original citation), restricted to «New York» by Ball (1959: 222). Four syntypes in MCZ [# 5727].



*Badister seclusus* Blatchley, 1922: 12. Type locality: «Dunedin [Pinellas County], Fl[orid]a» (original citation). Lectotype (♀), designated by Blatchley (1930: 45), in PURC. Synonymy established by Ball (1959: 222).

**Distribution.** This species is known from Rhode Island (Sikes and Webster 2005: 315) to southern Wisconsin (Messer 2010: 39), including southernmost Ontario (Lindroth 1969a: 966, probably only as strays), south to the Rio Grande in southeastern Texas (Ball 1992a: 376), the Florida Keys, and the Greater Antilles (Ball 1992a: 376-377); it is also known from a single specimen, possibly a stray, collected in southwestern New Brunswick (Webster and Bousquet 2008: 21) and from Quintana Roo in the Yucatán Peninsula (Ball 1992a: 376). The record from “Quebec” (Bousquet and Larochelle 1993: 213) is in error.

**Records.** CAN: NB, ON USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, LA, MA, MD, MI, MS, NC, NE, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI, WV – Bahamas, Cayman Islands, Cuba, Dominican Republic, Haiti, Jamaica, Mexico

**Note.** In the *Zoological Record* for the year 1880 this species is registered (page 22) under the name “*Badister albescens*.”

### *Badister submarinus* Motschulsky, 1859

*Badistes submarinus* Motschulsky, 1859a: 158. Type locality: «environs de la nouvelle Helvétie [= Sacramento, Sacramento County, California]» (original citation). One syntype in ZMMU (Keleinikova 1976: 219) and one in MCZ [# 8327].

**Distribution.** This species is known from three females collected in southern Oregon (Ball 1992a: 377) and north-central California (Motschulsky 1859a: 158).

**Records.** USA: CA, OR

[*transversus* group]

### *Badister transversus* Casey, 1920

*Badister transversus* Casey, 1920: 210. Type locality: «probably Indiana» (original citation), restricted to «Elkhart [Elkhart County], Ind[iana]» by Lindroth (1969a: 962). Holotype [by monotypy] (♀) in USNM [# 47371].

**Distribution.** This species ranges from New Brunswick (Webster and Bousquet 2008: 20) to southern Manitoba (Lindroth 1969a: 964; Roughley et al. 2010: 230), south to central Nebraska (Loup County, Foster F. Purrington pers. comm. 2010), northern Indiana, and New Jersey (Ball 1959: 219).

**Records.** CAN: MB, NB, ON, QC USA: CT, IL, IN, MA, ME, MI, MN, NE, NH, NJ, NY, OH, PA, SD, VT, WI

**Note.** This species has been referred to the subgenus *Trimorphus* Stephens (type species: *Trimorphus scapularis* Stephens, 1828 (= *Carabus sodalis* Duftschmid, 1812)) by Ball (1959) but Lindroth (1969a: 962) concluded that it is probably more closely related to members of *Baudia* than to those of *Trimorphus*.



### Tribe HARPALINI Bonelli, 1810

Harpalii Bonelli, 1810: Tabula Synoptica. Type genus: *Harpalus* Latreille, 1802.

**Diversity.** Worldwide, with about 2,725 species arrayed in four subtribes: Anisodactylina (about 345 species), Harpalina (about 1,665 species), Pelmatellina (about 90 species), and Stenolophina (about 625 species).

### Subtribe ANISODACTYLINA Lacordaire, 1854

Eurytrichini LeConte, 1847: 376 [*nomen oblitum*, see Bouchard et al. (2011: 128, 837–839)]. Type genus: *Eurytrichus* LeConte, 1847 (= *Anisotarsus* Chaudoir, 1837).

NOTE. Family-group name based on a type genus considered to be a junior synonym is not to be replaced (ICZN 1999: Article 40.1) unless it was replaced before 1961 and the replacement name is in prevailing usage (ICZN 1999: Article 40.2). In this case, the replacement name, *Anisotarsi* Csiki, 1932, is not in prevailing usage and so Eurytrichini LeConte, 1847 is the oldest available name for this subtribe.

Anisodactylides Lacordaire, 1854: 257, 268 [*nomen protectum*]. Type genus: *Anisodactylus* Dejean, 1829.

Anisotarsi Csiki, 1932a: 1039 [replacement name for Eurytrichini]. Type genus: *Anisotarsus* Chaudoir, 1837.

**Diversity.** Worldwide, with about 345 species arrayed in 30 genera (Lorenz 2005: 348–353). The North American fauna is represented by 48 species (about 14% of the world fauna).

**Taxonomic Note.** Ball and Bousquet (2000: 90), following Noonan (1973: 388), recognized two genus-groups among the North American taxa, the Notiobii (an unavailable name; referred to as the “Notiobioid main branch” by Noonan) for the genus *Notiobia* and Anisodactyli (“Anisodactyloid main branch” of Noonan) for all remaining genera.

### Genus NOTIOBIA Perty, 1830

*Notiobia* Perty, 1830: 13. Type species: *Notiobia nebrionides* Perty, 1830 by monotypy.

Etymology (original). From the Greek adjective *notios* (wet, moist, damp) and *bios* (life), alluding to the damp habitat where the species in the hands of Perty lived (“habitatione verosimile demptum est”) [feminine].

**Diversity.** About 95 species in the Nearctic (eight species), Neotropical (47 species), Australian (28 species), and Afrotropical (ten species) Regions arrayed in three subgenera: *Anisotarsus* (53 species), *Diatypus* Murray (ten Ethiopian species), and *Notiobia s.str.* (26 Neotropical species).

### Subgenus *Anisotarsus* Chaudoir, 1837

*Anisotarsus* Chaudoir, 1837b: 41. Type species: *Anisotarsus brevicollis* Chaudoir, 1837 designated by Casey (1914: 209). Etymology (original). From the Greek *anisos*

(unequal) and *tarsos* (tarsus), alluding to the fact that the male protarsomere 1 is distinctly smaller than the following three (“*premier article [du tarse du mâle] très petit, proportionnellement aux 2e, 3e et 4e articles, qui sont larges, cordiformes*”) in the two species that Chaudoir included in this taxon [masculine].

*Diaphoromerus* Chaudoir, 1843a: 402. Type species: *Diaphoromerus iridipennis* Chaudoir, 1843 by monotypy. Synonymy established by Noonan (1973: 295). Etymology (original). From the Greek *diaphoros* (different) and *meros* (part, segment) [masculine].

*Eurytrichus* LeConte, 1847: 387. Type species: *Feronia terminata* Say, 1823 designated by van Emden (1953b: 525). Synonymy established by LeConte (1870: 403). Etymology (original). From the Greek *eurys* (wide, extensive) and *trichos* (hair), alluding to the dense setae on the ventral surface of the male tarsi (“*tarsis ♂ subtus dense pilosis*”) [masculine].

*Harpalodes* Motschulsky, 1864: 208. Type species: *Harpalus fulgens* Dejean, 1829 (= *Poecilus chalcitis* Germar, 1824) by original designation. Synonymy established by Bousquet (2002b: 25). Etymology. From the generic name *Harpalus* [*q.v.*] and the Greek suffix *-odes* (likeness) [masculine].

*Stilbolidus* Casey, 1914: 171. Type species: *Harpalus mexicanus* Dejean, 1829 by original designation. Synonymy established by Lindroth (1968: 864).

**Diversity.** Fifty-three species in the Nearctic (eight species, four of them endemic), Neotropical (21 species), and Australian (28 species) Regions.

**Identification.** Noonan (1973) revised the North and Middle American species and provided a key for their identification.

#### [*brevicollis* group]

##### *Notiobia brevicollis* (Chaudoir, 1837)

*Anisotarsus brevicollis* Chaudoir, 1837b: 42. Type locality: «Mexique» (original citation), restricted to «state of Puebla» by Noonan (1973: 300). Lectotype (♀), designated by Noonan (1973: 300), in MHNP.

*Anisotarsus laeviusculus* Chaudoir, 1837b: 43. Type locality: «Mexique» (original citation). Lectotype (♂), designated by Noonan (1973: 300), in MHNP. Synonymy established by Bates (1882a: 49), confirmed by Noonan (1973: 300).

**Distribution.** This species ranges from southeastern Arizona to southeastern Texas, south to southern Mexico; it is also known from southern Baja California [see Noonan 1973: Fig. 139].

**Records. USA:** AZ, NM, TX – Mexico

#### [*terminata* group]

##### *Notiobia cephalus* (Casey, 1914)

*Anisotarsus cephalus* Casey, 1914: 215. Type locality: «Florida» (original citation), restricted to «Gainesville, Alachua Co[unty]» by Shpeley (2001: 117). Lectotype [as holotype] (♀), designated by Noonan (1973: 305), in USNM [# 47978].



**Figure 36.** *Sericoda quadripunctata* (DeGeer). This widely distributed Holarctic species is attracted to fire. The adults are often found in great numbers just after forest fires when the ashes are still hot. This behavior is shared by the other species in the genus and a few other carabids, such as *Harpalus laticeps* and *H. laevipes*. The presence of charcoal is probably a stimulus for oviposition. Henri Goulet was unsuccessful in obtaining eggs from *Sericoda obsoleta* in the laboratory until he added charcoal to his rearing containers.



*Anisotarsus tenuitarsis* Casey, 1914: 215. Type locality: «Lake Worth [Palm Beach County], Florida» (original citation). Lectotype (♂), designated by Noonan (1973: 305), in USNM [# 47979]. Synonymy established by van Emden (1953b: 544), confirmed by Shpeley (2001: 117).

**Distribution.** This species is endemic to the Florida Peninsula (Shpeley 2001: 118).

**Records. USA:** FL

**Note.** This form has been listed as a synonym of *N. nitidipennis* (LeConte) by Noonan (1973: 305) but treated as a distinct species by Shpeley (2001).

### *Notiobia maculicornis* (Chaudoir, 1843)

*Harpalus maculicornis* Chaudoir, 1843b: 787. Type locality: «près de la Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♂), designated by Noonan (1973: 307), in MHNP.

*Harpalus patronus* Casey, 1914: 89. Type locality: «Morgan City [Saint Mary Parish], Louisiana» (original citation). One syntype in USNM [# 47793]. Synonymy established by Noonan (1973: 307).

*Anisodactylus depressus* Notman, 1919b: 236. Type locality: «Austin [Travis County], Tex[as]» (original citation). Lectotype (♂), designated by Noonan (1973: 307), in USNM [# 75704]. Synonymy established by Noonan (1973: 307).

**Distribution.** This species is known from Connecticut (Krinsky and Oliver 2001: 212), Long Island, New York (Noonan 1973: 307), the coast of southern North Carolina (Brunswick County, Ken Karns pers. comm. 2009), and from “Kansas” and northern Arkansas south to southern Mississippi and eastern Texas [see Noonan 1973: Fig. 134]. The records from New Mexico (Snow 1885: 67; Fall and Cockerell 1907: 162, as *Anisodactylus maculicornis*) are likely in error.

**Records. USA:** AR, CT, KS, LA, MS, NC, NY, OK, TX

### *Notiobia mexicana* (Dejean, 1829)

*Harpalus mexicanus* Dejean, 1829: 288. Type locality: «Mexique» (original citation), herein restricted to Guadalajara, Jalisco (see Casey 1914: 208, as *Stilbolidus aztecus*). Lectotype (♂), designated by Noonan (1973: 320), in MHNP.

*Anisodactylus arizonae* Casey, 1884b: 6. Type locality: «Arizona» (original citation). Holotype [by monotypy] (♂) in USNM [# 47964]. Synonymy established by Horn (1886b: xii), confirmed by Noonan (1973: 320).

*Stilbolidus aztecus* Casey, 1914: 208. Type locality: «Guadalajara [Jalisco], Mexico» (original citation). Lectotype (♀), designated by Noonan (1973: 320), in USNM [# 47965]. Synonymy established by van Emden (1953b: 540), confirmed by Noonan (1973: 320).

**Distribution.** This species ranges from the mountains in Arizona and northern New Mexico south to northern Panama; also known from the Laguna Mountains in southern Baja California [see Noonan (1973: Fig. 137)].

**Records. USA:** AZ, NM, TX – Costa Rica, Guatemala, Mexico, Panama

***Notiobia nitidipennis* (LeConte, 1847)**

*Eurytrichus nitidipennis* LeConte, 1847: 388. Type locality: «Georgia» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5963].

*Anisotarsus delicatus* Casey, 1914: 214. Type locality: «Asheville [Buncombe County], North Carolina» (original citation). Lectotype (♀), designated by Noonan (1973: 305), in USNM [# 47977]. Synonymy established by van Emden (1953b: 544), confirmed by Lindroth (1968: 869) and Noonan (1973: 305).

*Harpalus conspectus* Casey, 1924: 103. Type locality: «M[on]t Royal [= Montreal], Quebec» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 47806]. Synonymy established by Lindroth (1968: 869).

*Harpalus agitabilis* Casey, 1924: 104. Type locality: «District of Columbia» (original citation). Holotype [by monotypy] (♂) in USNM [# 47825]. Synonymy established by Noonan (1973: 305).

**Distribution.** This species ranges from Maine and southern Quebec to southwestern South Dakota (Larsen and Purrington 2010: 571), south to eastern Texas and north-eastern Georgia (Shpeley 2001: 119), including “Colorado” (van Emden 1953b: 544) [see Noonan 1973: Fig. 135]. The previous records from Florida (Noonan 1973) refers to *N. cephalo* (Casey) (see Shpeley 2001).

**Records. CAN:** ON, QC **USA:** AL, AR, CO, CT, DC, GA, IA, IL, IN, MA, MD, ME, MI, MO, MS, NC, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

***Notiobia purpurascens* (Bates, 1882)**

*Anisotarsus purpurascens* Bates, 1882a: 50. Type locality: «Las Vigas [Veracruz], Mexico» (original citation for the lectotype). Lectotype (♂), designated by Noonan (1973: 311), in BMNH.

*Anisotarsus convexulus* Casey, 1914: 210. Type locality: «Galveston [Galveston County], Texas» (original citation). Lectotype (♀), designated by Noonan (1973: 311), in USNM [# 47968]. Synonymy established by Noonan (1973: 311).

*Anisotarsus inaudax* Casey, 1914: 211. Type locality: «Galveston and westward nearly to El Paso, Texas» (original citation), restricted to «Galveston [Galveston County]» by Noonan (1973: 311). Lectotype (♀), designated by Noonan (1973: 311), in USNM [# 47967]. Synonymy established by Noonan (1973: 311).

*Anisotarsus extraneus* Casey, 1914: 212. Type locality: «Los Angeles Co[unty], California» (original citation). Lectotype [as holotype] (♀), designated by Noonan (1973: 311), in USNM [# 47969]. Synonymy established by Noonan (1973: 311).

*Anisotarsus calathoides* Casey, 1914: 212. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Noonan (1973: 311), in USNM [# 47970]. Synonymy established by Noonan (1973: 311).



**Distribution.** This species ranges from the San Francisco Bay area to southwestern Alabama, including central Missouri (Shockley and Cline 2004: 281), south to central Mexico and southern California [see Noonan 1973: Fig. 145]. The species is adventive on several islands of Hawaii (Liebherr 2009: 403).

**Records. USA:** AL, AZ, CA, LA, MO, MS, NM, TX – Mexico

***Notiobia sayi* (Blatchley, 1910)**

*Eurytrichus piceus* LeConte, 1847: 388 [secondary homonym of *Anisodactylus piceus* (Ménétriés, 1843)]. Type locality: «NovEboraci [= New York]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5962].

*Anisodactylus sayi* Blatchley, 1910: 198. Replacement name for *Anisodactylus piceus* (LeConte, 1847).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 51, as *Anisotarsus piceus*) to northeastern South Dakota (Kirk and Balsbaugh 1975: 32, as *Anisotarsus piceus*), south to eastern Texas and northeastern Florida [see Noonan 1973: Fig. 133].

**Records. CAN:** ON, QC **USA:** AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VT, WI

***Notiobia terminata* (Say, 1823)**

*Feronia terminata* Say, 1823a: 48. Type locality: «Cleveland [Cuyahoga County], O[hio]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 355), in MCZ [# 32981].

*Harpalus similis* Say, 1823a: 29. Type locality: «Fl[orid]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 355), in MCZ [# 32982]. Synonymy established by Noonan (1973: 313). NOTE. «North Carolina» was the original area cited by Say (1823a: 30).

*Harpalus agilis* Dejean, 1829: 357. Type locality: «Amérique septentrionale» (original citation), restricted to «Archbold Biological Station, Highland Co[unty], Florida» by Noonan (1973: 313). Lectotype (♂), designated by Noonan (1973: 313), in MHNP. Synonymy established, under the name *N. similis* (Say), by Melsheimer (1853: 23), confirmed by Noonan (1973: 313).

*Harpalus ocreatus* Say, 1830c: 20. Type locality: «San Cristobal las Casas (7000'), Chiapas, Mex[ico]» (neotype label). Neotype (♂), designated by Noonan (1973: 313), in MCZ [# 34663]. Synonymy established by Noonan (1973: 313). NOTE. «Mexico» was the area originally cited by Say (1830c: 20).

*Harpalus testaceus* Haldeman, 1843b: 301. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). One possible syntype, a ♀ labeled “[pink disc] / 291. [handwritten] / E. terminatus (Say) Lec. testaceus Hald. [handwritten],” in MCZ (collection LeConte). Synonymy established by LeConte (1863b: 12), confirmed by Lindroth (1968: 867).

- Anisotarsus foveicollis* Bates, 1884: 269. Type locality: «Volcan de Chiriqui [Chiriqui], Panama» (original citation for the lectotype). Lectotype (♂), designated by Noonan (1973: 314), in BMNH. Synonymy established by Noonan (1973: 314).
- Anisotarsus subvirens* Casey, 1914: 213. Type locality: «Austin [Travis County], Texas» (original citation). Lectotype (♀), designated by Noonan (1973: 314), in USNM [# 47976]. Synonymy established by Noonan (1973: 314).
- Anisotarsus floridanus* Casey, 1914: 214. Type locality: «Florida» (original citation), restricted to «Archbold Biological Station, Highland Co[unty]» by Noonan (1973: 314). Lectotype (♂), designated by Noonan (1973: 314), in USNM [# 47982]. Synonymy established by Noonan (1973: 314).
- Anisotarsus hebes* Casey, 1924: 136. Type locality: «Dallas [Dallas County], Texas» (original citation). Lectotype (♂), designated by Noonan (1973: 314), in USNM [# 47974]. Synonymy established with doubt, under the name *N. terminatus subvirens* (Casey), by van Emden (1953b: 542), confirmed by Noonan (1973: 314).
- Anisotarsus angusticollis* Casey, 1924: 137. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype (♂), designated by Noonan (1973: 314), in USNM [# 47975]. Synonymy established with doubt by van Emden (1953b: 542), confirmed by Lindroth (1968: 867) and Noonan (1973: 314).
- Anisotarsus fuscipennis* Casey, 1924: 137. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation for the lectotype). Lectotype (♂), designated by Noonan (1973: 314), in USNM [# 47971]. Synonymy established with doubt by van Emden (1953b: 542), confirmed by Lindroth (1968: 867) and Noonan (1973: 314).
- Anisotarsus parallelus* Casey, 1924: 138. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype [as holotype] (♂), designated by Noonan (1973: 314), in USNM [# 47973]. Synonymy established by Noonan (1973: 314).
- Anisotarsus subovalis* Casey, 1924: 138. Type locality: «Charleston [Mississippi County], Missouri» (original citation). Lectotype [as holotype] (♂), designated by Noonan (1973: 314), in USNM [# 47972]. Synonymy established with doubt by van Emden (1953b: 542), confirmed by Noonan (1973: 314).
- Anisotarsus inerrans* Casey, 1924: 138. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype [as holotype] (♂), designated by Noonan (1973: 314), in USNM [# 47966]. Synonymy established, with doubt under the name *N. similis* (Say), by van Emden (1953b: 541), confirmed by Noonan (1973: 314).
- Anisotarsus connivens* Casey, 1924: 139. Type locality: «Marion Co[unty], Florida» (original citation). Lectotype [as holotype] (♂), designated by Noonan (1973: 314), in USNM [# 47981]. Synonymy established by Noonan (1973: 314).
- Anisotarsus vernicatus* Casey, 1924: 140. Type locality: «Everglade Co[unty], Florida» (original citation). Lectotype [as holotype] (♂), designated by Noonan (1973: 314), in USNM [# 47980]. Synonymy established by Noonan (1973: 314).

**Distribution.** This widely distributed species ranges from western Newfoundland (CNC) to South Dakota (Kirk and Balsbaugh 1975: 32), south to Panama and southern Florida, west to southeastern Arizona [see Noonan 1973: Fig. 144]; also known from sin-

gle specimens collected in southeastern Saskatchewan (Ronald R. Hooper pers. comm. 2007) and northern Colorado (Larimer County, William L. Krinsky pers. comm. 2008). The species is also recorded from Bermuda (Hilburn and Gordon 1989: 677).

**Records.** CAN: NB, NF, NS, ON, PE, QC, SK USA: AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV – Bermuda, Costa Rica, Guatemala, Honduras, Mexico, Panama

### Genus *XESTONOTUS* LeConte, 1853

*Xestonotus* LeConte, 1853c: 383. Type species: *Selenophorus lugubris* Dejean, 1829 by monotypy. Etymology. From the Greek *xestos* (smoothed, polished) and *notos* (back, by extension dorsum) [masculine].

**Diversity.** One North American species in the temperate regions.

**Identification.** The species is included in Lindroth's (1968: 864) monograph.

**Taxonomic Note.** Lindroth (1968: 864) regarded this taxon as a subgenus of *Anisodactylus* while Noonan (1973: 347) treated it as a valid genus. As discussed by Bousquet and Tchang (1992: 760), larval characters support Noonan's view.

### *Xestonotus lugubris* (Dejean, 1829)

*Selenophorus lugubris* Dejean, 1829: 118. Type locality: «Amérique septentrionale» (original citation), restricted to «Lexington [Middlesex County], Mass[achusetts]» by Lindroth (1968: 864). One syntype in MHNP (Lindroth 1955b: 30).

*Harpalus manhattanis* Casey, 1884b: 9. Type locality: «Staten Island, near the city of New York [New York]» (original citation). Holotype [by monotypy] (♂) in USNM [# 47927]. Synonymy established by Horn (1885b: 109), confirmed by Lindroth (1968: 864).

*Anisodactylus tioganus* Casey, 1924: 123. Type locality: «Tioga Co[unty], Pennsylvania» (original citation). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 47911]. Synonymy established by Lindroth (1968: 864).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1954c: 308) and Prince Edward Island (Majka et al. 2008: 132) to southeastern South Dakota (Kirk and Balsbaugh 1975: 31), south to southern Kansas (Snow 1903: 194), southern Arkansas (Kraim 1983: 229), and northwestern North Carolina (Watauga County, USNM). The records from "Colorado" (Snow 1877: 17; Wickham 1902: 243) need confirmation.

**Records.** CAN: NB, NS, ON, PE, QC USA: AR, CT, DC, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, NC, NH, NJ, NY, OH, PA, RI, SD, VA, VT, WI, WV [CO]

### Genus *ANISODACTYLUS* Dejean, 1829

*Anisodactylus* Dejean, 1829: 4, 132. Type species: *Carabus binotatus* Fabricius, 1787 designated by Westwood (1838: 4). Etymology. From the Greek *anisos* (unequal)

and *dactylos* (finger), probably referring to the fact that the male protarsomere 1 is distinctly smaller than the following three (“*premier article des 4 tarsi antérieurs des mâles plus petit que les suivants*”) in the species that Dejean included in this taxon [masculine].

**Diversity.** About 50 species in North America (33 species, one of them adventive), Mexico (seven species, two of them endemic), and the Palearctic Region (17 species) arrayed in nine subgenera: *Anadaptus* (seven species), *Anisodactylus s.str.* (22 species), *Aplocentrus* (two species), *Gynandrotarsus* (10 species), *Hexatrachus* Tschitschérine (four west Palearctic species), *Pseudanisodactylus* Noonan (three Palearctic species), *Pseudaplocentrus* (one species), *Pseudodichirus* Lutshnik (one west Palearctic species), and *Spongopus* (one species). One Palearctic species (*A. binotatus*) is adventive in New Zealand (Larochelle and Larivière 2005: 34).

### Subgenus *Anisodactylus* Dejean, 1829

*Anisodactylus* Dejean, 1829: 4, 132. Type species: *Carabus binotatus* Fabricius, 1787 designated by Westwood (1838: 4).

*Cephalogyna* Casey, 1918: 414. Type species: *Anisodactylus lodingi* Schaeffer, 1911 by original designation. Synonymy established by Lindroth (1968: 849). Etymology. From the Greek *cephale* (head) and *gyne* (female), alluding to the head of the female which is larger than in the male (“very large head, notably larger in the female than in the male”) [feminine].

*Pseudhexatrachus* Noonan, 1973: 282, 352. Type species: *Anisodactylus dejeanii* Buquet, 1840 (= *Carabus heros* Fabricius, 1801) by original designation. Synonymy established by Noonan (1996: 10). Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Hexatrachus* [masculine].

**Diversity.** Twenty-two species in the Nearctic (14 species, of which two extends into the Baja California Peninsula and one is adventive) and Palearctic (nine species, including the Himalayas) Regions.

**Identification.** Noonan (1996) revised all the species. One Palearctic species, *A. emarginatus* Ito, has been described subsequently. Lindroth’s key (1968: 835–838) included all North American species except *A. pseudagricola* described subsequently.

#### [*binotatus* group]

### *Anisodactylus binotatus* (Fabricius, 1787)

*Carabus 2notatus* Fabricius, 1787: 199. Type locality: «Kiliae [Germany]» (original citation). Lectotype (♀), designated by Lindroth (1968: 851), in ZMUC.

**Distribution.** This Palearctic species is adventive in North America where it is known from the Skeena River valley in central British Columbia (Spence and Spence 1988: 158) to northeastern Oregon, east to west-central Montana (Hansen et al. 2009: 353) [see Noonan 1996: Fig. 230]; the species has been recorded also from Sacramento

County in California (Clark 1999: 202). The specimen simply labeled from Nevada and the one labeled from Dickenson County in Iowa (Noonan 1996: 113) are likely mislabeled. The first inventoried specimen collected on this continent was found in 1911 at Portland, Oregon (Noonan 1996: 38). The species is also adventive in New Zealand since 1938 (Larochelle and Larivière 2005: 35).

**Records.** CAN: BC (VCI) USA: CA, MT, OR, WA – **Adventive**

***Anisodactylus consobrinus* LeConte, 1851**

*Anisodactylus consobrinus* LeConte, 1851: 183. Type locality: «California borealis» (original citation), herein restricted to Arcata, Humboldt County (see Noonan 1996: 105). Lectotype (♂), designated by Noonan (1996: 30), in MCZ [# 88].

*Anisodactylus brevicollis* LeConte, 1851: 183. Type locality: «S[an]ta Isabel [= Mohave settlement near Needles in San Bernardino County along the Colorado River, California]» (original citation). Lectotype [as holotype] (♀), designated by Noonan (1996: 30), in MCZ [# 87]. Synonymy established by Horn (1880d: 177), confirmed by Noonan (1996: 30).

**Distribution.** This species ranges from northern Idaho and northern Washington south to northern Baja California Peninsula. A few specimens are known also from central Arizona and southern New Mexico [see Noonan 1996: Fig. 225].

**Records.** USA: AZ, CA (CHI), ID, NM, NV, OR, WA – Mexico

**[californicus group]**

***Anisodactylus californicus* Dejean, 1829**

*Anisodactylus californicus* Dejean, 1829: 148. Type locality: «Californie» (original citation), herein restricted to Sequoia Lake, Sequoia National Forest, Fresno County (see Noonan 1996: 123). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 30).

*Anisodactylus confusus* LeConte, 1851: 183. Type locality: «San Francisco [San Francisco County, California]» (original citation). Lectotype (♂), designated by Noonan (1996: 55), in MCZ [# 86]. Synonymy established by Horn (1875: 130), confirmed by Noonan (1996: 55).

*Harpalus depressicollis* Motschulsky, 1859a: 136. Type locality: California (inferred from title of the paper). Lectotype [as holotype] (♀), designated by Noonan (1996: 55), in ZMMU. Synonymy established by Noonan (1996: 55).

*Anisodactylus obsolescens* Casey, 1914: 188. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47922]. Synonymy established by Lindroth (1968: 854).

*Anisodactylus angustus* Casey, 1914: 188. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 47920]. Synonymy established by Lindroth (1968: 854).



*Anisodactylus oregonus* Casey, 1914: 189. Type locality: «Clackamas Co[unty], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 47919]. Synonymy established by Hatch (1953: 174), confirmed by Lindroth (1968: 854).

*Anisodactylus sinuatus* Casey, 1914: 190. Type locality: «Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 47918]. Synonymy established by Lindroth (1968: 854).

*Anisodactylus paganicus* Casey, 1914: 190. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 47917]. Synonymy established by Lindroth (1968: 854).

*Anisodactylus humeralis* Casey, 1914: 190. Type locality: «Reno [Washoe County], Nevada» (original citation). Holotype [by monotypy] (♀) in USNM [# 47921]. Synonymy established by Lindroth (1968: 854).

*Anisodactylus aleneanus* Casey, 1924: 124. Type locality: «Coeur d'Alene [Kootenai County], Idaho» (original citation). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 47923]. Synonymy established by Hatch (1953: 174), confirmed by Lindroth (1968: 854).

*Anisodactylus comes* Casey, 1924: 124. Type locality: «Valley of Redwood Creek, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 47924]. Synonymy established by Lindroth (1968: 854).

*Anisodactylus maestus* Casey, 1924: 124. Type locality: «S[an]ta Cruz [Santa Cruz County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 47925]. Synonymy established by Lindroth (1968: 854).

**Distribution.** This western species ranges from central Alberta to Vancouver Island, south to the Baja California Peninsula, southern Arizona, and northern Colorado [see Noonan 1996: Fig. 240]. Specimens labeled from “New Mexico,” Dallas (Texas), Jalisco in west-central Mexico, “Nebraska,” Lake County in Illinois, and “New Jersey” are known.

**Records.** CAN: AB, BC (VCI) USA: AZ, CA (CHI), CO, ID, MT, NV, OR, UT, WA, WY [IL, NE, NM, TX] – Mexico

### *Anisodactylus furvus* LeConte, 1863

*Anisodactylus furvus* LeConte, 1863c: 14. Type locality: «upper part of Georgia» (original citation), herein restricted to Barnesville, Lamar County (see Noonan 1996: 135). Holotype [by monotypy] (♀) in MCZ [# 5952].

**Distribution.** This eastern species ranges from New Jersey to northwestern Missouri, north to southernmost Ontario, south to east-central Texas and the Florida Panhandle [see Noonan 1996: Fig. 244]. Three specimens labeled from “Colorado,” Santa Cruz County in Arizona, and Lane County in Oregon are known.

**Records.** CAN: ON USA: AL, AR, DE, FL, GA, IL, IN, KY, LA, MA, MI, MO, MS, NC, NJ, OH, OK, PA, SC, TN, TX, VA [AZ, CO]

***Anisodactylus similis* LeConte, 1851**

*Anisodactylus similis* LeConte, 1851: 183. Type locality: «Oregon» (original citation), herein restricted to Ochoco National Forest, Crook County (see Noonan 1996: 133). Lectotype [as holotype] (♂), designated by Noonan (1996: 60), in MCZ [# 89].

*Anisodactylus semipunctatus* LeConte, 1859a: 83. Type locality: «Oregon, California» (original citation), restricted to «Oregon» by Noonan (1996: 60). Lectotype (♂), designated by Noonan (1996: 60), in MCZ [# 5954]. Synonymy established by Horn (1875: 130), confirmed by Lindroth (1968: 855).

*Anisodactylus puncticollis* Chaudoir, 1868b: 161. Type locality: «île de Vancouver [British Columbia]» (original citation). Holotype [by monotypy] (♂) in MHNP. Synonymy established by Horn (1875: 130), confirmed by Lindroth (1968: 855).

*Anisodactylus incisus* Casey, 1914: 185. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 47914]. Synonymy established by Lindroth (1968: 855).

*Anisodactylus solidus* Casey, 1914: 186. Type locality: «n[ea]r San Francisco [California]» (original citation). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 47912]. Synonymy established by Lindroth (1968: 855).

*Anisodactylus incertus* Casey, 1914: 186. Type locality: «S[an]ta Clara Co[unty], California» (original citation). Lectotype (♀), designated by Noonan (1996: 60), in USNM [# 47916]. Synonymy established by Noonan (1975: 227).

*Anisodactylus sericatus* Casey, 1914: 187. Type locality: «San Francisco Bay, California» (original citation). Lectotype (♀), designated by Noonan (1975: 227), in USNM [# 47915]. Synonymy established by Noonan (1975: 227).

**Distribution.** This species occurs from central British Columbia south to the Mexican border in California and the eastern edge of the Rocky Mountains in northern Colorado [see Noonan 1996: Fig. 244]. Two old specimens labeled from “Arizona” and “Texas” are known.

**Records.** CAN: BC (VCI) USA: CA (CHI), CO, ID, MT, NV, OR, UT, WA [AZ, TX]

**[carbonarius group]*****Anisodactylus carbonarius* (Say, 1823)**

*Harpalus carbonarius* Say, 1823a: 32. Type locality: «Camden [Kershaw County], S[outh] C[arolina]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 353), in MCZ [# 32987].

*Anisodactylus luctuosus* Dejean, 1829: 151. Type locality: «Amérique septentrionale» (original citation). Lectotype (♂), designated by Noonan (1996: 69), in MHNP. Synonymy established by LeConte (1847: 382), confirmed by Lindroth (1955b: 29).

*Anisodactylus rufipennis* LeConte, 1847: 381. Type locality: «Brooklyn, insulae Longae NovEboraci [= New York]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5953]. Synonymy established by Horn (1880d: 177), confirmed by Noonan (1996: 69).

*Triplectrus brevior* Casey, 1924: 126. Type locality: «Pennsylvania» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47928]. Synonymy established by Lindroth (1968: 848).

**Distribution.** This species is found from southern Quebec to northeastern South Dakota (Kirk and Balsbaugh 1975: 31), south to northern Colorado (Miller and Peairs 2008: 34), northeastern Texas, and central Florida [see Noonan 1996: Fig. 247]; the species has been collected at three sites in Washington which suggest that it has been introduced into the Pacific northwest.

**Records.** CAN: ON, QC USA: AL, AR, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, MA, MD, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV

**Taxonomic Note.** This species was included in the subgenus *Gynandrotarsus* by Lindroth (1968: 848) but in the nominotypical subgenus by Noonan (1973: 351).

### *Anisodactylus harrisii* LeConte, 1863

*Anisodactylus harrisii* LeConte, 1863c: 14. Type locality: «middle and eastern states» (original citation), restricted to «Marion [Plymouth County], Mass[achusetts]» by Lindroth (1968: 850). Lectotype (♂), designated by Noonan (1996: 71), in MCZ [# 5968].

*Anisodactylus lacertosus* Casey, 1924: 123. Type locality: «probably Indiana» (original citation), restricted to «Indiana» by Noonan (1996: 71). Holotype [by monotypy] (♀) in USNM [# 47913]. Synonymy established by Lindroth (1968: 850).

**Distribution.** This species occurs from Nova Scotia to southwestern British Columbia, south to southern California, southern Arizona, the Texas Panhandle (Michels et al. 2010: 743), east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009), central Mississippi, and west-central South Carolina (Ciegler 2000: 90) [see Noonan 1996: Fig. 248].

**Records.** CAN: AB, BC, MB, NB, NS, ON, PE, QC, SK USA: AL, AR, AZ, CA, CT, CO, DE, GA, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OR, PA, RI, SC, SD, TX, UT, VA, VT, WA, WI, WV

### *Anisodactylus lodingi* Schaeffer, 1911

*Anisodactylus lodingi* Schaeffer, 1911: 114. Type locality: «Mobile [Mobile County], Alabama» (original citation). Lectotype (♂), designated by Erwin and House (1978: 234), in USNM [# 42494]. Etymology. The species name was proposed for Henry Peter Löding [1869-1942], a florist and horticulturist in Mobile, Alabama.

Löding is best known in the scientific community as a collector of Coleoptera. He was awarded the honorary degree of Doctor of Science by the University of Alabama in 1932. His collection is at the same University.

**Distribution.** This species ranges from Long Island, New York, south to northern Florida and southeastern Mississippi [see Noonan 1996: Fig. 246]. One specimen labeled from “Massachusetts” is known.

**Records. USA:** AL, FL, GA, MS, NY, NC [MA]

*Anisodactylus nigerrimus* (Dejean, 1831)

*Harpalus nigerrimus* Dejean, 1831: 842. Type locality: «Amérique septentrionale» (original citation), restricted to «Marion [Plymouth County], Mass[achusetts]» by Lindroth (1968: 850). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 30; Noonan 1996: 65).

*Harpalus laticollis* Kirby, 1837: 43. Type locality: northern parts of British America (inferred from title of the book). Holotype [by monotypy] (♀) in BMNH. Synonymy established by LeConte (1850: 208), confirmed by Lindroth (1953b: 174).

*Anisodactylus punctulatus* LeConte, 1863c: 14. Type locality: «Middle States» (original citation). Lectotype [as holotype] (♂), designated by Noonan (1996: 65), in MCZ [# 5955]. Synonymy established by Horn (1880d: 177), confirmed by Lindroth (1968: 851).

*Harpalus opacus* Casey, 1884b: 8. Type locality: «eastern Pennsylvania» (original citation). Holotype [by monotypy] (♀) in USNM [# 47910]. Synonymy established by Horn (1885b: 109), confirmed by Lindroth (1968: 851).

**Distribution.** This species is found from Newfoundland to western Ontario, south to northwestern Arkansas, southern Mississippi, and northern Georgia, west to eastern Kansas and Nebraska [see Noonan 1996: Fig. 245]. Seven specimens labeled from “Texas,” “South Dakota,” “California,” southwestern Saskatchewan, and southeastern Alberta are also known (Noonan 1996: 135-138). Several specimens were recently caught in the southern Similkameen Valley in British Columbia (Smith et al. 2004: 96) suggesting that the range of the species extends farther west or that the species was introduced in the area; a misidentification is also possible.

**Records. CAN:** NB, NF, NS (CBI), ON, PE, QC **USA:** AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV [AB, BC, CA, SD, SK, TX]

[*melanopus* group]

*Anisodactylus agricola* (Say, 1823)

*Harpalus agricolus* Say, 1823a: 33. Type locality: «Allegheny, P[ennsylvania]a» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 354), in MCZ [# 32985].

*Harpalus paradoxus* Haldeman, 1843b: 302. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Syntype(s) presumably lost. Synonymy established by Melsheimer (1853: 23).

*Anisodactylus striatus* LeConte, 1847: 380. Type locality: «Evansville, I[ow]a alterumque ad Rocky Mountains» (original citation), restricted to «Evansville, Iowa» by Noonan (1996: 44). Lectotype (♀), designated by Noonan (1996: 44), in MCZ [# 5956]. Synonymy established by Melsheimer (1853: 23), confirmed by Noonan (1996: 44).

**Distribution.** This species ranges from Maine and southern Quebec to southeastern Minnesota, south to northern Arkansas (Kraim 1983: 176), central Alabama, and northwestern South Carolina (Ciegler 2000: 89) [see Noonan 1996: Fig. 235]. The record from “Colorado” (Leng 1920: 72) is probably in error.

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NC, NE, NH, NJ, NY, OH, PA, RI, SC, TN, VA, WI, WV

### *Anisodactylus melanopus* (Haldeman, 1843)

*Harpalus melanopus* Haldeman, 1843b: 302. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Neotype (♂), designated by Noonan (1996: 48), in MCZ.

**Distribution.** This species ranges from Massachusetts to southeastern Minnesota (Gandhi et al. 2005: 930), south to southern Missouri, “Mississippi” (Drew A. Hildebrandt pers. comm. 2007), and central South Carolina (Ciegler 2000: 90) [see Noonan 1996: Fig. 237]. There are two specimens from more western sites: one from western Nebraska, the other one from Utah. Whether these specimens are strays or represent elements of permanent populations remain to be seen. The record from South Dakota (Kirk and Balsbaugh 1975: 31) needs confirmation.

**Records.** CAN: ON USA: CT, DC, DE, GA, IA, IL, IN, MA, MD, MI, MN, MO, MS, NC, NJ, NY, OH, PA, RI, SC, VA, VT, WI, WV [NE, SD, UT]

### *Anisodactylus pseudagricola* Noonan, 1996

*Anisodactylus pseudagricola* Noonan, 1996: 46. Type locality: «Cornwall [Litchfield County], C[onnecticu]t» (original citation). Holotype (♂) in CUIIC [# 7001].

**Distribution.** This species, known only from relatively few specimens, ranges from New Hampshire to eastern Michigan, south to northern Ohio (Ashtabula and Huron Counties, Harry J. Lee, Jr. pers. comm. 2008) and southern Pennsylvania (Somerset County, Robert L. Davidson pers. comm. 2012) [see Noonan 1996: Fig. 236]. One specimen collected in central Missouri (Boone County, CMNH) and identified by Gerald R. Noonan in 1994 is known (Robert L. Davidson pers. comm. 2012).

**Records.** CAN: ON USA: CT, MA, MI, MO, NH, NY, OH, PA



## [nigrita group]

*Anisodactylus kirbyi* Lindroth, 1953

*Anisodactylus kirbyi* Lindroth, 1953b: 174. Type locality: «Cheticamp, Nova Scotia» (holotype label). Holotype (♂) in CNC [# 6574]. Etymology. The specific name honors the English clergyman, entomologist, and naturalist William Kirby [1759-1850] who is best known to the North American entomological community for his taxonomic treatment of the insects brought back by John Richardson from the second arctic expedition (1825-1827) of Sir John Franklin.

**Distribution.** This species has a disjunct distribution. In the east, the species is found from Cape Breton Island to southeastern Manitoba south to southern Indiana, southern Pennsylvania, and New Jersey; in the west, the species ranges from southern British Columbia south to southwestern California, east to northern Idaho [see Noonan 1996: Fig. 238].

**Records.** CAN: BC (VCI), MB, NB, NS (CBI), ON, PE, QC USA: CA, CT, ID, IL, IN, MA, MD, ME, MI, MN, ND, NH, NJ, NY, OH, OR, PA, RI, SD, VT, WA, WI

*Anisodactylus nigrita* Dejean, 1829

*Anisodactylus nigrita* Dejean, 1829: 149. Type locality: «Amérique septentrionale» (original citation), restricted to «Forest Hills [Suffolk County], Mass[achusetts]» by Lindroth (1968: 852). Lectotype (♂), designated by Noonan (1996: 53), in MHNP.

*Harpalus interpunctatus* Kirby, 1837: 42. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Lectotype (♂), designated by Noonan (1996: 53), in BMNH. Synonymy established by Lindroth (1953b: 174).

*Anisodactylus lecontei* Chaudoir, 1868b: 161 [primary homonym of *Anisodactylus lecontei* Gemminger and Harold, 1868]. Type locality: «provinciis mediis» (original citation for *A. nigrita* Dejean *sensu* LeConte, 1847). Two syntypes in MCZ. **New synonymy.** NOTE. This name was proposed for *Anisodactylus nigrita* Dejean, 1829 *sensu* LeConte (1847: 379). LeConte's collection contains four specimens under the name *A. nigrita*. They are labeled as follow: 1. (♂) "[white disc above, yellow under] / = type de nigrita Dej [handwritten] / *A. nigrita* Dej. [handwritten];" 2. (♀) "[pink under] / *nigrita* 2 [handwritten];" 3. (♀) "[white disc above, yellow under] / *nigrita* 3 [handwritten];" 4. (♀) "[pink under] / 260. [handwritten] / var. *interpunctatus* (? Kirby) Lec. [handwritten] / *nigrita* 4 [handwritten]." The two specimens with pink discs (= middle states) are probably syntypes. Lindroth (1968: 853) listed this name with doubt as a synonym of *A. kirbyi* Lindroth. However, all four specimens in LeConte's collection are conspecific with members of *A. nigrita* Dejean.

**Distribution.** This species ranges from Nova Scotia to southern British Columbia, south to southern Washington, Colorado along the Rocky Mountains, Nebraska, and eastern Tennessee and western North Carolina along the Appalachian Mountains [see

Noonan 1996: Fig. 239]. A few specimens simply labeled from California, Kansas, and Mississippi are known. The record from southwestern Alabama (Löding 1945: 25) is probably in error.

**Records.** **CAN:** AB, BC, MB, NB, NS, ON, PE, QC, SK **USA:** CO, CT, DC, IA, IL, IN, KY, MA, MD, ME, MI, MN, NC, ND, NE, NH, NJ, NY, OH, PA, RI, SD, TN, VA, VT, WA, WI, WV [CA, KS, MS]

### Subgenus *Gynandrotarsus* LaFerté-Sénectère, 1841

*Gynandrotarsus* LaFerté-Sénectère, 1841b: 202. Type species: *Gynandrotarsus harpaloides* LaFerté-Sénectère, 1841 by monotypy. Etymology. From the Greek *gyne* (female), *andros* (male), and *tarsos* (tarsus), probably alluding to the expanded first protarsomere of the female (“*le premier article des tarses antérieurs des femelles ... une fois et demie aussi large et deux fois aussi long que l'article correspondant des mâles*”) as in the male [masculine].

*Triplectrus* LeConte, 1847: 381. Type species: *Harpalus rusticus* Say, 1823 designated by Lindroth (1968: 843). Synonymy established by Casey (1914: 172). Etymology. From the Greek *treis* (three) and *plectron* (spur), alluding to the trifid apical spur of the protibia (“*tibiae anticae calcare terminale trifido*”) of the adult [masculine].

**Diversity.** Ten species in North America (nine species) and Mexico (four species, one of them endemic, *A. darlingtoni* Noonan).

**Identification.** Noonan (1973) revised all species.

#### [*dulcicollis* group]

#### *Anisodactylus dulcicollis* (LaFerté-Sénectère, 1841)

*Harpalus dulcicollis* LaFerté-Sénectère, 1841a: 44. Type locality: Texas (inferred from title of the paper). Lectotype (♂), designated by Noonan (1973: 362), in MHNP.

*Anisodactylus ellipticus* LeConte, 1847: 384. Type locality: «NoviAureliani [= New Orleans, Orleans Parish, Louisiana]» (original citation). Lectotype [as type] (♂), designated by Noonan (1973: 362), in MCZ [# 5967]. Synonymy established by LeConte (1866: 78), confirmed by Noonan (1973: 362).

*Anisodactylus elongatus* Chaudoir, 1868b: 163. Type locality: «Texas» (original citation). Holotype [by monotypy] (♂) in MHNP (Noonan 1973: 362). Synonymy established by Lindroth (1968: 847).

*Triplectrus modicus* Casey, 1914: 178. Type locality: «Houston [Harris County], Texas» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47941]. Synonymy established by Lindroth (1968: 847).

**Distribution.** This species ranges from extreme southern Ontario (Bousquet 1987a: 130) to eastern Nebraska, south to southeastern Texas and west-central Georgia [see Noonan 1973: Fig. 165]. Three specimens labeled from “Colorado,” Arizona (Huachuca Mountains), and California (Los Angeles County) are known. The record from New Jersey (Smith 1890: 98) needs confirmation.

**Records.** CAN: ON USA: AL, AR, GA, IA, IL, IN, KS, KY, LA, MO, MS, NC, NE, OH, OK, SC, TN, TX, VA [AZ, CA, CO, NJ]

***Anisodactylus harpaloides* (LaFerté-Sénéctère, 1841)**

*Gynandrotarsus harpaloides* LaFerté-Sénéctère, 1841b: 203. Type locality: «Texas» (original citation). Lectotype (♀), designated by Noonan (1973: 360), in MHNP. *Triplectrus beryllus* Casey, 1924: 131. Type locality: «McPherson [McPherson County], Kansas» (original citation). Lectotype (♂), designated by Noonan (1973: 360), in USNM [# 47973]. Synonymy established by Noonan (1973: 360).

**Distribution.** This species ranges from northeastern Nebraska to eastern Virginia (Hoffman et al. 2006: 26), south to northern Mississippi (Lafayette and Panola Counties, Paul K. Lago pers. comm. 2009), northwestern Louisiana, and northeastern Texas (Noonan 1973: 361, Fig. 159). The records from “North Carolina” (Leng 1920: 72), South Carolina (Kirk 1969: 13; Kirk 1970: 14; Ciegler 2000: 90), Georgia (Fattig 1949: 50), “Florida” (Noonan 1973: 361), and southwestern Louisiana (Hine 1906: 77) need confirmation.

**Records.** USA: AR, IL, KS, LA, MO, MS, NE, OK, TN, TX, VA [FL, GA, NC, SC]

***Anisodactylus opaculus* (LeConte, 1863)**

*Gynandrotarsus opaculus* LeConte, 1863c: 16. Type locality: «Texas» (original citation), herein restricted to Austin, Travis County (see Casey 1924: 130, as *Triplectrus paulus*). Holotype [by monotypy] (♀) in MCZ [# 5948].

*Triplectrus paulus* Casey, 1924: 130. Type locality: «Austin [Travis County], Texas» (original citation). Lectotype (♂), designated by Noonan (1973: 359), in USNM [# 47942]. Synonymy established by Noonan (1973: 359).

**Distribution.** This species ranges from northern Kansas to northeastern Kentucky (Fayette County, Robert L. Davidson pers. comm. 2012) south to western Alabama and Nuevo León in northeastern Mexico [see Noonan 1973: Fig. 158]. The western limit of the species range is along the Rio Grande in western Texas, although it has been recorded from one locality in southwestern Arizona (Snow 1907: 142). The species is also known from south-central Wisconsin (Sauk County, Robert L. Davidson pers. comm. 2012). The records from South Carolina (Kirk 1969: 13; Kirk 1970: 14; Ciegler 2000: 90) need confirmation.

**Records.** USA: AL, AR, KS, KY, LA, MO, MS, NM, OK, TN, TX, WI [AZ, SC] – Mexico

***Anisodactylus texanus* Schaeffer, 1910**

*Anisodactylus texanus* Schaeffer, 1910: 404. Type locality: «New Braunfels [Comal County], Texas» (original citation). Lectotype (♂), designated by Noonan (1973: 361), in USNM [# 75703].

**Distribution.** This species ranges from southeastern Louisiana to southeastern Arizona, south to northern Mexico [see Noonan 1973: Fig. 164].

**Records. USA:** AZ, LA, TX – Mexico

[**rusticus group**]

***Anisodactylus anthracinus* (Dejean, 1829)**

*Harpalus anthracinus* Dejean, 1829: 369. Type locality: «Mexique» (original citation), herein restricted to Majaica (7000'), 45 miles northwest Chihuahua, Chihuahua (CNC). Holotype [by monotypy] (♀) in MHNP.

*Anisodactylus dilatatus* Say, 1830c: 18. Type locality: «37 mi[les] west of Durango (8400'), D[uran]go [Mexico]» (neotype label). Neotype (♂), designated by Noonan (1973: 366), in MCZ [# 34664]. Synonymy established by Bates (1882a: 52). NOTE. «Mexico» was the area originally cited by Say (1830c: 18).

*Triplectrus convexus* Casey, 1914: 176. Type locality: «Arizona» (original citation), restricted to «Madera Canyon, Pima County» by Noonan (1973: 366). Lectotype (♂), designated by Noonan (1973: 366), in USNM [# 47938]. Synonymy established by Noonan (1973: 366).

**Distribution.** This species ranges from Tulare County in east-central California to southwestern Texas, south to the Federal District area of Mexico [see Noonan 1973: Fig. 160].

**Records. USA:** AZ, CA, NM, TX – Mexico

***Anisodactylus haplomis* Chaudoir, 1868**

*Anisodactylus haplomis* Chaudoir, 1868b: 163. Type locality: Amérique septentrionale (inferred from title of the paper), restricted to «Galveston [Galveston County], Tex[as]» by Lindroth (1968: 845). Holotype [by monotypy] (♀) in MHNP (Noonan 1973: 363).

*Triplectrus peropacus* Casey, 1914: 176. Type locality: «Galveston [Galveston County], Texas» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 141), in USNM [# 47935]. Synonymy established by Lindroth (1968: 845).

*Triplectrus breviceps* Casey, 1924: 129. Type locality: «Mobile [Mobile County], Alabama» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47936]. Synonymy established by Lindroth (1968: 845).

*Triplectrus longicollis* Casey, 1924: 129. Type locality: «District of Columbia» (original citation). Holotype [by monotypy] (♂) in USNM [# 47973]. Synonymy established by Noonan (1973: 364).

**Distribution.** This species ranges from Long Island, New York, to northeastern Oklahoma (Foster F. Purrington pers. comm. 2010), south to east-central Texas (Riley 2011) and southern Florida [see Noonan 1973: Fig. 166].

**Records. USA:** AL, AR, DC, FL, GA, IL, KY, LA, MO, MS, NC, NY, OH, OK, SC, TN, TX, VA

***Anisodactylus merula* (Germar, 1824)**

*Harpalus merula* Germar, 1824: 24. Type locality: «Kentucky» (original citation). Lectotype (♀), designated by Lindroth (1968: 845), in MHNP.

*Anisodactylus pinguis* LeConte, 1847: 382. Type locality: «ad Rocky Mountains» (original citation). Lectotype (♀), designated by Noonan (1973: 368), in MCZ [# 5950]. Synonymy established by Melsheimer (1853: 23), confirmed by Lindroth (1968: 845).

*Anisodactylus crassus* LeConte, 1847: 382. Type locality: «NovEboraci [= New York]» (original citation). Lectotype (♀), designated by Noonan (1973: 368), in MCZ [# 5951]. Synonymy established by Melsheimer (1853: 23), confirmed by Lindroth (1968: 845).

*Anisodactylus gravidus* LeConte, 1847: 383. Type locality: «NovEboraci [= New York]» (original citation). Lectotype (♀), designated by Noonan (1973: 368), in MCZ [# 5949]. Synonymy established by Melsheimer (1853: 9), confirmed by Lindroth (1968: 845).

*Triplectrus aethiops* Casey, 1914: 175. Type locality: «Austin and Waco, Texas» (original citation), restricted to «Austin [Travis County]» by Casey (1924: 128). Lectotype (♀), designated by Noonan (1973: 369), in USNM [# 47932]. Synonymy established by Noonan (1973: 369).

*Triplectrus marginatus* Casey, 1924: 126. Type locality: «Grayling, near Bay City [Bay County], Michigan» (original citation). Lectotype [as holotype] (♂), designated by Noonan (1973: 369), in USNM [# 47934]. Synonymy established by Lindroth (1968: 845).

*Triplectrus wolcotti* Casey, 1924: 127. Type locality: «near Chicago [Cook County], Illinois» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47930]. Synonymy established by Lindroth (1968: 845). Etymology. The specific name honors Albert Burk Wolcott [1869-1950] who worked for a long time as preparator of educational exhibits for the public schools of Chicago. An amateur coleopterist, Wolcott specialized in Cleridae. His clerid collection and library were deposited at the Field Museum of Natural History, Chicago in 1946.

*Triplectrus sulcipennis* Casey, 1924: 128. Type locality: «Waco [McLennan County], Texas» (original citation). Lectotype (♀), designated by Noonan (1973: 369), in USNM [# 47931]. Synonymy established by Noonan (1973: 369).

*Triplectrus kempfi* Casey, 1924: 130. Type locality: «Lake George [Warren County], New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47940]. Synonymy established by Lindroth (1968: 845). Etymology. The specific name was proposed for James Furman Kemp [1859-1926], distinguished professor of geology at Columbia University.

**Distribution.** This eastern species ranges from southern Quebec to west-central Minnesota, north to southwestern Manitoba (Lindroth 1968: 846), south to southeastern Texas and the Florida Keys [see Noonan 1973: Fig. 161]. One specimen labeled



from Anaheim, California is known. The records from “Arizona” and “North Dakota” (Bousquet and Larochelle 1993: 217) need confirmation.

**Records.** **CAN:** MB, ON, QC **USA:** AL, AR, CO, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI [AZ, CA, ND]

### *Anisodactylus ovularis* (Casey, 1914)

*Triplectrus ovularis* Casey, 1914: 177. Type locality: «S[ain]t Louis, Missouri» (original citation for the lectotype). Lectotype (♂), designated by Noonan (1973: 372), in USNM [# 47939].

*Triplectrus semirubidus* Casey, 1924: 127. Type locality: «Highland Park [Lake County], north of Chicago, Illinois» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47929]. Synonymy established by Lindroth (1968: 846).

**Distribution.** This species ranges from Long Island, New York, to central South Dakota (Kirk and Balsbaugh 1975: 31), including southern Ontario, south to northeastern Texas, northeastern Georgia (House and All 1981: 195; Morrill 1992: 181), and west-central South Carolina (Ciegler 2000: 90) [see Noonan 1973: Fig. 163].

**Records.** **CAN:** ON **USA:** AR, GA, IA, IL, IN, KS, LA, MD, MI, MN, MO, MS, NE, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, WI, WV

### *Anisodactylus rusticus* (Say, 1823)

*Harpalus rusticus* Say, 1823a: 32. Type locality: «Rumney [Grafton County], N[ew] H[ampshire]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 353), in MCZ [# 32986].

*Anisodactylus tristis* Dejean, 1829: 158. Type locality: «Amérique septentrionale» (original citation). Lectotype (♂), designated by Noonan (1973: 365), in MHNP. Synonymy established by Horn (1880d: 177), confirmed by Lindroth (1955b: 29).

*Triplectrus oblongus* Casey, 1924: 128. Type locality: «Nisbet [Lycoming County], Pennsylvania» (original citation). Holotype [by monotypy] (♀) in USNM [# 47933]. Synonymy established by Lindroth (1968: 843).

**Distribution.** This species ranges from Prince Edward Island to Yellowstone National Park in Wyoming, north to southern Manitoba (Lindroth 1968: 845), south to northern Colorado (Miller and Pears 2008: 34), eastern Texas, and northern Florida [see Noonan 1973: Fig. 162]. The records from “Arizona” (Leng 1920: 72) and New Mexico (Fall and Cockerell 1907: 162) need confirmation.

**Records.** **CAN:** MB, NB, NS, ON, PE, QC **USA:** AL, AR, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY [AZ, NM]

**Subgenus *Anadaptus* Casey, 1914**

*Anadaptus* Casey, 1914: 203. Type species: *Anisodactylus discoideus* Dejean, 1831 designated by Lindroth (1968: 838). Etymology. From the Greek *ana* (upward, outward) and the generic name *Daptus*, alluding to the possibility of a close relationship between members of this taxon and those of *Daptus* ("this is one of the most interesting genera ... and the outward suggestion of *Daptus* may not be so very fanciful after all") [masculine].

**Diversity.** Seven species in North America (six species) and Mexico (*A. rotundangulus* Bates).

**Identification.** Noonan (2001) revised the species and provided a key for their identification.

***Anisodactylus alternans* (Motschulsky, 1845)**

*Harpalus alternans* Motschulsky, 1845b: 343. Type locality: «Californie» (original citation), herein restricted to San Jose, Santa Clara County (see LeConte 1851: 184, as *A. alternans* LeConte). Holotype [by monotypy] (♀) in ZMMU (Bousquet and Larochelle 1993: 14).

*Anisodactylus alternans* LeConte, 1851: 184. Type locality: «San Jose [Santa Clara County, California]» (original citation). Lectotype (♀), designated by Noonan (2001: 314), in MCZ [# 90]. Synonymy established by Bousquet and Larochelle (1993: 14).

*Anisodactylus nivalis* G.H. Horn, 1880d: 172. Type locality: «Nev[ada]» (lectotype label). Lectotype (♀), designated by Noonan (2001: 315), in MCZ [# 2956]. Synonymy established by Noonan (2001: 315).

*Anadaptus parvulus* Casey, 1914: 204. Type locality: «California» (original citation). Lectotype (♂), designated by Lindroth (1975: 141), in USNM [# 47962]. Synonymy established, under the name *A. nivalis* Horn, by Lindroth (1968: 841).

**Distribution.** This western species is found from southeastern British Columbia south to the Mexican border in California, southwestern Utah, and central Colorado [see Noonan 2001: Fig. 51].

**Records.** CAN: BC USA: CA, CO, ID, MT, NV, OR, UT, WA

***Anisodactylus discoideus* Dejean, 1831**

*Anisodactylus discoideus* Dejean, 1831: 831. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1968: 839). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 30).

**Distribution.** This species ranges from southern Nova Scotia to eastern Montana, north to southern Manitoba (Lindroth 1968: 839) and west-central Saskatchewan, south to southeastern Texas and northern Florida [see Noonan 2001: Fig. 49]. The

species is also, quite unexpectedly, found in western Oregon, some 1200 km from the western edge of the species main distribution area (Noonan 2001: 313).

**Records.** **CAN:** MB, NB, NS, ON, QC, SK **USA:** CT, DC, FL, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

### *Anisodactylus pitychrous* LeConte, 1861

*Anisodactylus pitychrous* LeConte, 1861b: 339. Type locality: «California» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5956]. NOTE. LeConte (1861b: 339) mentioned that the sole specimen he had was a male.

**Distribution.** This species ranges from southeastern Manitoba (CNC) to northwestern Washington, south to the Los Angeles area in California and, along the Rocky Mountains, to Arizona and northern New Mexico [see Noonan 2001: Fig. 44].

**Records.** **CAN:** AB, MB, SK **USA:** AZ, CA, CO, ID, NM, NV, OR, UT, WA

### *Anisodactylus porosus* (Motschulsky, 1845)

*Ophonus porosus* Motschulsky, 1845b: 344. Type locality: «Californie» (original citation). Holotype [by monotypy; designated lectotype by Bousquet (1997b: 330)] (♂) in ZMMU.

*Ophonus sublaevis* Motschulsky, 1859a: 138. Type locality: «California» (lectotype label). Lectotype (♀), designated by Bousquet (1997b: 334), in ZMMU. Synonymy established by Horn (1880d: 178), confirmed by Bousquet (1997b: 334).

*Anisodactylus chalceus* LeConte, 1859c: 2 [secondary homonym of *Anisodactylus chalceus* (Brullé, 1838)]. Type locality: «Santa Fé [Santa Fe County, New Mexico]» (original citation). Lectotype (♀), designated by Noonan (2001: 316), in MCZ [# 5958]. Synonymy established by Horn (1880d: 178), confirmed by Noonan (2001: 316).

*Anisodactylus viridescens* LeConte, 1861b: 339. Type locality: «Calif[ornia]» (lectotype label). Lectotype (♂), designated by Noonan (2001: 316), in MCZ [# 5957]. Synonymy established by Horn (1880d: 178), confirmed by Noonan (2001: 316).

*Anisodactylus lecontei* Gemminger and Harold, 1868a: 256. Replacement name for *Anisodactylus chalceus* LeConte, 1859.

*Anadaptus idahoensis* Hatch, 1949a: 88. Type locality: «Sand Point [Bonner County], Id[aho]» (original citation). Holotype (♂) in USNM. Synonymy established, under the name *A. viridescens* LeConte, by Hatch (1953: 177), confirmed by Noonan (2001: 317).

**Distribution.** This species occurs from northern Idaho and eastern Washington, south to central California [see Noonan 2001: Fig. 49]. The records from New Mexico (LeConte, 1859c: 2; Fall and Cockerell 1907: 162) and “Arizona” (Leng 1920: 73) need confirmation. One specimen labeled “V[ancouver] I[sland]” is known (Lindroth 1968: 842, as *A. viridescens*).

**Records.** **USA:** CA, ID, OR, WA [AZ, BC, NM]



***Anisodactylus rudis* LeConte, 1863**

*Anisodactylus rudis* LeConte, 1863c: 15. Type locality: «California» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5959].

**Distribution.** This species ranges from southwestern British Columbia to northwestern Wyoming (Park County, Ken Karns pers. comm. 2009), south to northeastern Nevada and the Mexican border in California [see Noonan 2001: Fig. 56].

**Records.** CAN: BC USA: CA, ID, NV, OR, WA, WY

***Anisodactylus sanctaecrucis* (Fabricius, 1798)**

*Carabus st. crucis* Fabricius, 1798: 58. Type locality: «Americae Insulis» (original citation), which is incorrect; «Washington, D.C.» selected by Lindroth (1968: 839). Syntype(s) presumably lost (Zimsen 1964: 57).

*Harpalus baltimoriensis* Say, 1823a: 33. Type locality: «Pen[n]ington Gap [Lee County], V[irgini]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 354), in MCZ [# 32983]. Synonymy established by Schaum (1847: 47).

*Anadaptus uteanus* Casey, 1924: 136. Type locality: «Stockton [Tooele County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47963]. Synonymy established by Lindroth (1968: 839).

**Distribution.** This species ranges from the Sept-Iles region in easternmost Quebec to Vancouver Island, south to the Sierra Nevada in east-central California, southern Colorado in the Rocky Mountains, Oklahoma, southern Louisiana, and northern Florida; seemingly isolated in northwestern British Columbia [see Noonan 2001: Fig. 50].

**Records.** CAN: AB, BC (VCI), MB, NB, NS, ON, PE, QC, SK USA: AL, AR, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OK, OR, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY

**Subgenus *Spongopus* LeConte, 1847**

*Spongopus* LeConte, 1847: 377. Type species: *Spongopus verticalis* LeConte, 1847 by monotypy. Etymology. From the Greek *spongos* (spongy) and *pous* (foot), probably alluding to the adhesive setae on the male protarsomeres giving the impression of a sponge [masculine].

**Diversity.** One North American species in the temperate regions.

**Identification.** Lindroth (1968: 863-864) covered the species.

**Taxonomic Note.** Lindroth (1968: 862) and Noonan (1973: 374) treated this taxon as a subgenus of *Anisodactylus*. As discussed by Bousquet and Tchang (1992: 762), larval characters suggest that *Spongopus* is probably not closely related to *Anisodactylus* and thus may be more appropriately treated as a distinct genus as done by Ball (1960b: 144).

***Anisodactylus verticalis* (LeConte, 1847)**

*Spongopus verticalis* LeConte, 1847: 378. Type locality: «Paterson [Passaic County], Novae Caesareae [= New Jersey]» (original citation). One syntype in MCZ [# 5960].

**Distribution.** This species ranges from New Brunswick (Webster and Bousquet 2008: 19) to southern Saskatchewan (Roche Percee, CNC), south to east-central Texas (Riley 2011), northwestern Louisiana (Natchitoches Parish, Igor M. Sokolov pers. comm. 2009), northern Georgia (Fattig 1949: 52), and northwestern South Carolina (Ciegler 2000: 91).

**Records.** CAN: MB, NB, ON, QC, SK USA: AR, CT, DC, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, SC, SD, TN, TX, VA, VT, WI

**Subgenus *Aplocentrus* LeConte, 1847**

*Aplocentrus* LeConte, 1847: 385. Type species: *Harpalus caenus* Say, 1823 designated by Lindroth (1968: 857). Etymology. From the Greek *haplos* (simple) and *centron* (spur), alluding to the simple (i.e., not trifold as compared to members of *Triplectrus* [= *Gynandrotarsus*]) apical spur of protibia of the adult (“*tibiae anticae calcare terminali simplice*”) [masculine].

*Haplocentrus* Csiki, 1932a: 1077. Unjustified emendation of *Aplocentrus* LeConte, 1847.

*Aplocentroides* Ball and Bousquet, 2000: 92. Unnecessary replacement name for *Aplocentrus* LeConte, 1847. Etymology. From the generic name *Aplocentrus* [q.v.] and the Greek suffix *-oides* (resembling, having the form of) [masculine]. NOTE. *Aplocentrus calliops* Rafinesque, 1819, the type species and sole species in the genus *Aplocentrus* Rafinesque, 1819 is “apparently a mythical” species of fish based on a purely imaginative drawing that Audubon prepared as a hoax (Eschmeyer 1998: 1843). Therefore, the name *Aplocentrus* Rafinesque, 1819 is a *nomen nudum* and the replacement name, *Aplocentroides* Ball and Bousquet, 2000, is unnecessary.

**Diversity.** Two North American species in the temperate regions.

**Identification.** Both species are included in Lindroth’s (1968: 857, 860) monograph.

***Anisodactylus amaroides* LeConte, 1851**

*Anisodactylus amaroides* LeConte, 1851: 184. Type locality: «San Francisco [San Francisco County, California]» (original citation). Three syntypes in MCZ [# 91].

**Distribution.** This species is found west of the Rocky Mountains, from south-central British Columbia (Lindroth 1968: 857) south to southern California (Fall 1901a: 51; Moore 1937: 13).

**Records.** CAN: BC USA: CA, OR, WA



***Anisodactylus caenus* (Say, 1823)**

*Harpalus caenus* Say, 1823a: 34. Type locality: «Amer[ica] Bor[ealis]» (lectotype label), restricted to «Newark [Essex County], N[ew] J[ersey]» by Lindroth (1968: 860). Lectotype (♀), designated by Lindroth and Freitag (1969: 354), in MHNP.

*Anisodactylus subaeneus* LeConte, 1847: 385. Type locality: «Brooklyn, NovEboraci [= New York]» (original citation). Syntype(s) in MCZ [# 5965]. Synonymy established by Horn (1880d: 178).

*Anisodactylus obscurus* LeConte, 1847: 386. Type locality: «Massachusetts» (original citation). Syntype(s) in MCZ [# 5964]. Synonymy established by Horn (1880d: 178).

*Anisodactylus viridans* Casey, 1924: 125. Type locality: «McPherson [McPherson County], Kansas» (original citation). One syntype in USNM [# 47926]. Synonymy established with doubt by Lindroth (1968: 860).

**Distribution.** This species ranges from “Massachusetts” (LeConte, 1847: 386, as *A. obscurus*) to central Kansas (Casey 1924: 125, as *A. viridans*), including central Iowa (Larsen and Purrington 2010: 570), south to northern Texas (Tarrant and Dallas Counties, CNC, UASM), northeastern Louisiana (Allen 1965: 70), southwestern Alabama (Löding 1945: 25), and northwestern South Carolina (Ciegler 2000: 89).

**Records. USA:** AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, NC, NJ, NY, OH, OK, PA, SC, TN, TX, VA

**Subgenus *Pseudaplocentrus* Noonan, 1973**

*Pseudaplocentrus* Noonan, 1973: 377. Type species: *Anisodactylus laetus* Dejean, 1829 by original designation. Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Aplocentrus* [*q.v.*] [masculine].

**Diversity.** One eastern North American species in the temperate and subtropical regions.

**Identification.** The species is covered in Lindroth’s (1968: 860) monograph.

***Anisodactylus laetus* Dejean, 1829**

*Anisodactylus laetus* Dejean, 1829: 154. Type locality: «Amérique septentrionale» (original citation), restricted to «Mobile [Mobile County], Alab[ama]» by Lindroth (1968: 860). One syntype in MHNP (Lindroth 1955b: 30).

*Harpalus gemmeus* Casey, 1914: 108. Type locality: «Urbana [Champaign County], Illinois» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 47817]. Synonymy established by Lindroth (1975: 142).

**Distribution.** This species occurs from southeastern New York (Notman 1928: 248) to eastern South Dakota (Kirk and Balsbaugh 1975: 31), including southernmost Ontario (Bousquet 1987a: 131), south to east-central Texas (Riley 2011; Horn 1880d: 175) and southern Florida (Peck and Thomas 1998: 21).

**Records.** CAN: ON USA: AL, AR, DC, FL, GA, IA, IL, KS, KY, LA, MI, MN, MO, MS, NC, NE, NJ, NY, OH, OK, PA, SC, SD, TX, VA, WI

### Genus *GEOPINUS* LeConte, 1847

*Geopinus* LeConte, 1847: 371. Type species: *Daptus incrassatus* Dejean, 1829 by monotypy. Etymology. From the Greek prefix *geo-* (earth) and *pinos* (dirt, filth), probably alluding to the habitat where LeConte found his specimens (“*terram laborans, quasi fodiens*”) [masculine].

**Diversity.** One North American species in the temperate regions.

**Identification.** The species is covered in Lindroth’s (1968: 832–833) monograph.

**Taxonomic Note.** This taxon has always been treated as a valid genus. In a phylogenetic analysis based on characters of the adult conducted by Noonan (1973: Fig. 241), this taxon nested within the genus *Anisodactylus*. Bousquet and Tchang’s (1992: 769) phylogenetic analysis based on larval characters suggested that *Geopinus* may be the sister-group to *Gynandrotarsus* of the genus *Anisodactylus*. Based on these two studies, *Anisodactylus* as presently recognized is probably paraphyletic. However, I prefer to leave *Geopinus*, with its highly distinctive species, as a distinct genus until more conclusive evidence is found.

### *Geopinus incrassatus* (Dejean, 1829)

*Daptus incrassatus* Dejean, 1829: 21. Type locality: «Amérique septentrionale» (original citation), restricted to «Hope [Hempstead County], Ark[ansas]» by Lindroth (1968: 832). One syntype [2 originally cited] in MHNP (Lindroth 1955b: 26).

*Geopinus incrassatus fluviaticus* Casey, 1914: 52. Type locality: «Keokuk [Lee County], Iowa» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47724]. Synonymy established by Lindroth (1968: 832).

**Distribution.** This widely distributed species ranges from Maine (Robert E. Nelson pers. comm. 1989) and southern Quebec (Laroche 1975: 85) to southwestern Idaho and northwestern Nevada, north to the southern parts of the Prairie Provinces, south to northern Arizona (Johnson and Clark 1989: 443; Fig. 1), southern Texas (Johnson 1978: 67), and southern Georgia (Fattig 1949: 46).

**Records.** CAN: AB, MB, ON, QC, SK USA: AL, AR, AZ, CO, CT, DC, DE, GA, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WY

### Genus *AMPHASIA* Newman, 1838

*Amphasia* Newman, 1838a: 388. Type species: *Amphasia fulvicollis* Newman, 1838 (= *Feronia interstitialis* Say, 1823) by monotypy. Etymology. From the Greek *amphi*

(double) and *phasis* (appearance), probably alluding to the presence in the adults of character states found in two related genera (“apparently partaking of the characters of *Harpalus* and *Mazoreus*”) [feminine]. According to Duponchel (1840b: 374), the name *Amphasia* derives from the Greek *amphi* (around, on both sides) and *asis* (slime, mud, by extension marsh); there is no evidence in Newman (1838) pointing to that interpretation.

**Diversity.** Two North American species arrayed in two subgenera.

**Identification.** Lindroth (1968: 860-861) covered both species in his treatment of the genus *Anisodactylus*.

**Taxonomic Note.** Lindroth (1968: 860) regarded this taxon as a subgenus of *Anisodactylus* while Noonan (1973: 347) treated it as a valid genus. Larval characters support Noonan’s view (Bousquet and Tchang 1992: Fig. 42).

### Subgenus *Pseudamphasia* Casey, 1914

*Pseudamphasia* Casey, 1914: 195. Type species: *Harpalus sericeus* Harris, 1828 by original designation. Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Amphasia* [*q.v.*] [feminine].

**Diversity.** One North American species in the temperate regions.

### *Amphasia sericea* (Harris, 1828)

*Harpalus sericeus* T.W. Harris, 1828b: 117. Type locality not stated; «Camden [Kershaw County], S[outh] C[arolina]» selected by Lindroth (1968: 861). Three syntypes in MCZ (collection Harris).

*Harpalus femoratus* Dejean, 1829: 224. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 30). Synonymy established by Dejean (1831: 837), confirmed by Lindroth (1955b: 30).

**Distribution.** This species ranges from New Brunswick (Webster and Bousquet 2008: 19) to western South Dakota (Kirk and Balsbaugh 1975: 32), north to southern Saskatchewan (Ronald R. Hooper pers. comm. 1990), south to east-central Texas (Riley 2011), south-central Louisiana (Evangeline Parish, MCZ) and the Florida Panhandle (Liberty County, CNC).

**Records.** CAN: MB, NB, ON, QC, SK USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

### Subgenus *Amphasia* Newman, 1838

*Amphasia* Newman, 1838a: 388. Type species: *Amphasia fulvicollis* Newman, 1838 (= *Feronia interstitialis* Say, 1823) by monotypy.

**Diversity.** One North American species in the temperate regions.

***Amphasia interstitialis* (Say, 1823)**

*Feronia interstitialis* Say, 1823a: 57. Type locality: «Camp Hill [Cumberland County], P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 354), in MCZ [# 32984]. NOTE. «Missouri [Territory]; Pennsylvania» were the areas originally cited by Say (1823a: 57).

*Harpalus obscuripennis* Dejean, 1829: 247. Type locality: «Amérique septentrionale» (original citation). One syntype [2 originally cited] in MHNP (Lindroth 1955b: 30). Synonymy established by Say (1830c: 19), confirmed by Lindroth (1955b: 30).

*Amphasia fulvicollis* Newman, 1838a: 388. Type locality: «Trenton Falls [Oneida County, New York]» (original citation). Holotype [by monotypy] in BMNH. Synonymy established by LeConte (1847: 376).

*Amphasia mollis* Casey, 1924: 131. Type locality: «Highland Park [Lake County], north of Chicago, Illinois» (original citation). Holotype [by monotypy] (♀) in USNM [# 47944]. Synonymy established by Lindroth (1968: 860).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 49) to southeastern South Dakota (Kirk and Balsbaugh 1975: 32), south to east-central Texas (Riley 2011), northern Arkansas (Kraim 1983: 221), and west-central South Carolina (Kirk 1970: 14; Ciegler 2000: 92).

**Records.** CAN: ON, QC USA: AR, CT, DC, DE, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

**Genus *DICHEIRUS* Mannerheim, 1843**

*Dicheirus* Mannerheim, 1843 [“31 December”, permit delivered on 28 March]: 211. Type species: *Harpalus dilatatus* Dejean, 1829 designated by Desmarest (1851: 126). Etymology. From the Greek *dis* (twice) and *cheiros* (hand), probably alluding to the trifid (mistakenly thought to be double) apical spur of the protibia (“*tibiae anticae spina apicali duplici*”) of the adult [masculine].

*Diplocheirus* Ménétriés, 1843 [29 July]: 62. Type species: *Harpalus dilatatus* Dejean, 1829 by monotypy. Etymology. From the Greek prefix *diplo-* (double) and *cheiros* (hand) [masculine]. NOTE. With the evidence available, this name should have precedence. However, the name is not in prevailing usage and for that reason it is not retained here as valid (see *Principle of priority* in the “Nomenclature” section).

*Dichirus* Agassiz, 1846: 122. Unjustified emendation of *Dicheirus* Mannerheim, 1843.

*Dichierius* Motschulsky, 1859a: 138. Unjustified emendation of *Dicheirus* Mannerheim, 1843.

**Diversity.** Five North American species, of which two extend into northern Baja California and Guadalupe Island.

**Identification.** Noonan (1968) revised the species and provided a key for their identification.

***Dicheirus brunneus* (Dejean, 1829)**

*Harpalus brunneus* Dejean, 1829: 239 [primary homonym of *Harpalus brunneus* Gyllenhal, 1810]. Type locality: «Californie» (original citation), restricted to «5.5 mi[les] N[orth] W[est] Ruth Dam, Trinity County» by Noonan (1968: 294). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 30). NOTE. This name is a junior primary homonym of *Harpalus brunneus* Gyllenhal, 1810 [= *Amara brunnea* (Gyllenhal, 1810)]. Since both names apply to taxa not considered congeneric since 1899, the case is to be referred to the Commission and meanwhile prevailing usage of both names must be maintained (ICZN 1999: Article 23.9.5).

*Anisodactylus pilosus* G.H. Horn, 1880d: 165. Type locality: «San Joaquin Valley, California» (original citation). Lectotype (♀), designated by Noonan (1968: 295), in MCZ [# 8006]. Synonymy established by Noonan (1968: 293).

*Dicheirus exiguus* Casey, 1924: 133. Type locality: «Del Norte Co[unty], California» (original citation). Two syntypes in USNM [# 47951]. Synonymy established by Noonan (1968: 293).

*Dicheirus gracilis* Casey, 1924: 134. Type locality: «Govan [Lincoln County], Washington» (original citation). Holotype [by monotypy] (♀) in USNM [# 47949]. Synonymy established by Noonan (1968: 293).

**Distribution.** This species is known from east-central Washington (Casey 1924: 134, as *D. gracilis*) south to Eldorado County in eastern California [see Noonan 1968: Fig. 16].

**Records. USA:** CA, OR, WA

***Dicheirus dilatatus angulatus* Casey, 1914**

*Dicheirus angulatus* Casey, 1914: 199. Type locality: «San Diego [San Diego County], California» (original citation). Six syntypes [6 originally cited] in USNM [# 47952].

*Dicheirus blaisdelli* Van Dyke, 1926a: 125. Type locality: «Poway, San Diego County, California» (original citation). Holotype (♀) in CAS [# 1869]. Synonymy established by Noonan (1968: 299). Etymology. The species name was proposed for Frank Elsworth Blaisdell [1862-1947], physician and professor of surgery at Stanford University School of Medicine. Blaisdell was also a naturalist and interested in beetles, particularly the Tenebrionidae and Melyridae. He gave his collection of almost 200,000 beetles to the California Academy of Sciences where he pursued his interest after his retirement. In my opinion, his taxonomic treatment of the large and difficult tenebrionid genus *Eleodes* in 1909 is exceptional and avant-gardist.

**Distribution.** This subspecies is known from a few localities in southernmost California and northern Baja California [see Noonan 1968: Fig. 19].

**Records. USA:** CA – Mexico



***Dicheirus dilatatus dilatatus* (Dejean, 1829)**

*Harpalus dilatatus* Dejean, 1829: 241. Type locality: «Californie» (original citation), herein restricted to Sequoia National Park, Tulare County (see Noonan 1968: 299). One syntype [2 ♂ originally cited] in MHNP (Lindroth 1955b: 30).

*Harpalus hirsutus* Ménétriés, 1843: 61. Type locality: «Californie» (original citation). Syntype(s) in ZMH (collection Mannerheim) (Silfverberg 1987: 17) and probably also in ZILR. Synonymy established by Horn (1880d: 176).

*Dicheirus firmus* Casey, 1924: 132. Type locality: «Alameda and San Francisco, California» (original citation). Two syntypes in USNM [# 47946]. Synonymy established by Noonan (1968: 296).

*Dicheirus multiplex* Casey, 1924: 132. Type locality: «Port Harford, S[an] Luis Obispo Co[unty], California» (original citation). One syntype in USNM [# 47947]. Synonymy established by Noonan (1968: 296).

*Dicheirus beniciensis* Casey, 1924: 133. Type locality: «Benicia [Solano County], California» (original citation). Three syntypes [3 originally cited] in USNM [# 47945]. Synonymy established by Noonan (1968: 296).

*Dicheirus beniciensis validicornis* Casey, 1924: 133. Type locality: «California» (original citation). Two syntypes [2 originally cited] in USNM [# 47948]. Synonymy established by Noonan (1968: 296).

**Distribution.** This subspecies is found over most of California, south to the Los Angeles area and San Clemente Island [see Noonan 1968: Fig. 19].

**Records. USA:** CA (CHI)

***Dicheirus obtusus* LeConte, 1852**

*Dicheirus obtusus* LeConte, 1852a: 185. Type locality: «San Jose [Santa Clara County, California]» (original citation). Lectotype (♂), designated by Noonan (1968: 287), in MCZ [# 93].

*Anisodactylus immanis* G.H. Horn, 1880d: 165. Type locality: «San Joaquin Valley, California» (original citation). Lectotype (♀), designated by Noonan (1968: 288), in MCZ [# 8007]. Synonymy established by Noonan (1968: 286).

*Dicheirus brevisetosus* Casey, 1914: 198. Type locality: «Lake Tahoe [Placer County], California» (original citation). Holotype [by monotypy, see page 202] (♂) in USNM [# 47950]. Synonymy established by Noonan (1968: 286).

**Distribution.** This species is known from northeastern Oregon south to Los Angeles County in southern California [see Noonan 1968: Fig. 15].

**Records. USA:** CA, OR

***Dicheirus piceus* (Ménétriés, 1843)**

*Harpalus piceus* Ménétriés, 1843: 61. Type locality: «Californie» (original citation), herein restricted to Blocksburg, Humboldt County (see Noonan 1968: 290). One syntype in ZMH (collection Mannerheim) (Silfverberg 1987: 22).

- Dicheirus villosus* Motschulsky, 1845b: 344. Type locality: «Californie» (original citation). Holotype [by monotypy] probably in ZMMU (collection Eschscholtz). Synonymy established by Horn (1880d: 177).
- Dicheirus irregularis* Motschulsky, 1845b: 345. Type locality not stated; «Calif[ornia]» reported by Motschulsky (1869: 14). Holotype [by monotypy] probably in ZMMU (collection Eschscholtz). Synonymy established by Horn (1880d: 177).
- Dicheirus paralellus* LeConte, 1851: 184. Type locality: «S[an] D[iego] [San Diego County, California]» (lectotype label). Lectotype (♀), designated by Noonan (1968: 291), in MCZ [# 92]. Synonymy established by LeConte (1858a: 29), confirmed by Noonan (1968: 288).
- Dicheirus alutaceus* Casey, 1914: 200. Type locality: «Valley of Eel River, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 47953]. Synonymy established by Noonan (1968: 288).
- Dicheirus piceus rupimontis* Casey, 1914: 200. Type locality: «Utah» (original citation). One syntype in USNM [# 47955]. Synonymy established by Noonan (1968: 288).
- Dicheirus piceus angustulus* Casey, 1914: 200. Type locality: «Trinity River and Redwood Creek, Humboldt Co[unty], California» (original citation). Two syntypes in USNM [# 47956]. Synonymy established by Noonan (1968: 288).
- Dicheirus australinus* Casey, 1914: 201. Type locality: «San Diego and San Clemente Island, California» (original citation). Fifteen syntypes [15 originally cited] in USNM [# 47960]. Synonymy established by Noonan (1968: 288).
- Dicheirus australinus insularis* Casey, 1914: 201. Type locality: «Guadalupe Island» (original citation). Fifteen syntypes [15 originally cited] in USNM [# 47961]. Synonymy established by Noonan (1968: 288).
- Dicheirus decoloratus* Casey, 1914: 201. Type locality: «Arizona» (original citation). Holotype [by monotypy] (♂) in USNM [# 47957]. Synonymy established by Noonan (1968: 288).
- Dicheirus incidens* Casey, 1924: 134. Type locality: «Columbia River [Clatsop County], Oregon» (original citation). Three syntypes [3 originally cited] in USNM [# 47954]. Synonymy established by Hatch (1953: 177), confirmed by Noonan (1968: 288).
- Dicheirus facilis* Casey, 1924: 135. Type locality: «Columbia River [Clatsop County], Oregon» (original citation). Two syntypes [2 ♀ originally cited] in USNM [# 47959]. Synonymy established by Hatch (1953: 177), confirmed by Noonan (1968: 288).
- Dicheirus sodalis* Casey, 1924: 135. Type locality: «Wawawai [Whitman County], Washington» (original citation). Holotype [by monotypy] (♀) in USNM [# 47958]. Synonymy established by Hatch (1953: 177), confirmed by Noonan (1968: 289).

**Distribution.** This species ranges from Vancouver Island to northwestern Montana (Russell 1968: 67), south to northwestern Utah and the Mexican border in California [see Noonan 1968: Fig. 18]; also recorded from Guadalupe Island in the Pacific (Noonan 1968: 289).

**Records.** CAN: BC (VCI) USA: AZ, CA (CHI), ID, MT, OR, UT, WA – Mexico

***Dicheirus strenuus* (Horn, 1869)**

*Anisodactylus strenuus* G.H. Horn, 1869b: 130. Type locality: «Fort Tejon [Kern County], California» (original citation). Lectotype, designated by Noonan (1968: 296), in MCZ [# 34550].

**Distribution.** This species is known only from a few localities in Kern and Tulare Counties in southern California [see Noonan 1968: Fig. 17].

**Records. USA:** CA

**Subtribe PELMATELLINA Bates, 1882**

Pelmatellinae Bates, 1882a: 67. Type genus: *Pelmatellus* Bates, 1882.

**Diversity.** New World, with about 90 species arrayed in eight genera: *Hakaharpalus* Larochelle and Larivière (five New Zealand species), *Kupeharpalus* Larochelle and Larivière (three New Zealand species), *Lecanomerus* Chaudoir (35 Australian species), *Nemaglossa* Solier (one Chilean species), *Notospeophonus* Moore (three species in Australia), *Pelmatellus* (28 species), *Syllectus* Bates (three New Zealand species), and *Trachysarus* Reed (eight species from the Juan Fernández).

**Taxonomic Note.** In the phylogenetic analysis of the tribe Harpalini using molecular sequence data conducted by Martínez-Navarro et al. (2005) members of Pelmatellina clustered within those of Stenolophina.

**Genus PELMATELLUS Bates, 1882**

*Pelmatellus* Bates, 1882a: 68. Type species: *Pelmatellus nitescens* Bates, 1882 designated by Goulet (1974b: 84). Etymology. Possibly from the Greek *pelma* (sole of the foot) and the Latin *tellus* (earth) [masculine].

**Diversity.** Twenty-eight species in the Nearctic (two species) and Neotropical (28 species) Regions arrayed in three subgenera: *Pelmatellopsis* Perrault (17 South American species), *Pelmatellus s.str.* (10 species), and *Thenarellus* Bates (one Middle American species).

**Subgenus *Pelmatellus* Bates, 1882**

*Pelmatellus* Bates, 1882a: 68. Type species: *Pelmatellus nitescens* Bates, 1882 designated by Goulet (1974b: 84).

**Diversity.** Ten North and Middle American species.

**Identification.** Goulet (1974b) revised the species and provided a key for their identification.

***Pelmatellus obtusus* Bates, 1882**

*Pelmatellus obtusus* Bates, 1882a: 68. Type locality: «Ostuncalco, Guatemala» (original citation for the lectotype). Lectotype (♂), designated by Goulet (1974b: 90), in BMNH.

*Bradycellus lucidus* Casey, 1884b: 8 [primary homonym of *Bradycellus lucidus* Bates, 1878]. Type locality: «Arizona» (original citation). One syntype in USNM [# 47990]. Synonymy established by Goulet (1974b: 90).

*Tachycellus turbatus* Fall, 1905: 173. Type locality: «Beulah (8,000 ft.), and Cloudcroft (9,000 ft.), New Mexico» (original citation). Syntype(s) [2 originally cited] in MCZ [# 23880]. Synonymy established with the name *P. lucidus* (Casey) by Casey (1914: 234).

*Pelmatellus sinuosus* Casey, 1914: 235. Type locality: «Salazar, Mex[ico state], Mexico» (original citation). Holotype [by monotypy] (♀) in USNM [# 47991]. Synonymy established by Goulet (1974b: 90).

**Distribution.** The range of this species extends from southeastern Arizona and southwestern New Mexico south to Guatemala [see Goulet 1974b: Fig. 32].

**Records. USA:** AZ, NM – Guatemala, Mexico

### *Pelmatellus stenolophoides parallelus* Goulet, 1974

*Pelmatellus stenolophoides parallelus* Goulet, 1974b: 93. Type locality: «M[oun]t Lemmon [Pima County], Catalina M[oun]t[ain]s (9150 feet), Arizona» (original citation). Holotype (♂) in CAS [# 12171].

**Distribution.** This subspecies is known only from the holotype collected in southern Arizona.

**Records. USA:** AZ

**Note.** The subspecies *P. stenolophoides stenolophoides* Bates occurs from central Mexico to Guatemala. The record from “Arizona” (Bousquet and Larochelle 1993: 213) for the nominotypical subspecies is an error and refers to the subspecies *P. stenolophoides parallelus*.

### Subtribe STENOLOPHINA Kirby, 1837

Stenolophidae Kirby, 1837: 46. Type genus: *Stenolophus* Dejean, 1821.

Polpochilinae Bates, 1891b: 10. Type genus: *Polpochila* Solier, 1849.

Acupalpini Tschitschérine, 1900a: 342, 351. Type genus: *Acupalpus* Latreille, 1829.

Cratocarini Casey, 1914: 48, 299. Type genus: *Cratocara* LeConte, 1863 (= *Polpochila* Solier, 1849).

Bradycellini Jeannel, 1942: 693, 700. Type genus: *Bradycellus* Erichson, 1837.

Anthracini Schuler, 1970: 113, 114. Type genus: *Anthracus* Motschulsky, 1850.

**Diversity.** Worldwide, with about 625 species (Lorenz 2005: 353–362) arrayed in approximately 35 genera. The Northern Hemisphere is represented by about 325 species (roughly 52% of the world fauna) and North America alone by 102 species (16.3%).

**Taxonomic Note.** Ball and Bousquet (2000: 90) recognized two genus-groups among the North American taxa, the Polpochili for the genus *Polpochila* and Stenolophi for all remaining genera.

## Genus *STENOLOPHUS* Dejean, 1821

*Stenolophus* Dejean, 1821: 15. Type species: *Carabus vaporariorum* Linnaeus *sensu* Fabricius, 1787 (= *Carabus teutonus* Schrank, 1781) designated by Westwood (1838: 5). Etymology. Probably from the Greek *stenos* (narrow) and *lophos* (crest, ridge) [masculine]. The name was proposed by Johann Karl Megerle von Mühlfeld and made available by Dejean.

**Diversity.** About 170 species (Lorenz 2005: 353–355, excluding *Agonoleptus*) arrayed in four subgenera: *Agonoderus* (seven species), *Astenolophus* Habu (11 Palearctic species in Asia, two of them extending into the Oriental Region), *Egadroma* Motschulsky (about 90 species in Africa, Asia, and the Australian Region), and *Stenolophus s.str.* (about 60 species). The North American fauna has 22 species (roughly 13% of the world fauna). *Egadroma* is often listed as a separate genus.

## Subgenus *Stenolophus* Dejean, 1821

*Stenolophus* Dejean, 1821: 15. Type species: *Carabus vaporariorum* Linnaeus *sensu* Fabricius, 1787 (= *Carabus teutonus* Schrank, 1781) designated by Westwood (1838: 5).

*Notiocharis* Gistel, 1856: 359. Type species: *Carabus vaporariorum* Linnaeus *sensu* Fabricius, 1787 (= *Carabus teutonus* Schrank, 1781) designated by Bousquet (2002b: 34). Etymology. From the Greek *notios* (southern) and *charis* (grace) [feminine].

**Diversity.** About 60 species in the Nearctic (15 species), Neotropical (ten species), Oriental (11 species), and Palearctic (about 25 species) Regions.

**Identification.** Lindroth (1968: 905–907) treated all currently recognized valid species in his key except for *S. splendidulus*. Bousquet (1997b: 335) commented on *S. splendidulus* and illustrated the median lobe.

## *Stenolophus anceps* LeConte, 1857

*Stenolophus anceps* LeConte, 1857c: 28. Type locality: «San Francisco [San Francisco County, California]» (original citation). Syntype(s) in MCZ [# 5926].

*Stenolophus fidelis* Casey, 1914: 275. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Lindroth (1975: 143), in USNM [# 48039]. Synonymy established by Lindroth (1968: 910).

*Stenolophus peregrinus* Casey, 1914: 278. Type locality: «Provo [Utah County], Utah» (original citation). Seven syntypes [7 originally cited] in USNM [# 48045]. **New synonymy** (Gerald R. Noonan pers. comm. 2008).

**Distribution.** This species ranges from Vancouver Island (Lindroth 1968: 911) to western Montana (Russell 1968: 67), south to southern Colorado (Elias 1987: 634) and southern California (Fall 1901a: 50; Andrews et al. 1979: 28).

**Records.** CAN: BC (VCI) USA: CA, CO, ID, MT, NV, OR, UT, WA



***Stenolophus carbo* Bousquet, 1993**

*Harpalus carbonarius* Dejean, 1829: 398 [primary homonym of *Harpalus carbonarius* Say, 1823]. Type locality: «Amérique septentrionale» (original citation), restricted to «Hope [Hempstead County], Ark[ansas]» by Lindroth (1968: 908). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 31).

*Stenolophus carbo* Bousquet [in Bousquet and Laroche], 1993: 11. Replacement name for *Stenolophus carbonarius* (Dejean, 1829).

**Distribution.** The range of this species extends from northern New Hampshire (Reeves et al. 1983: 459) to eastern South Dakota (Kirk and Balsbaugh 1975: 33), including southernmost Ontario (Lindroth 1968: 908), south to southern Texas (Johnson 1978: 67) and southern Florida (Peck and Thomas 1998: 22). The record from Nova Scotia (Lindroth 1954c: 309) is considered doubtful by Majka et al. (2007: 10).

**Records.** CAN: ON USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KY, LA, MA, MD, MI, MO, MS, NC, NH, NJ, NY, OK, RI, SC, SD, TN, TX, VA, WI [NS]

***Stenolophus cincticollis* LeConte, 1858**

*Stenolophus cincticollis* LeConte, 1858b: 60. Type locality: «Colorado River, near the Gila [southwestern Arizona]» (original citation). Holotype [by monotypy] in MCZ [# 5927].

*Stenolophus lamprotus* Bates, 1891a: 246. Type locality: «Villa Lerdo, in Durango» (original citation). Syntype(s) [2 originally cited] in BMNH. **New synonymy** (Gerald R. Noonan pers. comm. 2008).

*Stenolophus semitinctus* Casey, 1914: 279. Type locality: «El Paso [El Paso County], Texas» (original citation). Four syntypes [4 originally cited] in USNM [# 48046]. **New synonymy** (Gerald R. Noonan pers. comm. 2008).

*Stenolophus extensicollis* Casey, 1924: 145. Type locality: «Tempe [Maricopa County], Arizona» (original citation). Holotype [by monotypy] (♂) in USNM [# 48044]. **New synonymy** (Gerald R. Noonan pers. comm. 2008).

**Distribution.** This species ranges from southeastern California (Imperial County, MCZ, USNM) to westernmost Texas (Casey 1914: 279, as *S. semitinctus*), south at least to the state of Durango in Mexico. The record from “Colorado” (Csiki 1932a: 1260) needs confirmation.

**Records.** USA: AZ, CA, NM, TX [CO] – Mexico

***Stenolophus dissimilis* Dejean, 1829**

*Stenolophus dissimilis* Dejean, 1829: 410. Type locality: «Louisiane» (original citation). Two syntypes [2 originally cited] in MHNP (Lindroth 1955b: 31).

**Distribution.** This species ranges from northeastern Ohio (Purrington et al. 1999: 47) to southern Wisconsin (Rauterberg 1885: 21; Messer 2010: 40), north to Charity Island in the Michigan waters of Lake Huron (Andrews 1916: 79), south to south-

ern Texas (Johnson 1978: 67), northern Georgia (Fattig 1949: 54), and northwestern South Carolina (Ciegler 2000: 94). The record from New Jersey (Smith 1910: 216) needs confirmation.

**Records. USA:** AL, AR, GA, IL, IN, KS, KY, LA, MI, MO, MS, NC, OH, OK, SC, TN, TX, WI [NJ]

### *Stenolophus flavipes* LeConte, 1858

*Stenolophus flavipes* LeConte, 1858b: 60. Type locality: «San Diego [San Diego County], California» (original citation). Syntype(s) in MCZ [# 5928].

**Distribution.** This species is known from northern California (Shasta County, USNM) to southern California (Fall 1901a: 50; Dajoz 2007: 20) and “Arizona” (Leng 1920: 74). The record from “Oregon” (Schaupp 1883a: 14) is probably in error (Hatch 1953: 184).

**Records. USA:** AZ, CA

### *Stenolophus fuliginosus* Dejean, 1829

*Stenolophus fuliginosus* Dejean, 1829: 423. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1968: 909). One syntype in MHNP (Lindroth 1955b: 31).

*Stenolophus versicolor* Kirby, 1837: 46. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Three syntypes [3 originally cited] in BMNH (Lindroth 1953b: 175). Synonymy established by LeConte (1847: 410), confirmed by Lindroth (1953b: 175).

*Stenolophus fuscipennis* LeConte, 1847: 410. Type locality: «NovEboraci [= New York]» (original citation). Syntype(s) in MCZ [# 5924]. Synonymy established by LeConte (1853c: 386), confirmed by Lindroth (1968: 910).

**Distribution.** The range of this species extends from Newfoundland (Lindroth 1955a: 149) to Vancouver Island (Lindroth 1968: 910), south to the Sierra Nevada in California (Dajoz 2007: 16), northern Colorado (Haubold 1951: 706; Armin 1963: 122), and eastern Georgia (Fattig 1949: 54). The record from southern Louisiana (Summers 1874a: 81) needs confirmation.

**Records. CAN:** AB, BC (VCI), MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** AR, CA, CO, CT, DC, GA, IA, ID, IL, IN, MA, MD, ME, MI, MN, MT, NC, ND, NH, NJ, NY, OH, OR, PA, RI, SC, SD, VA, VT, WA, WI, WY [LA]

### *Stenolophus fuscatus* Dejean, 1829

*Stenolophus fuscatus* Dejean, 1829: 426. Type locality: «Amérique septentrionale» (original citation), restricted to «Galesburg [Knox County], Illin[ois]» by Lindroth (1968: 914). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 31). NOTE. Dejean (1829: 427) stated that the unique specimen of this species in his collection was a female.

**Distribution.** This species occurs from southwestern New Brunswick (Webster and Bousquet 2008: 19) to eastern South Dakota (Kirk and Balsbaugh 1975: 33), south to northeastern Kansas (Popenoe 1878: 79) and south-central Maryland (Prince Georges County, USNM). The record from southern Colorado (Elias 1987: 634) needs confirmation.

**Records.** CAN: NB, ON, QC USA: CT, IL, IN, KS, MA, MD, ME, MI, NE, NH, NJ, NY, OH, PA, RI, SD, VT, WV [CO]

### *Stenolophus humidus* Hamilton, 1893

*Stenolophus humidus* Hamilton, 1893: 306. Type locality: near Allegheny [Pennsylvania] (inferred from title of the paper). Six syntypes [15 originally cited] in CMNH.

**Distribution.** This species ranges from southern Nova Scotia (Christopher G. Majka pers. comm. 2007) to southwestern Michigan (Allegan County, CMNH), south to southeastern Mississippi (Stone County, Drew A. Hildebrandt pers. comm. 2008), northern Georgia (Fattig 1949: 54), and eastern South Carolina (Ciegler 2000: 94).

**Records.** CAN: NS, ON, QC USA: CT, DC, GA, KY, MA, MD, ME, MI, MS, NC, NH, NJ, NY, OH, PA, RI, SC, VA, VT, WV

### *Stenolophus incultus* Casey, 1914

*Stenolophus incultus* Casey, 1914: 275. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 48040].

*Stenolophus abstinens* Casey, 1914: 273. Type locality: «Arizona» (original citation). Two syntypes in USNM [# 48037]. **New synonymy** (Gerald R. Noonan pers. comm. 2008).

*Stenolophus remissus* Casey, 1914: 274. Type locality: «southern California» (original citation). One syntype in USNM [# 48038]. **New synonymy** (Gerald R. Noonan pers. comm. 2008).

*Stenolophus consors* Casey, 1914: 276. Type locality: «Gualala River, Mendocino Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 143), in USNM [# 48041]. Synonymy established by Lindroth (1968: 911).

*Stenolophus debiliceps* Casey, 1914: 276. Type locality: «Lake Tahoe [Placer County], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 48042]. Synonymy established by Lindroth (1968: 911).

**Distribution.** This species is found from Vancouver Island (Lindroth 1968: 911) to northern Idaho (Hatch 1953: 183), south to «Arizona» (Casey 1914: 273, as *S. abstinens*) and southern California (Casey 1914: 274, as *S. remissus*). The record from «Montana» (Bousquet and Laroche 1993: 220) needs confirmation.

**Records.** CAN: BC (VCI) USA: AZ, CA, ID, OR, UT, WA [MT]

***Stenolophus limbalis* LeConte, 1857**

*Stenolophus limbalis* LeConte, 1857c: 28. Type locality: «San Jose [Santa Clara County], California» (original citation). Syntype(s) in MCZ [# 5923].

*Stenolophus indistinctus* Motschulsky, 1859a: 134. Type locality: «St. José [Santa Clara County], California» (lectotype label). Lectotype (♂), designated by Bousquet (1997b: 333), in ZMMU. Synonymy established by LeConte (1863b: 13), confirmed by Bousquet (1997b: 333).

*Stenolophus longitarsis* Casey, 1914: 277. Type locality: «Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 143), in USNM [# 48043]. Synonymy established by Hatch (1953: 184), confirmed by Lindroth (1968: 909).

**Distribution.** This species ranges from Vancouver Island (Lindroth 1968: 909) to northwestern Montana (Russell 1968: 67), south to central Utah (Casey 1914: 276) and southern California (Fall 1901a: 50; Moore 1937: 14). The species is adventive on Oahu, Hawaii (Liebherr 2009: 403).

**Records.** CAN: BC (VCI) USA: CA (CHI), ID, MT, NV, OR, UT, WA

***Stenolophus megacephalus* Lindroth, 1968**

*Stenolophus megacephalus* Lindroth, 1968: 914. Type locality: «Bala, N[orth]W[est] Gravenhurst, Ont[ario]» (original citation). Holotype (♂) in CNC [# 10579].

**Distribution.** This species is restricted to a small area from southern Quebec and the Ontario Peninsula (Bousquet 1987a: 131) south to central Pennsylvania (Clinton County, CMNH) and “Rhode Island” (Sikes 2003: 8).

**Records.** CAN: ON, QC USA: CT, KY, MA, NH, NY, PA, RI

***Stenolophus ochropezus* (Say, 1823)**

*Feronia ochropeza* Say, 1823a: 54. Type locality: North America (inferred from title of the paper); restricted to «Camden [Kershaw County], S[outh] C[arolina]» by Lindroth (1968: 911). Lectotype (♂), designated by Lindroth and Freitag (1969: 356), in MHNP (collection Dejean).

*Stenolophus convexicollis* LeConte, 1847: 409. Type locality: «Rocky Mountains» (original citation). Syntype(s) in MCZ [# 5929]. Synonymy established by LeConte (1869a: 379), confirmed by Lindroth (1968: 912).

*Stenolophus rotundicollis* Motschulsky, 1859a: 135. Type locality: «California» (lectotype label). Lectotype (♀), designated by Bousquet (1997b: 333), in ZMMU. Synonymy established by Bousquet (1997b: 333).

*Stenolophus laticollis* Motschulsky, 1864: 202. Type locality: «N[ew] Orl[eans] [Orleans Parish, Louisiana]» (original citation). Lectotype (♀), designated by Bousquet and Laroche (1993: 18), in ZMMU. Synonymy established by Bousquet and Laroche (1993: 18).



*Stenolophus gracilis* Casey, 1884b: 14. Type locality: «Arizona» (original citation). Holotype [by monotypy] presumably lost (Lindroth 1968: 912). Synonymy established by Horn (1885b: 109).

*Stenolophus testaceicollis* Casey, 1924: 145. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Holotype [by monotypy] (♀) in USNM [# 48035]. Synonymy established by Lindroth (1968: 912).

*Stenolophus floridanus* Casey, 1924: 145. Type locality: «Florida» (original citation). Lectotype (♂), designated by Lindroth (1975: 143), in USNM [# 48036]. Synonymy established by Lindroth (1968: 912).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1954c: 309) to southeastern Saskatchewan (Ronald R. Hooper pers. comm. 2007), south to southern Texas (Johnson 1978: 67) and southern Florida (Peck and Thomas 1998: 22), west along the southwest to southern California (Horn 1894: 312; Andrews et al. 1979: 28); also found in southern Baja California (Horn 1894: 312), the Bahamas (Darlington 1953: 10), Cuba (Darlington 1934: 112), Jamaica (Darlington 1941a: 14), Dominican Republic (Robert L. Davidson pers. comm. 2012) and Puerto Rico (Wolcott 1936: 191).

**Records.** CAN: MB, NB, NS (CBI), ON, QC, SK USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV – Bahamas, Cuba, Dominican Republic, Jamaica, Mexico, Puerto Rico

### *Stenolophus plebejus* Dejean, 1829

*Stenolophus plebejus* Dejean, 1829: 424. Type locality: «Amérique septentrionale» (original citation), restricted to «Wellesley, Mass[achusetts]» by Lindroth (1968: 913). One syntype [2 ♂ originally cited] in MHNP (Lindroth 1955b: 31).

*Acupalpus lugubris* Haldeman, 1843b: 302 [*nomen dubium*]. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Syntype(s) presumably lost. Synonymy established by Casey (1914: 279).

*Stenolophus humeralis* Motschulsky, 1864: 202. Type locality: «Am[érique] b[oréale]» (lectotype label). Lectotype (♂), designated by Bousquet and Larochelle (1993: 18), in ZMMU. Synonymy established by Bousquet and Larochelle (1993: 18).

*Stenolophus rivularis* Casey, 1924: 146. Type locality: «S[ain]t Louis, Missouri» (original citation). Holotype [by monotypy] (♀) in USNM [# 48048]. Synonymy established by Lindroth (1968: 913).

**Distribution.** The range of this species extends from southern Quebec (Larochelle 1975: 255) to eastern Iowa (Johnson County, USNM), south to southeastern Texas (Aransas County, USNM) and southern Florida (Peck and Thomas 1998: 22); also recorded from Bermuda (Hilburn and Gordon 1989: 677). The records from central Colorado (Wickham 1902: 242) and Tabasco in Mexico (Bates 1891a: 246) are probably in error.



**Records.** CAN: ON, QC USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WV – Bermuda

***Stenolophus splendidulus* Motschulsky, 1864**

*Stenolophus splendidulus* Motschulsky, 1864: 201. Type locality: «Am[érique] bor[éale]» (original citation). Lectotype (♂), designated by Bousquet (1997b: 335), in ZMMU.

**Distribution.** Besides the three original specimens, I assign to this species a series of specimens collected in southernmost Ontario (Rondeau Provincial Park, CNC).

**Records.** CAN: ON

***Stenolophus spretus* Dejean, 1831**

*Stenolophus spretus* Dejean, 1831: 845. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 31).

**Distribution.** This species is known from New Jersey (Smith 1910: 215; Lindroth 1968: 905) to the Florida Keys (Peck and Thomas 1998: 22), west along the Gulf Plain to southern Texas (Johnson 1978: 67), north to western Kansas (Scott County, CMNH).

**Records.** USA: AL, AR, DC, FL, GA, KS, LA, MD, MS, NJ, OK, SC, TX, VA

**Subgenus *Agonoderus* Dejean, 1829**

*Agonoderus* Dejean, 1829: 49. Type species: *Carabus lineola* Fabricius, 1775 designated by Brullé (1835b: 15). Etymology (original). From the Greek *a* (absence), *gonia* (angle), and *dere* (neck, by extension pronotum), alluding to the rounded posterior angles of the pronotum of adults (“*corselet ovalaire ou en carré dont les angles sont arrondis*”) of the three species Dejean had before him [masculine].

**Diversity.** Seven species in North America, of which two extend into northern Mexico, Bermuda, the Bahamas, and Cuba.

**Identification.** The subgenus has been reviewed by Heading (1964) but his work remains unpublished. Lindroth (1968: 916–920, as *comma* group) covered four species. A revision of the group would be useful.

***Stenolophus binotatus* (Casey, 1914)**

*Agonoderus binotatus* Casey, 1914: 291. Type locality: «Alexandria [Rapides Parish], Louisiana» (original citation). One syntype in USNM [# 48060].

**Distribution.** This species is known from southern Oklahoma (Marshall County, CMNH) to eastern Coahuila in Mexico (UASM), east to southeastern Louisiana (Heading 1964: 34).

**Records.** USA: LA, OK, TX – Mexico

***Stenolophus comma* (Fabricius, 1775)**

*Carabus comma* Fabricius, 1775: 248. Type locality: «America» (original citation), restricted to «Arlington [Middlesex County], Mass[achusetts]» by Lindroth (1968: 918). Lectotype (♂), designated by Lindroth (1968: 918), in ZMUC.

*Trechus similis* Kirby, 1837: 48. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Two syntypes [2 originally cited] in BMNH (Lindroth 1953b: 175). Synonymy established by LeConte (1873b: 325), confirmed by Lindroth (1953b: 175).

*Agonoderus dorsalis* LeConte, 1847: 373. Type locality: «provinciis mediis et occidentalibus» (original citation). Syntype(s) in MCZ [# 5876]. Synonymy established by LeConte (1869a: 375). NOTE. Fall (1933: 104) pointed out that the specimen labeled “dorsalis” in LeConte’s collection is conspecific with those of *Stenolophus lecontei* Chaudoir and since LeConte (1869a: 375) listed his *dorsalis* in synonymy with *S. comma* (Fabricius), it seems likely that the specimen labeled *dorsalis* is not a syntype.

*Agonoderus oculatus* Casey, 1914: 295. Type locality: «Austin [Travis County], Texas» (original citation). Holotype [by monotypy] (♂) in USNM [# 48066]. Synonymy established by Bousquet and Larochelle (1993: 221), based on Heading’s (1964) unpublished thesis.

*Agonoderus gracilitarsis* Casey, 1914: 296. Type locality: «New York» (original citation for the lectotype). Lectotype, designated by Lindroth (1975: 143), in USNM [# 48068]. Synonymy established by Lindroth (1968: 918).

*Agonoderus quadricollis* Casey, 1914: 296. Type locality: «Oklahoma» (original citation). Holotype [by monotypy] (♂) in USNM [# 48067]. Synonymy established by Bousquet and Larochelle (1993: 221), based on Heading’s (1964) unpublished thesis.

*Agonoderus obliquulus* Casey, 1914: 297. Type locality: «Provo [Utah County], Utah» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 48070]. Synonymy established by Lindroth (1968: 918).

*Agonoderus pallescens* Casey, 1914: 297. Type locality: «Arizona» (original citation). Five syntypes [5 originally cited] in USNM [# 48071]. Synonymy established by Bousquet and Larochelle (1993: 221), based on Heading’s (1964) unpublished thesis.

*Agonoderus latipennis* Casey, 1914: 298. Type locality: «Utah» (original citation). Holotype [by monotypy] in USNM [# 48072]. Synonymy established by Bousquet and Larochelle (1993: 221), based on Heading’s (1964) unpublished thesis.

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 150) to Vancouver Island (Lindroth 1968: 919), south to southeastern California (Dajoz 2007: 20), southern Arizona, central Texas, northern Alabama, and east-central South Carolina (Ciegler 2000: 93) [see Heading 1964: Fig. 19]. The record from “Mississippi” (Bousquet and Larochelle 1993: 221) needs confirmation.

**Records. FRA:** PM **CAN:** AB, BC (VCI), MB, NB, NF, NS, ON, PE, QC, SK **USA:** AL, AR, AZ, CA, CO, CT, DC, DE, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY [MS]

***Stenolophus infuscatus* (Dejean, 1829)**

*Agonoderus infuscatus* Dejean, 1829: 54. Type locality: «Amérique septentrionale» (original citation), restricted to «Mobile [Mobile County], Alab[ama]» by Lindroth (1968: 917). Syntype(s) in MHNP.

*Agonoderus suturalis* LeConte, 1847: 373. Type locality: «NovEboraci [= New York]» (original citation). Syntype(s) in MCZ [# 5874]. Synonymy established by LeConte (1853c: 381).

**Distribution.** This species ranges from “New York” (LeConte 1847: 373) and New Jersey to southern Florida including the Keys (Peck and Thomas 1998: 22), west to northern Oklahoma (Alfalfa County, Robert L. Davidson pers. comm. 2008) and southeastern Texas [see Heading 1964: Fig. 18]; also recorded from the Bahamas and Cuba (Darlington 1953: 11). The records from southeastern Minnesota (Gandhi et al. 2005: 931) and southwestern Ohio (Blatchley 1910: 177) need confirmation.

**Records. USA:** AL, DE, FL, GA, LA, MD, MS, NC, NJ, NY, OK, SC, TX, VA [MN, OH] – Bahamas, Cuba.

***Stenolophus lecontei* (Chaudoir, 1868)**

*Agonoderus lecontei* Chaudoir, 1868b: 164. Type locality: «provinciis australibus et occidentalibus» (original citation for *A. pallipes* Fabricius *sensu* LeConte, 1847), restricted to «Hope [Hempstead County], Ark[ansas]» by Lindroth (1968: 919). Lectotype (♂), designated by Lindroth (1968: 919), in MHNP. NOTE. This name was proposed for *Agonoderus pallipes* (Fabricius, 1801) *sensu* LeConte (1847: 373).

*Agonoderus idoneus* Casey, 1914: 292. Type locality: «Keokuk [Lee County], Iowa» (original citation). One syntype in USNM [# 48061]. Synonymy established by Bousquet and Laroche (1993: 222), based on Heading’s (1964) unpublished thesis.

*Agonoderus plagiatus* Casey, 1914: 294. Type locality: «Wisconsin» (original citation). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 48062]. Synonymy established by Lindroth (1968: 919).

*Agonoderus tarsalis* Casey, 1914: 294. Type locality: «El Paso [El Paso County], Texas» (original citation). One syntype in USNM [# 48064]. Synonymy established by Bousquet and Laroche (1993: 222), based on Heading’s (1964) unpublished thesis.

*Agonoderus vividus* Casey, 1914: 294. Type locality: «Arkansas» (original citation). One syntype in USNM [# 48063]. Synonymy established by Bousquet and Laroche (1993: 222), based on Heading’s (1964) unpublished thesis.

*Agonoderus vacans* Casey, 1914: 294. Type locality: «Waco [McLennan County], Texas» (original citation). Two syntypes in USNM [# 48065]. Synonymy established by Bousquet and Laroche (1993: 222), based on Heading's (1964) unpublished thesis.

**Distribution.** The range of this species extends from western Maine (Kennebec and Somerset Counties, Ross T. Bell pers. comm. 2008) to eastern South Dakota (Ellsberry et al. 1998: 621), south to east-central Texas (Riley 2011) and the Florida Panhandle (Peck and Thomas 1998: 22). Also known from northern Idaho (Hatten et al. 2007: 359) and from a single, old (1926) specimen (possibly mislabeled) from western Oregon (Westcott et al. 2006: 9). The records from northern Colorado (Armin 1963: 115) and New Mexico (Fall and Cockerell 1907: 161, *Agonoderus pallipes*) need confirmation.

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [CO, NM, OR]

### *Stenolophus lineola* (Fabricius, 1775)

*Carabus lineatus* Forster, 1771: 59 [potential *nomen oblitum*]. Type locality: «America septentrionali» (original citation). Syntype(s) lost.

*Carabus lineola* Fabricius, 1775: 244 [potential *nomen protectum*]. Type locality: «America septentrionali» (original citation), restricted to «Hope [Hempstead County], Ark[ansas]» by Lindroth (1968: 917). One syntype in BMNH (Zimsen 1964: 57; Lindroth 1968: 917). Synonymy established by Goeze (1777: 655).

*Carabus furcatus* Fabricius, 1792: 164. Type locality: «America» (original citation). Syntype(s) probably lost (Lindroth 1968: 917). Synonymy established with doubt by Dejean (1829: 51).

*Carabus chrysomalinus* Frölich, 1792: 162. Type locality: «Virginien» (original citation). Syntype(s) lost. Synonymy established by Crotch (1871: 10).

**Distribution.** This species is found from Prince Edward Island to southern Alberta (Lindroth 1968: 918), south to «Baja California» (Leng 1920: 74), southeastern California (Andrews et al. 1979: 28), southern Arizona (Heading 1964: Fig. 18), north-central Mexico (Heading 1964: 30), and central Florida (Peck and Thomas 1998: 22); also known from one specimen collected in northern Oregon (Westcott et al. 2006: 9) and reported as «common in light traps» in Bermuda (Hilburn and Gordon 1989: 677).

**Records.** CAN: AB, MB, ON, PE, QC, SK USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY – Bermuda, Mexico

### *Stenolophus maculatus* (LeConte, 1869)

*Agonoderus maculatus* LeConte, 1869a: 374. Type locality: «California and Nevada» (original citation). Syntype(s) in MCZ [# 5873].

**Distribution.** This species is found throughout California, in southeastern Arizona [see Heading 1964: Fig. 18], and in “Nevada” (LeConte 1869a: 374); one specimen labeled from south-central Washington is also known (Heading 1964: 32).

**Records. USA:** AZ, CA, NV [WA]

### ***Stenolophus rugicollis* (LeConte, 1859)**

*Agonoderus rugicollis* LeConte, 1859a [February]: 83. Type locality: «California» (original citation), herein restricted to North Fork, Madera County (see Casey 1914: 297, as *S. rectus*). Syntype(s) in MCZ [# 5875].

*Dichirus pallidus* Motschulsky, 1859a [after 27 November]: 137. Type locality: «Calif[ornia]» (lectotype label). Lectotype (probably ♀), designated by Bousquet (1997b: 333), in ZMMU. Synonymy established by Casey (1914: 298), confirmed by Bousquet (1997b: 333).

*Agonoderus rectus* Casey, 1914: 297. Type locality: «North Fork, Madera Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 48069]. Synonymy established by Bousquet and Laroche (1993: 222), based on Heading’s (1964) unpublished thesis.

**Distribution.** This species is known from central Washington to southwestern California [see Heading 1964: Fig. 19].

**Records. USA:** CA, OR, WA

### **Genus *AGONOLEPTUS* Casey, 1914**

*Agonoleptus* Casey, 1914: 284. Type species: *Agonoleptus parviceps* Casey, 1914 by monotypy. Etymology. From the Greek *a* (without), *gonia* (angle), and *leptos* (fine, thin, delicate), probably alluding to the fact that adults of the sole, relatively small species known to Casey have the posterior angles of the pronotum rounded (“*the hind angles of the prothorax are rounded*”) [masculine].

**Diversity.** Seven North American species in the temperate regions.

**Identification.** There is no key for the identification of all species. Lindroth (1968: 921–924) covered four species, leaving *A. dolosus* and *A. parviceps*.

**Taxonomic Note.** Adults and particularly larvae (personal observation) are structurally quite different from those of *Stenolophus s.str.* and *Agonoderus* and I am unable to find any character states that would conclusively suggest that *Agonoleptus* is closely related to the other two taxa. For that reason, I consider *Agonoleptus* as a distinct genus.

#### **[conjunctus group]**

### ***Agonoleptus conjunctus* (Say, 1823), new combination**

*Trechus conjunctus* Say, 1823a: 90. Type locality: «Wh[i]t[e] Sulphur Spr[i]ngs [Greenbrier County], W[est] V[irgini]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 356), in MCZ [# 32966].



*Acupalpus humilis* Dejean, 1829: 462. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 31). Synonymy established by Lindroth (1955b: 31).

*Acupalpus misellus* Dejean, 1829: 467. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 31). Synonymy established by Say (1830c: 21), confirmed by Lindroth (1955b: 31).

*Trechus immunitis* Kirby, 1837: 48. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Syntype(s) [2 originally cited] in BMNH (Lindroth 1953b: 175). Synonymy established by LeConte (1873b: 325), confirmed by Lindroth (1953b: 175).

*Acupalpus obesus* Bates, 1878a: 593. Type locality: «near the capital, Mexico» (original citation). Syntype(s) probably in BMNH. Synonymy established by Bates (1882a: 71).

*Stenolophus captiosus* Casey, 1914: 281. Type locality: «Boulder Co[unty], Colorado» (original citation for the lectotype). Lectotype, designated by Lindroth (1975: 143), in USNM [# 48050]. Synonymy established by Lindroth (1968: 921).

*Stenolophus moquinius* Casey, 1914: 282. Type locality: «Arizona» (original citation). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 48051]. Synonymy established by Lindroth (1968: 921).

**Distribution.** This species ranges from Cape Breton Island (Lindroth 1954c: 309) to Vancouver Island (Lindroth 1968: 922), south to the Sierra Nevada in California (Dajoz 2007: 16), at least San Luis Potosí in Mexico (CNC), and central Florida (Peck and Thomas 1998: 22). The record from Guatemala (Bates 1882a: 71) needs confirmation.

**Records.** CAN: AB, BC (VCI), MB, NB, NS (CBI), ON, PE, QC, SK USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY – Mexico

### *Agonoleptus rotundatus* (LeConte, 1863), new combination

*Stenolophus rotundatus* LeConte, 1863c: 17. Type locality: «Louisiana» (original citation). One syntype in MCZ [# 5925].

**Distribution.** This species ranges from east-central Ohio (Usis and MacLean 1998: 67) to southeastern Wyoming (Lavigne 1977: 47) and northeastern Colorado (Lavigne 1978: 102), including southernmost Ontario (Lindroth 1968: 924; Bousquet 1987a: 131), south to southeastern Texas (Casey 1914: 282) and northwestern South Carolina (Kirk 1970: 15). The record from “New York” (Bousquet and Laroche 1993: 222) needs confirmation.

**Records.** CAN: ON USA: AL, AR, CO, IN, KS, KY, LA, MD, MO, MS, OH, OK, PA, NC, SC, TN, TX, VA, WV, WY [NY]

### *Agonoleptus rotundicollis* (Haldeman, 1843), new combination

*Acupalpus rotundicollis* Haldeman, 1843b: 302. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). One possible syntype, a ♂ labeled “[pink disc] / var.

rotundicollis Hald. [handwritten] / conjunctus 3 [handwritten],” in MCZ (collection LeConte).

*Mazoreus americanus* Motschulsky, 1864: 234. Type locality: «Am[érique] bor[éale]» (original citation). Lectotype, designated by Bousquet and Larochelle (1993: 15), in ZMMU. Synonymy established by Bousquet and Larochelle (1993: 15).

*Stenolophus scitulus* Casey, 1884c: 78. Type locality: «near Philadelphia [Philadelphia County], Pennsylvania» (original citation). Lectotype (♂), designated by Lindroth (1975: 143), in USNM [# 48053]. Synonymy established by Lindroth (1968: 922).

*Stenolophus scitulus incitatus* Casey, 1914: 283. Type locality: «probably New Jersey» (original citation). Holotype [by monotypy] (♂) in USNM [# 48054]. Synonymy established by Lindroth (1968: 922).

**Distribution.** The range of this species extends from southern Quebec (Larochelle 1975: 109) to eastern Minnesota (Gandhi et al. 2005: 931), south to west-central Mississippi (Washington County, CMNH) and northwestern South Carolina (Kirk 1970: 15). The record from Colorado (Elias 1987: 634) is probably in error.

**Records.** CAN: ON, QC USA: CT, MA, MD, ME, MI, MN, MS, IA, IL, NC, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV

### *Agonoleptus thoracicus* (Casey, 1914), new combination

*Stenolophus thoracicus* Casey, 1914: 282. Type locality: «S[ain]t Louis, Missouri» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 48052].

**Distribution.** This species ranges from east-central Vermont to southeastern North Dakota, south to northeastern Kansas, Tennessee, and northeastern Virginia [see Bousquet and Messer 2010: Fig. 3].

**Records.** USA: DC, IA, IL, IN, KS, KY, MA, MD, MI, MO, ND, NJ, NY, OH, PA, SD, TN, VA, VT, WI

**Note.** This taxon has been listed in synonymy with *A. conjunctus* (Say) by Lindroth (1968: 921) but considered a valid species by Bousquet and Messer (2010).

### [unicolor group]

### *Agonoleptus dolosus* (Casey, 1914), new status, new combination

*Stenolophus unicolor dolosus* Casey, 1914: 280. Type locality: «Los Angeles Co[unty], California» (original citation). Two syntypes in USNM [# 48049].

**Distribution.** This species is known only from the type series collected in southwestern California.

**Records.** USA: CA

**Note.** I have studied both syntypes, including the male genitalia of one of them, and I have little doubt that they belong to a distinct species, though probably closely related to *A. unicolor* (Dejean) based on Lindroth's (1968: 924) description of the holotype of

*A. unicolor*. The name *Stenolophus dolosus* is listed as a junior synonym of *S. unicolor* (Dejean, 1829) in Lorenz (2005: 354).

***Agonoleptus parviceps* Casey, 1914**

*Agonoleptus parviceps* Casey, 1914: 285. Type locality: «Colorado Springs [El Paso County], Colorado» (original citation). Lectotype (♀), designated by Bousquet (1990: 203), in USNM [# 48055].

**Distribution.** This species is known from two localities in eastern Colorado and central New Mexico (Bousquet 1990: 203).

**Records. USA:** CO, NM

***Agonoleptus unicolor* (Dejean, 1829), new combination**

*Stenolophus unicolor* Dejean, 1829: 411. Type locality: «Californie» (original citation). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 31).

**Distribution.** This species is known for sure only from southern California, as far north as the San Francisco Bay (Casey 1914: 280). The records from Colorado (Wickham 1902: 242; Elias 1987: 634) need confirmation; that from the Similkameen Valley in British Columbia (Smith et al. 2004: 96) was based on misidentified specimens of *A. conjunctus* (Say).

**Records. USA:** CA [CO]

**Genus *BRADYCELLUS* Erichson, 1837**

*Bradycellus* Erichson, 1837: 64. Type species: *Carabus collaris* Paykull, 1798 (= *Acupalpus caucasicus* Chaudoir, 1846) designated by Andrewes (1935: 20). Etymology. From the Greek *bradys* (slow) and *cello* (to run), probably alluding to the slow pace of the adults in nature [masculine]. NOTE. As pointed out by Andrewes (1935: 20), the first valid type species designation for *Bradycellus* Erichson is that of *Harpalus placidus* Gyllenhal, 1827 as selected by Westwood (1838: 6). This species is currently included in *Trichocellus* Ganglbauer, 1892. In order to preserve stability, an application should be submitted to the Commission to suppress Westwood's designation.

**Diversity.** About 130 species (Lorenz 2005: 356-358) arrayed in ten subgenera: *Atlantocellus* Wrase and Jaeger (five species from the Canary and Madeira Islands), *Bradycelloides* Habu (one east Palaearctic species), *Bradycellus s.str.* (45 species), *Catharellus* (one species), *Desbordesius* Maindron (one east Palaearctic species), *Liocellus* (eight species), *Lipalocellus* (two species), *Stenocellus* (34 species), *Tachycellus* Morawitz (27 Palaearctic species from Asia with one species extending into the Oriental Region), and *Triliarthrus* (six species). The North American fauna is represented by 51 species (roughly 39% of the world fauna).

**Taxonomic Note.** Noonan (1976: 21) also included *Psychristus* Andrewes (six species) and *Nipponobradycellus* Habu (four species) in this genus. In Lorenz (2005: 358), *Nipponobradycellus* is listed as a subgenus of the genus *Psychristus*.

### **Subgenus *Liocellus* Motschulsky, 1864**

*Liocellus* Motschulsky, 1864: 207. Type species: *Acupalpus nitidus* Dejean, 1829 designated by Lindroth (1968: 882). Etymology. From the Greek prefix *lio-* (smooth) and *cello* (to run) [masculine].

*Glycerius* Casey, 1884c: 79. Type species: *Acupalpus nitidus* Dejean, 1829 by monotypy. Etymology. Possibly from the Greek *glyceros* (sweet) [masculine].

**Diversity.** Eight species in North America (seven species) and Mexico (one species).

**Identification.** Fall (1905: 175, as *Glycerius*) published a key to the four North American species then known. Casey (1924) subsequently added three new species. The subgenus is in need of a taxonomic revision.

### ***Bradycellus curticolis* (Casey, 1924)**

*Glycerius curticolis* Casey, 1924: 140. Type locality: «Monterey [Monterey County], California» (original citation). Two syntypes [2 originally cited] in USNM [# 47987].

**Distribution.** This species is known only from the type locality in west-central California.

**Records. USA:** CA

### ***Bradycellus intermedius* (Fall, 1905)**

*Glycerius intermedius* Fall, 1905: 176. Type locality: «San Bernardino M[oun]t[ain]s [and] Lake Tahoe, California» (original citation). Syntype(s) [3 ♀ originally cited] in MCZ [# 23877].

**Distribution.** This species is known from the Sierra Nevada and San Bernardino Mountains (Fall 1905: 176) and from San Diego County (Moore 1937: 14) in California.

**Records. USA:** CA

### ***Bradycellus laticollis* (Casey, 1924)**

*Glycerius laticollis* Casey, 1924: 141. Type locality: «Reno [Washoe County], Nevada» (original citation). Two syntypes in USNM [# 47989].

**Distribution.** This species is known only from the type locality in northwestern Nevada.

**Records. USA:** NV



***Bradycellus nitidus* (Dejean, 1829)**

*Acupalpus nitidus* Dejean, 1829: 474. Type locality: «Californie» (original citation).

One syntype in MHNP (Lindroth 1955b: 30).

*Acupalpus obsoletus* Say, 1830c: 22. Type locality: «Mexico» (original citation).

Syntype(s) lost. Synonymy established by Horn (1894: 312).

**Distribution.** The range of this species extends from southwestern Washington (Hatch and Kincaid 1958: 6; Pacific County, MCZ) southwards to the Baja California Peninsula (Horn 1894: 312) and Guatemala (Ball and Shpeley 1992a: 58). The record from “British Columbia” (Horn 1894: 312) is likely in error (Lindroth 1968: 883).

**Records. USA:** AZ, CA (CHI), NM, OR, UT, WA – Guatemala, Mexico

***Bradycellus obtusus* (Fall, 1905)**

*Glycerius obtusus* Fall, 1905: 176. Type locality: «Pasadena, Azusa, Claremont, [all in] southern California» (original citation). Syntype(s) in MCZ [# 23878].

**Distribution.** This species is known so far only from southern California (Fall 1905: 176).

**Records. USA:** CA

***Bradycellus politus* (Fall, 1905)**

*Glycerius politus* Fall, 1905: 176. Type locality: «The Dalles, Oregon to southern California» (original citation), restricted to «Pomona [Los Angeles County], Calif[ornia]» by Lindroth (1968: 883). Syntype(s) in MCZ [# 23879].

**Distribution.** This species ranges from the Okanagan Valley in south-central British Columbia (Lindroth 1968: 883) to southern California (Fall 1905: 176; Dajoz 2007: 20).

**Records. CAN:** BC **USA:** CA, OR, WA

***Bradycellus tahoensis* (Casey, 1924)**

*Glycerius tahoensis* Casey, 1924: 140. Type locality: «Lake Tahoe [Placer County], California» (original citation). Two syntypes [2 originally cited] in USNM [# 47988].

**Distribution.** This species is known only from the type locality in the Sierra Nevada.

**Records. USA:** CA

**Subgenus *Bradycellus* Erichson, 1837**

*Bradycellus* Erichson, 1837: 64. Type species: *Carabus collaris* Paykull, 1798 (= *Acupalpus caucasicus* Chaudoir, 1846) designated by Andrewes (1935: 20).

*Tetraplatypus* Tschitschérine, 1897: 62. Type species: *Acupalpus similis* Dejean, 1829 (= *Trechus ruficollis* Stephens, 1828) by monotypy. Synonymy established by Lin-



droth (1968: 883), accepted by Jaeger (2008: 1513–1514). Etymology. From the Greek *tetra* (four), *platys* (wide, broad) and *pous* (foot), possibly alluding to the expanded male mesotarsomeres (“♂ ont les tarsi intermédiaires faiblement dilatés”) [masculine].

**Diversity.** About 45 species in the Nearctic (two species, one of them adventive), Neotropical (25 species), and Palearctic (17 species) Regions.

**Identification.** The two species found in North America have been covered by Lindroth (1968: 883–884, as *harpalinus* group).

### ***Bradycellus fenderi* Hatch, 1951**

*Bradycellus fenderi* Hatch, 1951: 120. Type locality: «Depoe Bay [Lincoln County], Ore[gon]» (original citation). Holotype location unknown (not in USNM). Etymology. This species was named after Kenneth M. Fender [1910–1987], a rural mail carrier at McMinnville, Oregon, and collector of Pacific Northwest beetles. Along with his wife, Dorothy McKey, Fender specialized in Lycidae and Cantharidae and the two published several taxonomic papers together.

**Distribution.** This species is found along the Pacific Coast from northwestern Washington (Nelson 1988b: 56) to southwestern Oregon (Coos County, CNC).

**Records. USA:** OR, WA

### ***Bradycellus harpalinus* (Audinet-Serville, 1821)**

*Carabus fulvus* Marsham, 1802: 456 [primary homonym of *Carabus fulvus* Müller, 1776]. Type locality: Great Britain (inferred from title of the book). Syntype(s) probably in BMNH (collection Stephens).

*Trechus harpalinus* Audinet-Serville, 1821: 84. Type locality: «environs de Paris [France]» (original citation). Syntype(s) probably lost. Synonymy established by Dejean (1829: 472).

**Distribution.** This Palearctic species is adventive in North America where it is known from the Vancouver area in southwestern British Columbia (Lindroth 1968: 883) south to Oregon (Westcott et al. 2006: 7; Lincoln County, Foster F. Purrington pers. comm. 2009). The first inventoried specimen collected on this continent was found in Vancouver in 1951 (Lindroth 1968: 883).

**Records. CAN:** BC **USA:** OR, WA – **Adventive**

### **Subgenus *Catharellus* Casey, 1914**

*Catharellus* Casey, 1914: 242. Type species: *Geobaenus cordicollis* LeConte, 1847 (= *Bradycellus lecontei* Csiki, 1932) by monotypy. Etymology. Uncertain, possibly from the Greek *catharos* (clean, pure) and the Latin suffix *-ellus* (small, little) [masculine].

**Diversity.** One North American species.

**Identification.** The species was covered in Lindroth's (1968: 885) treatment of the Canadian *Bradycellus*.

### ***Bradycellus lecontei* Csiki, 1932**

*Geobaenus cordicollis* LeConte, 1847: 406 [secondary homonym of *Bradycellus cordicollis* Wesmael, 1835]. Type locality: «Lacum Superiorem» (original citation), herein restricted to Marquette, Marquette County, Michigan (see Hubbard and Schwarz 1878: 629). One syntype in MCZ [# 5938].

*Bradycellus lecontei* Csiki, 1932a: 1233. Replacement name for *Bradycellus cordicollis* (LeConte, 1847).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 147) to eastern Alaska (Lindroth 1968: 885), south to northern Oregon (Hatch 1953: 182, as *B. cordicollis*), northern Colorado (Larimer County, UASM; Lindroth 1955a: 147), eastern South Dakota (Kirk and Balsbaugh 1975: 32), and northeastern West Virginia (Tucker County, CMNH).

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, CO, ID, IL, MA, ME, MI, MN, MT, ND, NH, NY, OR, PA, SD, VT, WA, WI, WV, WY

### **Subgenus *Stenocellus* Casey, 1914**

*Stenocellus* Casey, 1914: 243. Type species: *Trechus rupestris* Say, 1823 designated by Lindroth (1968: 885). Etymology. From the Greek *stenos* (narrow) and the last two syllables of the generic name *Bradycellus*, alluding to the narrower body of these *Bradycellus*-related species (“*distinguished at once from Bradycellus by their more slender elongate parallel ... form*”) [masculine].

**Diversity.** Thirty-four species in North America (33 species), Mexico (three species, one endemic to Guadalupe Island), and the Bahamas (one species).

**Identification.** Casey (1914: 243-257) published a key to the species then known except *S. nebulosus*, *S. nigriceps*, and *S. subcordatus*. He subsequently described three new species (Casey 1924). Lindroth (1968, as *rupestris*, *nigriceps*, and *tantillus* groups) covered nine species. The subgenus is in need of a revision.

**Faunistic Note.** According to Kataev and Matalin (in Kryzhanovskij et al. 1995: 135), the sole syntype (a badly damaged ♂) of *Stenolophus elongatus* Motschulsky, 1860 in ZMMU, reported from the Kuril Islands, is a specimen of this subgenus. Since no species of *Stenocellus* are known from the Far East, they concluded that the specimen is mislabeled and probably originated from northwestern North America.

[**nigriceps** group]***Bradycellus insulsus* (Casey, 1914)**

*Stenocellus insulsus* Casey, 1914: 246. Type locality: «near the city [of New York], New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 143), in USNM [# 47999].

**Distribution.** This species, as far as known, ranges from southeastern New Hampshire (Rockingham County, Ross T. Bell pers. comm. 2008) to northwestern Minnesota (Gandhi et al. 2005: 930), including southernmost Ontario (Lindroth 1968: 892), south to South Carolina (Charleston County, CNC).

**Records.** CAN: ON USA: CT, MD, MI, MN, NH, NJ, NY, OH, PA, SC, VA, VT, WV

***Bradycellus neglectus* (LeConte, 1847)**

*Geobaenus neglectus* LeConte, 1847: 407. Type locality: «insulam Mackinaw [Mackinac County, Michigan]» (original citation). Holotype [by monotypy] in MCZ [# 5937].

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 147–148) to northeastern British Columbia (Lindroth 1968: 892), south to southwestern Oklahoma (Kondratieff et al. 2005: 171), southern Arkansas (Kraim 1983: 277), northeastern Georgia (Fattig 1949: 53), and southeastern South Carolina (Ciegler 2000: 96). The record from southwestern Alabama (Löding 1945: 26) needs confirmation; that from “Utah” (Bousquet and Laroche 1993: 225) is probably in error.

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), ON, PE, QC, SK USA: AR, CT, GA, IL, MA, ME, MI, MN, NC, ND, NH, NY, OH, OK, PA, SC, SD, TN, VT, WI [AL]

***Bradycellus nigriceps* LeConte, 1869**

*Bradycellus nigriceps* LeConte, 1869a: 381. Type locality: «New Jersey and Virginia» (original citation), restricted to «New Jersey» by Lindroth (1968: 889). One syntype [2 originally cited] in MCZ [# 5945].

*Stenocellus occultus* Casey, 1914: 246. Type locality: Bluff Point, Lake Champlain, New York (lectotype label according to Lindroth 1975: 143). Lectotype, designated by Lindroth (1975: 143), in USNM [# 47997]. Synonymy established by Lindroth (1968: 889).

**Distribution.** This species ranges from New Brunswick (Lindroth 1968: 891) to North Dakota (Tinerella 2003: 636), north to southeastern Manitoba (Lindroth 1968: 891), south to east-central Arkansas (Kraim 1983: 280), northeastern Mississippi (Snodgrass and Cross 1983: 16), and southeastern South Carolina (Ciegler 2000: 96). The record from “New Mexico” (Fall and Cockerell 1907: 162) is probably in error.

**Records.** CAN: MB, NB, ON, QC USA: AR, CT, DC, IA, IL, IN, MA, MD, ME, MI, MN, MS, ND, NH, NJ, NY, OH, PA, SC, VA, VT, WI, WV



**Figure 37.** *Rhadine lindrothi* Barr. This species, named after Carl H. Lindroth, is the only one of the genus *Rhadine* that reaches as far north as southern Canada. Ecologically, members of the genus can be divided into two groups, one that includes cavernicolous species and the other that includes surface dwelling species like *R. lindrothi*. Most species are more or less depigmented and with relatively long legs.

***Bradycellus supplex* (Casey, 1914)**

*Stenocellus supplex* Casey, 1914: 245. Type locality: «Atlantic City [Atlantic County], New Jersey» (original citation). Two syntypes in USNM [# 48000].

**Distribution.** This species is known only from the type locality.

**Records. USA:** NJ

**Note.** The two syntypes are morphologically similar to adults of *B. insulsus* Casey and may be conspecific with them.

**[rupestris group]*****Bradycellus congener* (LeConte, 1847)**

*Geobaenus congener* LeConte, 1847: 407. Type locality: «Rocky Mountains» (original citation). Syntype(s) in MCZ [# 5939].

*Stenocellus alutaceus* Casey, 1914: 250. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 48005]. Synonymy established by Lindroth (1968: 888).

**Distribution.** This species ranges from Nova Scotia (Majka et al. 2007: 10) to Vancouver Island (Lindroth 1968: 888), south at least to central California (Clark 1999: 202; Dajoz 2007: 17), northern Sonora in Mexico (Bates 1884: 277), southern Texas (Johnson 1978: 67), southeastern Louisiana (East Baton Rouge Parish, Igor M. Sokolov pers. comm. 2009), Tennessee (Cumberland County, CNC), and southern West Virginia (McDowell County, Ken Karns pers. comm. 2009).

**Records. CAN:** AB, BC (VCI), MB, NS, ON, QC, SK **USA:** AZ, CA, CO, IA, ID, IL, KS, LA, MA, ME, MI, MN, MT, ND, NH, NM, NV, OH, OR, SD, TN, TX, UT, VT, WA, WI, WV, WY – Mexico

***Bradycellus lustrellus* (Casey, 1914)**

*Stenocellus lustrellus* Casey, 1914: 251. Type locality: «Redwood Creek, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 48006].

**Distribution.** This species is known only from the type locality along the Pacific Coast of California.

**Records. USA:** CA

***Bradycellus nebulosus* LeConte, 1853**

*Acupalpus suturalis* LeConte, 1847: 411 [primary homonym of *Acupalpus suturalis* Dejean, 1829]. Type locality: «Georgia» (original citation). One syntype in MCZ [# 5946].

*Bradycellus nebulosus* LeConte, 1853c: 385. Replacement name for *Bradycellus suturalis* (LeConte, 1847).



**Distribution.** This species is known from northwestern Georgia (Fattig 1949: 53) and “Texas” (Horn 1883a: 52). The record from Baja California (Horn 1894: 312) needs confirmation.

**Records. USA:** GA, TX

**Note.** Fall (1905: 171) stated that *B. nebulosus* is “closely resembling and probably not distinct from *rupestris*.”

***Bradycellus nigerrimus* Lindroth, 1968**

*Bradycellus nigerrimus* Lindroth, 1968: 889. Type locality: «Maple Creek, Sask[at]chewan» (original citation). Holotype (♂) in CNC [# 10578].

**Distribution.** This species is known from a small area including southern Saskatchewan, southern Alberta (Lindroth 1968: 889), and southwestern North Dakota (Tinnerella 2003: 636). The records from “Montana” and “Wyoming” (Bousquet and La-rochelle 1993: 225) need confirmation.

**Records. CAN:** AB, SK **USA:** ND [MT, WY]

***Bradycellus nubifer* LeConte, 1858**

*Bradycellus nubifer* LeConte, 1858b: 60. Type locality: «San Diego, California and at Tuvac in northern Sonora» (original citation), restricted to «San Diego [San Diego County]» by Lindroth (1968: 887). Syntype(s) in MCZ [# 5940].

*Bradycellus ventralis* LeConte, 1858b: 61. Type locality: «Gila River» (original citation). Holotype [by monotypy] in MCZ [# 5941]. Synonymy established by LeConte (1869a: 382), confirmed by Lindroth (1968: 887).

*Stenocellus nubicollis* Casey, 1914: 253. Type locality: «Cal [with a dot within the “C”] [= San Francisco, San Francisco County, California]» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 48011]. Synonymy established by Lindroth (1968: 887).

**Distribution.** The range of this western species extends from central Alberta to Vancouver Island (Lindroth 1968: 887), south to southern California and northern Sonora (LeConte 1858b: 60). The record from southern Texas (Johnson 1978: 67) needs confirmation.

**Records. CAN:** AB, BC (VCI) **USA:** AZ, CA, ID, NV, OR, WA [TX] – Mexico

***Bradycellus rupestris* (Say, 1823)**

*Trechus rupestris* Say, 1823a: 91. Type locality: «Arlington [Middlesex County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 355), in MCZ [# 32967].

*Acupalpus elongatulus* Dejean, 1829: 457. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 30). Synonymy established by Harris (1833: 568), confirmed by Lindroth (1955b: 30).

*Stenolophus cinctus* Say, 1830c: 20 [*nomen dubium*]. Type locality: «Massachusetts» (original citation). Syntype(s) lost. Synonymy established by Melsheimer (1853: 25).

*Acupalpus debilipes* Say, 1830c: 21 [*nomen dubium*]. Type locality: «Indiana» (original citation). Syntype(s) lost. Synonymy established doubtfully with *B. parallelus* Chaudoir by LeConte (1869a: 382).

*Trechus flavipes* Kirby, 1837: 47. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Two syntypes in BMNH (Lindroth 1953b: 175). Synonymy established by LeConte (1847: 407), confirmed by Lindroth (1953b: 175).

*Bradycellus parallelus* Chaudoir, 1868b: 166. Type locality: «Louisiane» (original citation). One syntype in MHNP (Lindroth 1968: 886). Synonymy established by Schaupp (1883c: 50), confirmed by Lindroth (1968: 886).

*Stenocellus antennalis* Casey, 1914: 245. Type locality: «Catskill M[oun]t[ain]s, New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 47998]. Synonymy established by Lindroth (1968: 886).

**Distribution.** This species ranges from Cape Breton Island (Lindroth 1954c: 308) to southeastern Wyoming (Lavigne 1977: 44), south to southern New Mexico (Fall and Cockerell 1907: 162), southern Texas (Wickham 1897: 113), southern Louisiana (Summers 1874a: 81; Allen 1965: 72, as *B. debilipes*), northern Georgia (Fattig 1949: 53), and eastern South Carolina (Ciegler 2000: 96). One specimen simply labeled from Florida is known (Leng 1915: 599).

**Records.** CAN: NB, NS (CBI), ON, QC USA: AL, AR, CO, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY [FL]

#### [subcordatus group]

##### *Bradycellus subcordatus* Chaudoir, 1868

*Bradycellus subcordatus* Chaudoir, 1868b: 166. Type locality: Amérique septentrionale (inferred from title of the paper). Holotype [by monotypy] (♂) in MHNP (Lindroth 1968: 881).

**Distribution.** This species is known only from the holotype. Casey (1914: 258) assumed that the species was “possibly a native of California” because the holotype was sent to Chaudoir by Motschulsky. Although Motschulsky described several species from the west coast, he never set foot in western United States.

**Records.** USA: ?CA

#### [tantillus group]

##### *Bradycellus californicus* (LeConte, 1857)

*Stenolophus californicus* LeConte, 1857c: 29. Type locality: «California» (original citation). Four syntypes in MCZ [# 5942].

**Distribution.** This species is found from Vancouver Island (Lindroth 1968: 894) to western Montana (Russell 1968: 68), south to west-central Nevada (Lyon County, CNC) and southern California (Fall 1901a: 50).

**Records.** CAN: BC (VCI) USA: CA (CHI), ID, MT, NV, OR, WA

***Bradycellus rivalis* LeConte, 1858**

*Bradycellus rivalis* LeConte, 1858b: 61. Type locality: «Colorado Desert, at New River and at the Colorado» (original citation). Four syntypes in MCZ [# 5943].

**Distribution.** This species is known from “Texas” (Horn 1894: 312), Arizona (Griffith 1900: 566; Casey 1914: 249), southeastern California (Fall 1901a: 50), and the Baja California Peninsula (Horn 1894: 312).

**Records. USA:** AZ, CA, TX – Mexico

***Bradycellus tantillus* (Dejean, 1829)**

*Acupalpus tantillus* Dejean, 1829: 465. Type locality: «Amérique septentrionale» (original citation), restricted to «Mobile [Mobile County], Alab[ama]» by Lindroth (1968: 892). One syntype in MHNP (Lindroth 1955b: 31).

*Acupalpus difficilis* Dejean, 1829: 467. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 31). Synonymy established by Chaudoir (1868b: 167), confirmed by Lindroth (1955b: 31).

**Distribution.** This species ranges from southwestern Maine (Majka et al. 2011: 46) to eastern South Dakota (Kirk and Balsbaugh 1975: 33), including southern Ontario (Lindroth 1968: 893; Bousquet 1987a: 131), south to southeastern Texas (Fort Bend, Brian Raber pers. comm. 2010), northern Louisiana (Allen 1965: 72), southern Florida (Peck and Thomas 1998: 21), and the Bahamas (Darlington 1953: 10). The record from “Quebec” (Bousquet and Laroche 1993: 226) was based on a misidentified specimen of *B. nigriceps* (CNC); those from northern Colorado (Haubold 1951: 706; Armin 1963: 118) need confirmation.

**Records. CAN:** ON **USA:** AL, AR, CT, DC, FL, GA, IA, IL, IN, LA, MA, MD, MO, MS, NC, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WV [CO] – Bahamas

[*incertae sedis*]

***Bradycellus ardelio* (Casey, 1914)**

*Stenocellus ardelio* Casey, 1914: 254. Type locality: «Siskiyou Co[unty], California» (original citation). One syntype in USNM [# 48016].

**Distribution.** This species is known only from the type locality in northern California.

**Records. USA:** CA

***Bradycellus aridus* (Casey, 1914)**

*Stenocellus aridus* Casey, 1914: 248. Type locality: «San Diego [San Diego County], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 48001].

**Distribution.** This species is known only from the type locality in southwestern California.

**Records. USA:** CA

***Bradycellus carolinensis* (Casey, 1924)**

*Stenocellus carolinensis* Casey, 1924: 142. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). One syntype in USNM [# 48020].

**Distribution.** This species is known only from the type locality.

**Records. USA:** NC

***Bradycellus decorus* (Casey, 1914)**

*Stenocellus decorus* Casey, 1914: 248. Type locality: «Tucson [Pima County], Arizona» (original citation). Holotype [by monotypy] (♀) in USNM [# 48004].

**Distribution.** This species is known only from the type locality in southern Arizona.

**Records. USA:** AZ

***Bradycellus discipulus* (Casey, 1914)**

*Stenocellus discipulus* Casey, 1914: 252. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). One syntype in USNM [# 48008].

**Distribution.** This species is known only from the type locality in northwestern California.

**Records. USA:** CA

***Bradycellus exstans* (Casey, 1914)**

*Stenocellus exstans* Casey, 1914: 253. Type locality: «Sacramento Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 48014].

**Distribution.** This species is known only from the type locality in north-central California.

**Records. USA:** CA

***Bradycellus festinans* (Casey, 1914)**

*Stenocellus festinans* Casey, 1914: 257. Type locality: «Sedgwick Co[unty], Kansas and Texas» (original citation). Three syntypes [3 originally cited] in USNM [# 48022].

**Distribution.** This species ranges from southern Montana (Hatch 1933a: 10) and South Dakota (Kirk and Balsbaugh 1975: 33) south to “Texas” (Casey 1914: 257) and southern Arkansas (Kraim 1983: 283). The record from Cuba (Darlington 1934: 110) is doubtful.

**Records. USA:** AR, KS, MT, SD, TX, WY

***Bradycellus humboldtianus* (Casey, 1924)**

*Stenocellus humboldtianus* Casey, 1924: 142. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). One syntype in USNM [# 48012].

**Distribution.** This species is known only from the type locality in northwestern California.  
**Records. USA:** CA

***Bradycellus larvatus* (Casey, 1914)**

*Stenocellus larvatus* Casey, 1914: 256. Type locality: «El Paso [El Paso County], Texas» (original citation). Holotype [by monotypy] (♀) in USNM [# 48018].

**Distribution.** This species is known only from the type locality in westernmost Texas.  
**Records. USA:** TX

***Bradycellus lineatus* (Casey, 1914)**

*Stenocellus lineatus* Casey, 1914: 253. Type locality: «S[an]ta Cruz M[oun]t[ain]s, California» (original citation). One syntype in USNM [# 48013].

**Distribution.** This species is known only from the type locality in western California.  
**Records. USA:** CA

***Bradycellus montanus* (Casey, 1914)**

*Stenocellus montanus* Casey, 1914: 251. Type locality: «Truckee [Nevada County], California» (original citation). Two syntypes [2 originally cited] in USNM [# 48010].

**Distribution.** This species is known only from the type locality in the Sierra Nevada.  
**Records. USA:** CA

***Bradycellus picipes* (Casey, 1914)**

*Stenocellus picipes* Casey, 1914: 255. Type locality: «Lake Tahoe [Placer County], California» (original citation). Six syntypes [7 originally cited] in USNM [# 48015].

**Distribution.** This species is known only from the type locality in the Sierra Nevada.  
**Records. USA:** CA

***Bradycellus provoensis* (Casey, 1914)**

*Stenocellus provoensis* Casey, 1914: 256. Type locality: «Provo [Utah County], Utah» (original citation). One syntype in USNM [# 48017].

**Distribution.** This species is known only from the type locality in north-central Utah.  
**Records. USA:** UT

***Bradycellus puncticollis* (Casey, 1914)**

*Stenocellus puncticollis* Casey, 1914: 251. Type locality: «San Francisco Bay and northward in the coast regions, California» (original citation). Nine syntypes [10 originally cited] in USNM [# 48009].



**Distribution.** This species is known from the type series and San Diego County (Moore 1937: 14) in California.

**Records. USA:** CA

***Bradycellus purgatus* (Casey, 1914)**

*Stenocellus purgatus* Casey, 1914: 249. Type locality: «near San Diego [San Diego County], California» (original citation). Two syntypes in USNM [# 48003].

**Distribution.** This species is known only from the type locality in southwestern California.

**Records. USA:** CA

***Bradycellus sejunctus* (Casey, 1914)**

*Stenocellus sejunctus* Casey, 1914: 252. Type locality: «Alameda Co[unty] and Santa Rosa, California» (original citation). Two syntypes in USNM [# 48007].

**Distribution.** This species is known for sure only from the type series collected in western California; it was also recorded from Humboldt County (Notman 1929b: 222).

**Records. USA:** CA

***Bradycellus suavis* (Casey, 1914)**

*Stenocellus suavis* Casey, 1914: 257. Type locality: «Austin [Travis County], Texas» (original citation). One syntype in USNM [# 48021].

**Distribution.** This species is known for sure only from the type locality in east-central Texas. The record from South Dakota (Kirk and Balsbaugh 1975: 33) needs confirmation.

**Records. USA:** TX [SD]

***Bradycellus symmetricus* (Motschulsky, 1850)**

*Stenolophus symmetricus* Motschulsky, 1850a: 23. Type locality: «California» (original citation), cited from «Colonie Ross [farming community about 75 miles north of San Francisco along the coast, California]» by Motschulsky (1859a: 134). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976).

*Stenocellus symmetricus* Casey, 1914: 254. Unjustified emendation of *Stenocellus symmetricus* (Motschulsky, 1850).

**Distribution.** This species is known for sure only from the type series collected on the west coast in central California. Casey (1914: 254) reported it from Saint Helena, Sonoma County, California.

**Records. USA:** CA

***Bradycellus veronianus* (Casey, 1924)**

*Stenocellus veronianus* Casey, 1924: 142. Type locality: «Vero [Beach] [Indian River County], Florida» (original citation). One syntype in USNM [# 48019].

**Distribution.** This species is known yet only from the type locality.

**Records. USA:** FL

**Subgenus *Lipalocellus* Ball and Bousquet, 2000**

*Liocellus* Tschitschérine, 1901: 247 [junior homonym of *Liocellus* Motschulsky, 1864].

Type species: *Harpalus nigrinus* Dejean, 1829 by original designation. Etymology. From the Greek prefix *lio-* (smooth) and *cello* (to run) [masculine].

*Lipalocellus* Ball and Bousquet, 2000: 94. Replacement name for *Liocellus* Tschitschérine, 1901. Etymology. The name was composed from an arbitrary combination of syllables [masculine].

**Diversity.** Two North American species.

**Identification.** Lindroth (1968: 894-898, as *nigrinus* group) reviewed the species.

***Bradycellus nigrinus* (Dejean, 1829)**

*Harpalus nigrinus* Dejean, 1829: 399. Type locality: «détroit de Norfolk [= Norfolk Sound, Baranof Island, Alaska], sur la côte nord-ouest de l'Amérique septentrionale» (original citation). One syntype [2 ♂ originally cited] in MHNP (Lindroth 1955b: 30).

*Trechus tibialis* Kirby, 1837: 46. Type locality: northern parts of British America (inferred from title of the book). Holotype [by monotypy] in BMNH (Lindroth 1953b: 175). Synonymy established with doubt by Chaudoir (1868b: 167), confirmed by Lindroth (1953b: 175).

*Geobaenus quadricollis* LeConte, 1847: 405. Type locality: «Lacum Superiorem» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5944]. Synonymy established, under the name *B. tibialis* (Kirby), by Chaudoir (1868b: 167), confirmed by LeConte (1869a: 382) and Lindroth (1968: 896).

**Distribution.** This species extends from Newfoundland (Lindroth 1955a: 146) to southeastern Alaska, including Kodiak Island (Lindroth 1968: 896), south to mountains in southeastern California (Lindroth 1968: 896; San Bernardino County, CNC) and New Mexico (Fall and Cockerell 1907: 162), northwestern Indiana (Blatchley 1910: 193), and southeastern West Virginia (Greenbrier County, CNC). The record from "North Carolina" (Bousquet and Laroche 1993: 226) needs confirmation.

**Records. FRA:** PM **CAN:** AB, BC (QCI, VCI), MB, NB, NF, NS (CBI), ON, PE, QC, SK, YT **USA:** AK, CA, CO, CT, ID, IL, IN, MA, ME, MI, MN, MT, NH, NM, NY, OH, OR, PA, UT, VA, VT, WA, WI, WV [NC]

***Bradycellus semipubescens* Lindroth, 1968**

*Bradycellus semipubescens* Lindroth, 1968: 896. Type locality: «Fairy Lake, Queb[ec]» (original citation). Holotype (♂) in CNC [# 10577].

**Distribution.** This species ranges from Nova Scotia (Majka et al. 2007: 10) to central Minnesota (Gandhi et al. 2005: 930), north to southeastern Manitoba (Roughley et al. 2010: 230), south at least to east-central Missouri (Saint Louis, MCZ), southwestern Illinois (Saint Clair County, MCZ), and southeastern Pennsylvania (Dauphin County, MCZ). The single specimen from McMurray, Alberta (Lindroth 1968: 898) is possibly mislabeled or represents a stray.

**Records.** CAN: MB, NB, NS, ON, QC USA: IA, IL, MA, ME, MI, MN, MO, NH, NY, PA, VT, WI [AB]

**Subgenus *Triliarthrus* Casey, 1914**

*Triliarthrus* Casey, 1914: 238. Type species: *Stenolophus badipennis* Haldeman, 1843 designated by Lindroth (1968: 898). Etymology. Probably from the Greek prefix *tri-* (three), *lis* (smooth), and *arthron* (joint), alluding to the glabrous antennomeres 1-3 of the adults (“the first three joints of the antennae are glabrous”) [masculine].

**Diversity.** Six North American species in the boreal and temperate regions.

**Identification.** Lindroth (1968: 898-903, as *badipennis* group) reviewed all species.

***Bradycellus atrimedeus* (Say, 1823)**

*Feronia atrimedeus* Say, 1823a: 39. Type locality: «Iowa City [Johnson County, Iowa]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 355), in MCZ [# 32968]. NOTE. «the Missouri» was the area originally cited by Say (1823a: 40). Say (1823a: 39) obviously made an error in the epithet *atrimedeus* which comes from the Latin adjectives *atrox*, *-ocis* (black) and *medius*, *-a*, *-um* (middle). Most authors, starting with LeConte (1847: 404), have used the spelling *atrimedius*, but this spelling is not in prevailing usage since Lindroth (1968: 899).

**Distribution.** The range of this species extends from New Brunswick (Lindroth 1968: 899) to eastern South Dakota (Kirk and Balsbaugh 1975: 32), north to southeastern Manitoba (Lindroth 1968: 899), south to “Texas” (Fall 1905: 172), Tennessee (Sevier County, CNC), and northeastern Georgia (Fattig 1949: 53).

**Records.** CAN: MB, NB, ON, QC USA: DC, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NC, NE, NH, NJ, NY, OH, PA, RI, SD, TN, TX, VA, VT, WI, WV

***Bradycellus badipennis* (Haldeman, 1843)**

*Stenolophus badipennis* Haldeman, 1843b: 302. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). One possible syntype, labeled “[pink disc] /510.

[handwritten] / *B. badiipennis* (Hald.) *Lec. ruficrus* ‡ *Lec.* [handwritten],” in MCZ (Lindroth 1968: 899).

*Triliarthrus badiipennis* Casey, 1914: 239. Unjustified emendation of *Triliarthrus badiipennis* (Haldeman, 1843).

*Triliarthrus properus* Casey, 1914: 240. Type locality: «West Point [Orange County], New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 143), in USNM [# 47995]. Synonymy established by Fall (1930: 251), confirmed by Lindroth (1968: 898).

*Stenolophus curticolis* Casey, 1924: 146. Type locality: «Somerset [Montgomery County], Maryland» (original citation). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 48047]. Synonymy established by Lindroth (1968: 898).

**Distribution.** This species is known from southwestern New Brunswick (Webster and Bousquet 2008: 19) to northern Minnesota (Gandhi et al. 2005: 930), including southern Quebec and the Ontario Peninsula (Lindroth 1968: 899), south to northeastern Kansas (Popenoe 1877: 24), Tennessee (Knox County, CNC), northern Georgia (Fattig 1949: 53), and eastern South Carolina (Ciegler 2000: 96). The records from Colorado (Wickham 1902: 242; Armin 1963: 119) are probably in error.

**Records.** CAN: NB, ON, QC USA: CT, DC, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV

### ***Bradycellus conformis* (Fall, 1905)**

*Tachycellus conformis* Fall, 1905: 173. Type locality: «Washington State and P[oin]t Reyes, California» (original citation), restricted to «Washington State» by Lindroth (1968: 903). Syntype(s) in MCZ [# 23881].

*Triliarthrus tetricus* Casey, 1914: 241. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 47996]. Synonymy established by Fall (1930: 251), confirmed by Lindroth (1968: 903).

**Distribution.** This species is restricted to the Pacific Coast from southern British Columbia, including Vancouver Island (Lindroth 1968: 903), south at least to the San Francisco Bay in California (Fall 1905: 173). The record from northern Colorado (Armin 1963: 119) is likely in error.

**Records.** CAN: BC (VCI) USA: CA, OR, WA

### ***Bradycellus georgei* Lindroth, 1968**

*Bradycellus georgei* Lindroth, 1968: 899. Type locality: «McMurray, Al[ber]ta» (original citation). Holotype (♀) in CNC [# 10576].

**Distribution.** This species is yet known only from a few localities in Alberta.

**Records.** CAN: AB

***Bradycellus kirbyi* (Horn, 1883)**

*Tachycellus kirbyi* G.H. Horn, 1883a: 51. Type locality: «near Grimsby, Ontario» (original citation). Eight syntypes in MCZ [# 34551].

**Distribution.** This species ranges from southwestern New Brunswick (Webster and Bousquet 2008: 19) to central Minnesota (Sherburne County, CNC), including southern Quebec and the Ontario Peninsula (Lindroth 1968: 901), south to northeastern West Virginia (Randolph County, CMNH).

**Records.** CAN: NB, ON, QC USA: CT, MA, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, WV

***Bradycellus lugubris* (LeConte, 1847)**

*Geobaenus lugubris* LeConte, 1847: 405. Type locality: «Lacum Superiorem» (original citation). Two syntypes in MCZ [# 5947].

*Triliarthrus protractus* Casey, 1914: 239. Type locality: «Massachusetts» (original citation). Lectotype (♂), designated by Lindroth (1975: 143), in USNM [# 47994]. Synonymy established by Lindroth (1968: 901).

*Tachycellus frosti* Fall, 1930: 251. Type locality: «Natick [Middlesex County], Massachusetts» (original citation). Holotype (♂) in MCZ [# 23882]. Synonymy established, under the name *B. protractus* (Casey), by Lindroth (1954b: 143).

**Distribution.** The range of this species extends from northeastern Newfoundland (Lindroth 1955a: 146, as *Triliarthrus protractus*) to the Rocky Mountains in Alberta (Lindroth 1968: 902), south to Minnesota (Lindroth 1955a: 146; Epstein and Kulman 1990: 214), Tennessee (Lindroth 1968: 901), and southwestern North Carolina (Jackson County, CNC).

**Records.** CAN: AB, MB, NB, NF, NS (CBI), ON, PE, QC, SK USA: CT, DC, IL, MA, ME, MI, MN, NC, NH, NJ, NY, OH, PA, TN, VA, VT, WI, WV

**Genus *AMERINUS* Casey, 1884**

*Amerinus* Casey, 1884b: 7. Type species: *Bradycellus linearis* LeConte, 1863 by monotypy. Etymology. Uncertain, possibly a simple modification of the generic name *Amerizus* [*q.v.*] to which the adults of the sole species vaguely resemble or from the English adjective American and the Latin suffix *-inus* (pertaining to), alluding to the region where the species live [masculine].

**Diversity.** One North American species in the temperate regions.

**Identification.** The species was treated by Lindroth (1968: 877-878).

***Amerinus linearis* (LeConte, 1863)**

*Bradycellus linearis* LeConte, 1863c: 16. Type locality: «Pennsylvania; Wisconsin» (original citation). One syntype in MCZ [# 5935].



*Amerinus longipennis* Casey, 1914: 259. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). Holotype [by monotypy] (♀) in USNM [# 48026]. Synonymy established by Bousquet and Larochelle (1993: 12).

*Amerinus fuscicornis* Casey, 1914: 260. Type locality: «Fort Monroe, Virginia» (original citation). Holotype [by monotypy] (♂) in USNM [# 48025]. Synonymy established by Bousquet and Larochelle (1993: 12).

**Distribution.** This species ranges from Massachusetts (Lindroth 1968: 878) to southeastern Wisconsin (Rauterberg 1885: 20), including southernmost Ontario (Bousquet 1987a: 131), south to southeastern Texas (Harris County, Brian Raber pers. comm. 2010), northern Louisiana (Allen 1965: 71, as *A. longipennis*; Claiborne Parish, CNC), west-central Mississippi (Casey 1914, as *A. longipennis*), and west-central South Carolina (Ulyshen et al. 2005: 252).

**Records.** CAN: ON USA: AR, DC, IA, IL, IN, LA, MA, MD, MO, MS, NC, NJ, NY, OH, PA, SC, TX, VA, WI

### Genus *DICHEIROTRICHUS* Jacquelin du Val, 1855

*Dicheirotichus* Jacquelin du Val, 1855: 35, 65. Type species: *Harpalus obsoletus* Dejean, 1829 by original designation. Etymology (original). From the Greek *dis* (twice), *cheiros* (hand), and *trichos* (hair) [masculine].

*Dichirotrichus* Gemminger and Harold, 1868a: 262. Unjustified emendation of *Dicheirotichus* Jacquelin du Val, 1855.

**Diversity.** Forty-six species (Lorenz 2005: 358) in the Nearctic (two Holarctic species) and Palaearctic (46 species) Regions arrayed in five subgenera: *Cardiostenus* Tschitschérine (four Palaearctic species), *Dicheirotichus s.str.* (nine Palaearctic species), *Oreoxenus* (one Holarctic species), *Pelagophilus* Tschitschérine (one west Palaearctic species), and *Trichocellus* (31 species).

**Identification.** Lindroth (1968: 874-877) covered both species found in North America under the generic name *Trichocellus*.

### Subgenus *Oreoxenus* Tschitschérine, 1899

*Oreoxenus* Tschitschérine, 1899b: 445. Type species: *Bradycellus mannerheimii* Sahlberg, 1844 designated by Noonan (1976: 22). Etymology. From the Greek *oreos* (mountain) and *xenos* (stranger, foreigner, guest), probably alluding to the mountainous habits of the species (“*les espèces ... paraissent alpines*”) in the hands of Tschitschérine [masculine].

**Diversity.** One Holarctic species.

### *Dicheirotichus mannerheimii mannerheimii* (Sahlberg, 1844)

*Bradycellus mannerheimii* R.F. Sahlberg, 1844: 51. Type locality: «montis Morikan [Okhotsk, Khabarovsk Kray, Siberia, Russia]» (original citation). One syntype in ZMH (Silfverberg 1987: 20).

*Trichocellus porsildi* Brown, 1932a: 3. Type locality: «Baker L[ake], N[orth]W[est] T[erritories]» (original citation). Holotype (♂) in CNC [# 3249]. Synonymy established by Lindroth (1968: 877). Etymology. The specific name was proposed in honor of the botanist Alf Erling Porsild [1901-1977] who collected some of the specimens of the type series. Born in Copenhagen, Porsild grew up on the University of Copenhagen Arctic Station in Qeqertarsuaq, Greenland. He settled in Ottawa where he held the position of curator at the National Museum of Canada in Ottawa between 1936 and 1945 and eventually head of the department of botany from 1945 to 1967. Mount Porsild in the Yukon Territory is named after him.

**Distribution.** This Holarctic subspecies ranges from eastern Siberia (Jaeger and Kataev 2003: 402) to Labrador (Lindroth 1954d: 370); isolated at high altitude in Colorado (Lindroth 1968: 877). Fossil remnants from the Early Wisconsinan have been unearthed in southern Ontario (Morgan and Morgan 1981: 1108).

**Records.** CAN: AB, BC, LB, MB, NT, QC, SK, YT USA: AK, CO – **Holarctic**

**Note.** Two other subspecies, *D. mannerheimii oreophilus* K. Daniel and J. Daniel and *D. mannerheimii ponojensis* Sahlberg (synonym: *D. setiporus* Reitter) are found in the Palearctic Region.

### Subgenus *Trichocellus* Ganglbauer, 1891

*Trichocellus* Ganglbauer, 1891a: 366. Type species: *Harpalus placidus* Gyllenhal, 1827 designated by Andrewes (1934: 201). Etymology. From the Greek *trichos* (hair) and *cello* (to run) [masculine].

**Diversity.** Thirty-one species in the Nearctic (one Holarctic species) and Palearctic (31 species) Regions.

### *Dicheirotichus cognatus* (Gyllenhal, 1827)

*Harpalus cognatus* Gyllenhal, 1827 [July-October]: 455. Type locality: Höberg, N. Vånga, Västergötland, Sweden (lectotype label). Lectotype (♂), designated by Lindroth (1968: 875), in UZIU.

*Harpalus deutschii* C.R. Sahlberg, 1827d [23 June]: 261. Type locality: «Lapponia» (original citation). One syntype in ZMH (Silfverberg 1987: 15). Synonymy established by Dejean (1829: 440). NOTE. This name may be older than *D. cognatus* but is not in “prevailing usage” (see *Principle of priority* under “Nomenclature” section).

*Trechus ruficrus* Kirby, 1837: 47. Type locality: northern parts of British America (inferred from title of the book). Holotype [by monotypy] in BMNH (Lindroth 1953b: 175). Synonymy established by Horn (1876e: 130), confirmed by Lindroth (1953b: 175).

*Ophonus obscuritarsis* Motschulsky, 1844: 228. Type locality: «Omsk [Russia]» (lectotype label). Lectotype (♂), designated by Kataev and Shilenkov (in Kryzhanovskij

- et al. 1995: 136), in ZMMU. Synonymy established by Kataev and Shilenkov (in Kryzhanovskij et al. 1995: 136).
- Bradycellus marginicollis* Motschulsky, 1845b: 345. Type locality: «Kamtschatka [Russia]» (original citation). Lectotype (♂), designated by Kataev and Shilenkov (in Kryzhanovskij et al. 1995: 136), in ZMMU. Synonymy established by Kataev and Shilenkov (in Kryzhanovskij et al. 1995: 136).
- Acupalpus axillaris* Mannerheim, 1853: 124. Type locality: «insula Kadjak [Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1968: 875), in ZMH. Synonymy established by Schaupp (1883c: 50), confirmed by Lindroth (1968: 875).
- Stenolophus quadripunctatus* Mannerheim, 1853: 125. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). Syntype(s) location unknown (possibly in ZMH). **New synonymy.** NOTE. Mannerheim (1853: 125) described a “var[iety] b” of *Acupalpus axillaris* Mannerheim, 1853 and noted that it refers to the name *Stenolophus quadripunctatus*, provided by Ménétriés, and listed but not described in Motschulsky (1850a: 22). As such he made the name available.
- Acupalpus longiusculus* Mannerheim, 1853: 125. Type locality: «ad sinum Woskresensk [= Resurrection Bay] peninsulae Kenai [Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1968: 875), in ZMH. Synonymy established by LeConte (1863b: 12), confirmed by Lindroth (1968: 875).
- Acupalpus conflagratus* Mannerheim, 1853: 126. Type locality: «ad ostia fl[umen] Kaktinu [= Kenai River] peninsulae Kenai [Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1968: 875), in ZMH. Synonymy established by Chaudoir (1868b: 166), confirmed by Lindroth (1968: 875).
- Bradycellus nitens* LeConte, 1858b: 60. Type locality: «San Diego [San Diego County], California» (original citation). Holotype [by monotypy] in MCZ [# 5936]. Synonymy established by LeConte (1869a: 382), confirmed by Lindroth (1968: 875).
- Bradycellus enwaldi* J.R. Sahlberg [in Reuter], 1882: 154. Type locality: «Ponoj [=Ponoy, Kola Peninsula, Russia]» (original citation). Two syntypes in ZMH (Silfverberg 1987: 16). Synonymy established by Hellén (1930: 5).
- Trichocellus boreellus* Casey, 1914: 229. Type locality: «Queen Charlotte Islands [British Columbia]» (original citation). Lectotype (♂), designated by Lindroth (1975: 142), in USNM [# 47983]. Synonymy established by Hatch (1953: 180), confirmed by Lindroth (1968: 875).
- Trichocellus lateralis* Casey, 1914: 230. Type locality: «Fort Wingate [McKinley County], New Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 47984]. Synonymy established by Lindroth (1968: 875).
- Trichocellus monticola* Casey, 1914: 230. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 47985]. Synonymy established by Lindroth (1968: 875).
- Trichocellus punctipennis* Casey, 1914: 230. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♀), designated by Lindroth (1975: 142), in USNM [# 47986]. Synonymy established by Lindroth (1968: 875).

**Distribution.** This circumpolar species ranges from Iceland to eastern Siberia (Jaeger and Kataev 2003: 403) and from Alaska (Lindroth 1968: 876) to Greenland (Böcher 1988: 14), south to southeastern Massachusetts (Cape Cod, CNC), central Iowa (Wickham 1911b: 8), central South Dakota (Kirk and Balsbaugh 1975: 32), the Sacramento Mountains in New Mexico (Fall and Cockerell 1907: 162), and the Baja California Peninsula (Horn 1894: 312). The records from southeastern New York (Notman 1928: 249) and “Pennsylvania” (Bousquet and Larochelle 1993: 227) need confirmation.

**Records.** DEN: GL FRA: PM CAN: AB, BC (QCI), LB, MB, NB, NF, NS (CBI), NT, NU, ON, PE, QC, SK, YT USA: AK, AZ, CA, CO, IA, ID, IN, MA, ME, MI, MN, MT, ND, NH, NM, NV, OR, SD, UT, VT, WA, WI, WY [NY, PA] – Mexico – **Holarctic**

### Genus *ACUPALPUS* Latreille, 1829

*Acupalpus* Latreille, 1829: 391. Type species: *Carabus meridianus* Linnaeus, 1760 designated by Blanchard [in Audouin et al. 1842: plate 21]. Etymology. From the Latin nouns *acus* (needle, pin) and *palpus* (feeler, by extension palp), alluding to the acuminate last maxillary palpomere (“*les palpes extérieurs se terminent par un article pointu au bout*”) of the adult [masculine].

**Diversity.** Worldwide, with about 125 species in the Nearctic (12 species), Neotropical (ten species), Australian (about ten species), Oriental (about 15 species), Palaearctic (about 50 species), and Afrotropical (30 species) Regions arrayed in eight subgenera: *Acupalpus s.str.* (about 75 species), *Ancylostria* Schauberger (four species), *Anthracus* (32 species), *Palcuapus* Habu (one east Palaearctic species), *Pseudanthracus* Habu (three species), *Setacupalpus* Habu (two east Palaearctic species), *Subacupalpus* Habu (two Asian species), and *Tachistodes* (four species). The North American fauna is represented by 12 species (roughly 9.6% of the world fauna), one of them is adventive.

**Taxonomic Note.** Noonan (1976: 23) treated *Hemiaulax* Bates (two species), with *Idiomelas* Tschitchérine (two species) as synonym, as a subgenus of *Acupalpus*. In Lorenz (2005: 361), *Hemiaulax* and *Idiomelas* are listed as valid genera with *Egaploa* Alluaud (two species) considered a subgenus of *Idiomelas*.

### Subgenus *Acupalpus* Latreille, 1829

*Acupalpus* Latreille, 1829: 391. Type species: *Carabus meridianus* Linnaeus, 1760 designated by Blanchard [in Audouin et al. 1842: plate 21].

*Manicellus* Motschulsky, 1864: 207. Type species: *Stenolophus elegans* Dejean, 1829 designated by Jeannel (1942: 712). Synonymy established by Tschitschérine (1900a: 365).

**Diversity.** Worldwide with about 75 species in the Nearctic (six species, one of them adventive), Neotropical (ten species), Australian (three species), Oriental (six species), Palaearctic (28 species), and Afrotropical (22 species) Regions.



**Identification.** Lindroth (1968: 929-934, as *meridianus* group) covered all species found in North America.

***Acupalpus canadensis* Casey, 1924**

*Acupalpus canadensis* Casey, 1924: 144. Type locality: «M[oun]t Royal [= Montreal], Quebec» (original citation). Holotype [by monotypy] in USNM [# 48032].

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 149) to southern Saskatchewan (Lindroth 1968: 934), south to “South Dakota” (Lindroth 1955a: 149), northern Indiana (La Porte County, CMNH), and central Pennsylvania (Lycoming and Clinton Counties, CMNH). The record from “Delaware” (Bousquet and Larochelle 1993: 228) was based on a misidentified specimen of *A. carus* in MCZ.

**Records.** CAN: MB, NB, NF, NS (CBI), ON, PE, QC, SK USA: IN, MA, ME, MI, MN, ND, NH, NY, OH, PA, SD, VT, WI

***Acupalpus carus* (LeConte, 1863)**

*Stenolophus carus* LeConte, 1863c: 18. Type locality: «Hudson’s Bay Territory and Illinois» (original citation), restricted to «Illinois» by Lindroth (1968: 930). Syntype(s) in MCZ [# 5933].

*Acupalpus expertus* Casey, 1914: 267. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 48031]. Synonymy established by Lindroth (1968: 930).

*Acupalpus trivialis* Casey, 1914: 268. Type locality: «Lake Champlain, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 143), in USNM [# 48034]. Synonymy established by Lindroth (1968: 930).

*Acupalpus subrectus* Casey, 1924: 143. Type locality: «Beverly Hills [Cook County], Illinois» (original citation). Lectotype, designated by Lindroth (1975: 144), in USNM [# 48030]. Synonymy established by Lindroth (1968: 930).

*Acupalpus curtippennis* Casey, 1924: 144. Type locality: «northern Illinois» (original citation). Holotype [by monotypy] (♀) in USNM [# 48029]. Synonymy established by Lindroth (1968: 930).

**Distribution.** The range of this species extends from Saint Pierre and Miquelon and southwestern Newfoundland (Lindroth 1955a: 148, as *A. expertus*) to southern Saskatchewan (Ronald R. Hooper pers. comm. 2007), south to northern Louisiana (Allen 1965: 72) and southern North Carolina (Macon County, CNC); also known from northwestern Oregon (Westcott et al. 2006: 6), Washington (Spokane County, CMNH), northern Idaho (Hatch 1953: 185), and south-central British Columbia (Lindroth 1968: 931). The record from northern Colorado (Armin 1963: 114) needs confirmation.

**Records.** FRA: PM CAN: BC, MB, NB, NF, NS (CBI), ON, PE, QC, SK USA: AR, CT, DC, DE, IA, ID, IL, IN, LA, MA, ME, MI, MN, MO, NC, NH, NJ, NY, OH, OR, PA, RI, SD, VT, WA, WI, WV [CO]



***Acupalpus hydropicus* (LeConte, 1863)**

*Stenolophus hydropicus* LeConte, 1863c: 17. Type locality: «New York» (original citation). Five syntypes in MCZ [# 5932].

**Distribution.** This species ranges from southeastern New Hampshire (Rockingham County, Ross T. Bell pers. comm. 2008) to at least northern Illinois (Cook County, CMNH), south to northeastern Louisiana (Allen 1965: 72) and northern Florida (Alachua County, CNC).

**Records. USA:** CT, DC, DE, FL, IL, IN, KY, LA, MA, MD, MI, MO, NH, NJ, NY, OH, PA, RI, VA, VT, WV

***Acupalpus meridianus* (Linnaeus, 1760)**

*Carabus meridianus* Linnaeus, 1760: 221. Type locality: Sweden (inferred from title of the book). Three possible syntypes, two belonging to the present species, in LSL (Lindroth 1957b: 332).

**Distribution.** This Palaearctic species is adventive in North America where it is known from the Quebec City area (Chantal 1971: 202) in the east and from south-central Saskatchewan (Ronald R. Hooper pers. comm. 2007) to Vancouver Island (Lindroth 1968: 930), including central Alberta (Pollock 1991a: 705), south to “Oregon” (Hatch 1953: 185) and northern Idaho (Hatten et al. 2007: 359) in the west. The first inventoried specimen collected on this continent was found in Seattle in 1931 (Hatch 1946: 77).

**Records. CAN:** AB, BC (VCI), QC, SK **USA:** ID, OR, WA – **Adventive**

***Acupalpus nanellus* Casey, 1914**

*Acupalpus nanellus* Casey, 1914: 268. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype, designated by Lindroth (1975: 144), in USNM [# 48033].

**Distribution.** This species ranges from Nova Scotia (Lindroth 1968: 933) to northwestern Minnesota (Polk County, CMNH), north to southeastern Manitoba (Roughley et al. 2010: 230; CMNH), south at least to southwestern Pennsylvania (Allegheny County, CMNH) and Rhode Island (Casey 1914: 268). One old specimen simply labeled from Illinois is known (CMNH). The record from “Connecticut” (Bousquet and Laroche 1993: 228) needs confirmation (see Krinsky and Oliver 2001: 4).

**Records. CAN:** MB, NB, NS, ON, QC **USA:** MA, ME, MI, MN, NH, NY, OH, PA, RI, VT, WI [CT, IL]

***Acupalpus pumilus* Lindroth, 1968**

*Acupalpus pumilus* Lindroth, 1968: 931. Type locality: «Amberley S[outh] Kincardine, Ont[ario]» (original citation). Holotype (♂) in CNC [# 10580].

**Distribution.** The range of this species extends from Nova Scotia (Lindroth 1968: 932) to northwestern Minnesota (Polk County, CMNH), south to west-central West Virginia (Mason County, CMNH) and Delaware (Lindroth 1968: 932). The record from eastern South Dakota (Kirk and Balsbaugh 1975: 33) needs confirmation.

**Records.** CAN: NS, ON, PE, QC USA: CT, DE, IL, MA, ME, MI, MN, NH, NY, OH, PA, VA, WI, WV [SD]

### Subgenus *Tachistodes* Casey, 1914

*Tachistodes* Casey, 1914: 286. Type species: *Acupalpus pauperculus* Dejean, 1829 designated by Lindroth (1968: 934). Etymology. Uncertain, possibly from the generic name *Tachys* [*q.v.*] and the Greek *-odes* (likeness), alluding to the resemblance of adults of the species included by Casey in this group to those of *Tachys* [masculine].

**Diversity.** Four North American species, one of them extending into the Bahamas.

**Identification.** Lindroth (1968: 934-938, as *pauperculus* group) covered all species.

### *Acupalpus indistinctus* Dejean, 1831

*Acupalpus indistinctus* Dejean, 1831: 846. Type locality: «Amérique septentrionale» (original citation), restricted to «Mobile [Mobile County], Alab[ama]» by Lindroth (1968: 935). Holotype [by monotypy] in MHNP.

*Tachistodes obscurus* Casey, 1924: 147. Type locality: «near the city [of New York], New York» (original citation). Lectotype, designated by Lindroth (1975: 144), in USNM [# 48057]. Synonymy established by Lindroth (1968: 935).

**Distribution.** This species ranges from Massachusetts (Suffolk County, MCZ) to central Iowa (Wickham 1911b: 8), including southernmost Ontario (Lindroth 1968: 935; Bousquet 1987a: 132), south to southern Texas (Johnson 1978: 67) and central Florida (Peck and Thomas 1998: 21); also recorded from north-central Maine (Majka et al. 2011: 46). The records from Colorado (Elias 1987: 634) and southeastern Arizona (Dajoz 2004: 116) need confirmation.

**Records.** CAN: ON USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MS, NC, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI, WV [AZ, CO]

### *Acupalpus partiarius* (Say, 1823)

*Trechus partiarius* Say, 1823a: 90. Type locality: «Gorham [Jackson County], Ill[inois]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 356), in MCZ [# 32965].

*Tachistodes lyratus* Casey, 1924: 147. Type locality: «Kansas» (original citation). Lectotype, designated by Lindroth (1975: 144), in USNM [# 48058]. Synonymy established by Lindroth (1968: 937).

*Tachistodes convergens* Casey, 1924: 148. Type locality: «Rockaway Beach [Queens County], Long Island, New York» (original citation). Lectotype, designated by Lindroth (1975: 143), in USNM [# 48059]. Synonymy established by Lindroth (1968: 937).

**Distribution.** This species is found from Maine (Procter 1946: 111) to South Dakota (Kirk and Balsbaugh 1975: 33), including southern Quebec (Larochelle 1975: 31) and southern Ontario (Lindroth 1968: 937), south to southeastern Colorado (Miller and Pairs 2008: 34), southeastern Texas (Casey 1914: 288), and northeastern Florida (Saint Johns County, MCZ).

**Records.** CAN: ON, QC USA: AR, CO, CT, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI

### *Acupalpus pauperculus* Dejean, 1829

*Acupalpus pauperculus* Dejean, 1829: 463. Type locality: «Amérique septentrionale» (original citation), restricted to «Sherborn [Middlesex County], Mass[achusetts]» by Lindroth (1968: 935). Syntype(s) in MHNP.

*Acupalpus consimilis* Dejean, 1829: 465. Type locality: «Amérique septentrionale» (original citation). Syntype(s) in MHNP. Synonymy established by Chaudoir (1868b: 165), confirmed by LeConte (1869a: 376) and Lindroth (1968: 935).

**Distribution.** This species occurs from Nova Scotia (Lindroth 1954c: 309) to eastern South Dakota (Kirk and Balsbaugh 1975: 33; French et al. 2004: 557), south to southeastern Colorado (Miller and Pairs 2008: 34), southern Texas (Wickham 1897: 113; Harris County, Foster F. Purrington pers. comm. 2009), and southern Florida (Monroe County, Drew A. Hildebrandt pers. comm. 2007).

**Records.** CAN: NB, NS (CBI), ON, PE, QC USA: AL, AR, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

### *Acupalpus testaceus* Dejean, 1829

*Acupalpus testaceus* Dejean, 1829: 460. Type locality: «Amérique septentrionale» (original citation), restricted to «Camden [Kershaw County], S[outh] C[arolina]» by Lindroth (1968: 937). Syntype(s) in MHNP.

*Acupalpus micros* LeConte, 1847: 412. Type locality: «provinciis australibus» (original citation). Syntype(s) in MCZ [# 5878]. Synonymy established by LeConte (1853c: 386), confirmed by Lindroth (1968: 937).

*Tachistodes fusciceps* Casey, 1914: 288. Type locality: «Atlantic City [Atlantic County], New Jersey» (original citation). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 48056]. Synonymy established by Lindroth (1968: 937).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 32) to southeastern South Dakota (Kirk and Balsbaugh 1975: 33), south to eastern Texas (Snow 1906a: 141, as *Agonoderus micros*; Nacogdoches, Orange, and San Augustine Counties, CNC, CMNH), northeastern Louisiana (Allen 1965: 72), southern Florida, and the Bahamas (Peck and Thomas 1998: 21).

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, WI, WV – Bahamas

### **Subgenus *Anthracus* Motschulsky, 1850**

*Anthracus* Motschulsky, 1850a: 21. Type species: *Carabus consputus* Duftschmid, 1812 by original designation. Etymology. From the Greek *anthrax* (coal), probably alluding to the color of adults of the sole species Motschulsky had before him [masculine]. *Balius* Schiødte, 1861: 184 [junior homonym of *Balius* Guérin-Méneville, 1857]. Type species: *Carabus consputus* Duftschmid, 1812 by monotypy.

**Diversity.** Thirty-two species in the Nearctic (two western species), Australian (five species), Oriental (five species), Palaearctic (15 species), and Afrotropical (eight species) Regions.

**Identification.** The two North American species have never been compared and the specific independence of the two not tested.

**Taxonomic Note.** This taxon is considered a distinct genus by several authors, including Jaeger and Kataev (2003: 399). However, the main character state separating members of *Anthracus* from those of *Acupalpus* is the shape of the pronotum which is cordiform with the sides sinuate in basal half and the posterior angles well distinct, right (see Jeannel 1948a: 714; Basilewsky 1951: 232; Habu 1973a: 301-302). However this character is not constant. Antoine (1959: 453) reported that adults of *A. (Acupalpus) cantabricus cantabricus* Piochard de la Brûlerie in Morocco have the sides of the pronotum arcuate and the posterior angles rounded while those of *A. cantabricus zaerensis* Antoine (these two taxa are now considered separate species) have the sides sinuate and the posterior angles right and that some specimens greatly resemble adults of *Anthracus*. Basilewsky (1951: 237) separated *A. (Acupalpus) angulatus* Jeannel from most other species in his key to Afrotropical *Acupalpus* by the clearly sinuate sides of pronotum with the posterior angles markedly acute. Other character states usually reported, such as the mandibles and antennae relatively longer, the prosternum with small setae, and the median line of the pronotum deeper, more or less sulciform in *Anthracus* are also variable and not at all diagnostic of *Anthracus*. Until the relationships between members of the acupalpine complex are better known, I prefer to follow Ball (1960b: 147), Lindroth (1968: 925), Noonan (1976: 24), and Ball and Bousquet (2000: 94) and treat *Anthracus* as a subgenus of *Acupalpus*.

### ***Acupalpus punctulatus* Hatch, 1953**

*Acupalpus punctulatus* Hatch, 1953: 185. Type locality: «Forest Grove [Washington County], Or[egon]» (original citation). Holotype (♀) in USNM.

**Distribution.** This species is known from a few localities from northwestern Oregon (Hatch 1953: 185) to southeastern Oregon (Harney County, CNC).

**Records.** USA: OR

***Acupalpus tener* (LeConte, 1857)**

*Stenolophus tener* LeConte, 1857c: 29. Type locality: «San Jose [Santa Clara County], California» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5931].

**Distribution.** This species is known from California, from Humboldt County (CAS) to Santa Clara County (LeConte, 1857c: 29).

**Records. USA:** CA

**Genus *PHILODES* LeConte, 1861**

*Philodes* LeConte, 1861a: 33. Type species: *Stenolophus alternans* LeConte, 1853 designated by Lindroth (1968: 927). Etymology. Uncertain, possibly from the Greek *philos* (beloved) and the suffix *-odes* (likeness) [masculine].

**Diversity.** Four North American species, one of them extending into the Bahamas, placed in two subgenera.

**Identification.** Lindroth (1968: 925–926) treated all currently recognized species in his key to Canadian *Acupalpus*.

**Taxonomic Note.** This taxon has been treated as a subgenus of *Acupalpus* by North American students since Ball (1960b: 147). However, members of the group are characteristic in having three or more discal setae on the third elytral interval and the endophallus with four large, curved spines and a basal pillow of pigmented hairs. To my knowledge, all other acupalpines have one or no discal seta on the third elytral interval. The situation regarding the sclerites in the endophallus is more complex. While most species of *Acupalpus* (including *Anthracus*) are described as having the internal sac unarmed, there are exceptions. Jeannel (1948a: 720) reported that the endophallus of the Madagascan *Anthracus madecassus* Jeannel has some large spines (*quelques grosses dents visibles par transparence*), Habu (1981: 44) described the endophallus of *Acupalpus hilaris* Tschitschérine as having “four large thorn-like copulatory pieces,” and Antoine (1959: 451) stated that the internal sac of *Acupalpus elegans* Dejean has 18 large hooks arranged in two rows (*18 grands crochets à base ovale régulièrement disposés sur deux rangs, un droit et un gauche*) reminiscent of the condition found in members of *Stenolophus*. However, in members of *Philodes* the four endophallus structures are proportionally bigger than in any of these species. At this time, I prefer to regard *Philodes* as generically distinct from *Acupalpus* even though *Acupalpus* may eventually be shown to be paraphyletic in regard to *Philodes*.

**Subgenus *Philodes* LeConte, 1861**

*Philodes* LeConte, 1861a: 33. Type species: *Stenolophus alternans* LeConte, 1853 designated by Lindroth (1968: 927).

**Diversity.** One species occurring over eastern North America.



***Philodes alternans* (LeConte, 1853)**

*Badister testaceus* LeConte, 1844: 52 [secondary homonym of *Acupalpus testaceus* Dejean, 1829]. Type locality: «Pennsylvania» (original citation). Three syntypes in MCZ [# 5930].

*Stenolophus alternans* LeConte, 1853c: 386. Replacement name for *Stenolophus testaceus* (LeConte, 1844).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 31) south to eastern Oklahoma (Latimer County, UASM), northwestern Arkansas (Newton County, Peter W. Messer pers. comm. 2008), southeastern Mississippi (George and Greene Counties, Drew A. Hildebrandt pers. comm. 2008), east-central Kentucky (Jessamine County, MCZ), and northern Virginia (Hoffman and Roble 2000: 38).

**Records.** CAN: ON, QC USA: AR, DC, DE, IL, IN, KY, MS, NH, NJ, NY, OH, OK, PA, VA, VT

**Subgenus *Goniolophus* Casey, 1914**

*Goniolophus* Casey, 1914: 262. Type species: *Goniolophus lucens* Casey, 1914 (= *Stenolophus flavilimbus* LeConte, 1869) by original designation. Etymology. From the Greek *gonia* (angle, corner) and *lophos* (crest, comb, tuft) [masculine].

**Diversity.** Three eastern North American species of which one extends into the Bahamas.

**Taxonomic Note.** This subgenus is in need of a taxonomic revision. I have seen at least four species in eastern North America, one of them (from Baker and Ware Counties in Georgia and Highlands County in Florida) being undescribed.

***Philodes flavilimbus* (LeConte, 1869)**

*Stenolophus flavilimbus* LeConte, 1869a: 378. Type locality: «Georgia» (original citation). Holotype [by monotypy] in MCZ [# 5934].

*Goniolophus lucens* Casey, 1914: 264. Type locality: «Galveston [Galveston County], Texas» (original citation). Four syntypes in USNM [# 48028]. **New synonymy.**

**Distribution.** This species ranges from Georgia (LeConte 1869a: 378; Fattig 1949: 53) to eastern Texas along the Gulf Coast (Casey 1914: 264, as *Goniolophus lucens*), south to central Florida (Peck and Thomas 1998: 21), north to north-central Tennessee (Smith County, Robert L. Davidson pers. comm. 2012) and central Arkansas (Montgomery and Arkansas Counties, Foster F. Purrington pers. comm. 2009).

**Records.** USA: AL, AR, FL, GA, LA, MS, TN, TX

***Philodes longulus* (Dejean, 1829)**

*Acupalpus longulus* Dejean, 1829: 459. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 31).

**Distribution.** This species ranges from southern Virginia (Hoffman and Roble 2000: 38) and Tennessee (Bradley, Crockett, Loudon, Maury, and Smith Counties, CMNH) to southern Florida (Peck and Thomas 1998: 21) and the Bahamas (Darlington 1953: 11), west at least to east-central Texas (Riley 2011), including southeastern Louisiana (Saint Tammany and Tangipahoa Parishes, CNC). The records from Rhode Island (Davis 1904: 14), Delaware (Houghton 1905: 212), and “Arkansas” (Bousquet and Laroche 1993: 228) need confirmation.

**Records. USA:** AL, FL, GA, KY, LA, MS, NC, SC, TN, TX, VA [AR, DE, RI] – Bahamas

### *Philodes rectangulus* (Chaudoir, 1868)

*Acupalpus rectangulus* Chaudoir, 1868b: 167. Type locality: Amérique septentrionale (inferred from title of the paper), restricted to «Brookline [Norfolk County], Mass[achusetts]» by Lindroth (1968: 928). Lectotype (♂), designated by Lindroth (1968: 928), in MHNP.

**Distribution.** The range of this species extends from southern Quebec (Laroche 1975: 32) to eastern South Dakota (Kirk and Balsbaugh 1975: 33), south to eastern Texas (San Augustine and Hardin Counties, CMNH, UASM) and southern Florida (Peck and Thomas 1998: 21).

**Records. CAN:** ON, QC **USA:** AL, AR, DC, DE, FL, GA, IA, IL, IN, LA, MA, MD, MI, MO, MS, NC, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI

### **Genus** *POGONODAPTUS* Horn, 1881

*Pogonodaptus* G.H. Horn, 1881: 178. Type species: *Pogonodaptus piceus* G.H. Horn, 1881 (= *Polpochila mexicana* Bates, 1878) by monotypy. Etymology. From the generic names *Pogonus* [*q.v.*] and *Daptus*, alluding to the resemblance of the adults to those of the two genera (“a small species resembling *Daptus* and somewhat also *Pogonus*”) [masculine].

**Diversity.** Two species in southern United States and Middle America (one species) and the West Indies (one species in Haiti).

**Identification.** Darlington (1936c: 205) discussed the structural differences between the two species.

### *Pogonodaptus mexicanus* (Bates, 1878)

*Polpochila mexicana* Bates, 1878a: 589. Type locality: «Vera Cruz, Mexico» (original citation). Syntype(s) probably in BMNH.

*Pogonodaptus piceus* G.H. Horn, 1881: 179. Type locality: «Texas» (original citation). Holotype [by monotypy] (♀) in MCZ [# 34537]. Synonymy established by Bates (1884: 277).

**Distribution.** This species is known from central (Grady County, Robert L. Davidson pers. comm. 2008) and southwestern Oklahoma (Kondratieff et al. 2005: 173), Arkansas (Garland and Ouachita Counties, Robert L. Davidson pers. comm. 2012), western Louisiana (Sabine Parish, CMNH), and southern Texas (Wickham 1897: 113) south at least to Nicaragua (Blackwelder 1944: 48).

**Records. USA:** AR, LA, OK, TX – Guatemala, Mexico, Nicaragua

### Genus *POLPOCHILA* Solier, 1849

*Melanotus* Dejean, 1831: 698 [junior homonym of *Melanotus* Eschscholtz, 1829].

Type species: *Melanotus flavipes* Dejean, 1831 designated by Hope (1838: 111).

Etymology (original). From the Greek *melas* (black) and *notos* (back, dorsum), alluding to the coloration of the adults [masculine].

*Polpochila* Solier, 1849: 217. Type species: *Polpochila parallela* Solier, 1849 (= *Melanotus chilensis* Chaudoir, 1837) by monotypy. Synonymy established by LeConte (1869b: 248). Etymology. Unknown [feminine].

*Cratocara* LeConte, 1863b: 11. Replacement name for *Melanotus* Dejean, 1831. Etymology. From the Greek *cratos* (strength) and *cara* (head) [feminine].

**Diversity.** About 25 species in the Western Hemisphere arrayed in two subgenera: *Phymatocephalus* (two species) and *Polpochila s.str.* (23 species).

**Identification.** Nègre (1963) revised the species, including all three found in North America, known at the time.

### Subgenus *Phymatocephalus* Schaum, 1864

*Phymatocephalus* Schaum, 1864: 125. Type species: *Phymatocephalus riehlII* Schaum, 1864 (= *Melanotus erro* LeConte, 1854) by monotypy. Etymology. From the Greek *phymatos* (tumor, growth) and *cephale* (head), alluding to the big head (“*caput crassum*”) of the adult [masculine].

**Diversity.** Two species in southern North America and Mexico.

### *Polpochila capitata* (Chaudoir, 1852)

*Melanotus capitatus* Chaudoir, 1852: 83. Type locality: «Mexique» (original citation). Syntype(s) in MHNP.

**Distribution.** This species ranges from southern Arizona southwards through the Sonoran and Chihuahuan deserts to Oaxaca in Mexico (Ball and Shpeley 1992a: 55). The records from southwestern New Mexico (Fall and Cockerell 1907: 161) and “California” (Csiki 1932a: 1061) need confirmation.

**Records. USA:** AZ [CA, NM] – Mexico

***Polpochila erro* (LeConte, 1854)**

*Melanotus erro* LeConte, 1854d: 221. Type locality not stated; Tucson [Pima County], Arizona, herein selected (see Nègre 1963: 215). Holotype [by monotypy] in MCZ [# 5877].

*Phymatocephalus riehl* Schaum, 1864: 126. Type locality: «Mexico» (original citation). Syntype(s) location unknown (possibly in UMM in collection Riehl). Synonymy established by Nègre (1963: 215). Etymology. The specific name was proposed for Friedrich Riehl [1795–1876], an auditor in Germany who collected beetles. Riehl gave his well-ordered collection, which contained many specimens from the Western Hemisphere including some received from Gundlach in Cuba, to the Zoological Institute of the University of Marburg in Germany.

*Cratocara mentalis* Casey, 1914: 302. Type locality: «supposed[ly] Arizona» (original citation). Holotype [by monotypy] (♂) in USNM [# 48074]. Synonymy established by Nègre (1963: 215).

**Distribution.** This species is known from southern Arizona (Nègre 1963: 215) to western Texas (Culberson, Jeff Davis, and Presidio Counties, CMNH), south to Durango and Sinaloa (Nègre 1963: 215).

**Records. USA:** AZ, NM, TX – Mexico

**Subgenus *Polpochila* Solier, 1849**

*Polpochila* Solier, 1849: 217. Type species: *Polpochila parallela* Solier, 1849 (= *Melanotus chilensis* Chaudoir, 1837) by monotypy.

**Diversity.** Twenty-three species in the Nearctic (one species) and Neotropical (23 species) Regions.

***Polpochila rotundicollis* Bates, 1882**

*Polpochila rotundicollis* Bates, 1882a: 74. Type locality: «Leon [Guanajuato], Mexico» (original citation). Syntype(s) probably in BMNH.

*Cratocara brunnea* Casey, 1914: 302. Type locality: «Willcox [Cochise County], Arizona» (original citation). Three syntypes [3 originally cited] in USNM [# 48073]. Synonymy established by Nègre (1963: 218).

**Distribution.** This species is known from southern Arizona to the state of Guerrero in western Mexico (Nègre 1963: 218).

**Records. USA:** AZ – Mexico

**Subtribe HARPALINA Bonelli, 1810**

Harpalii Bonelli, 1810: Tabula Synoptica. Type genus: *Harpalus* Latreille, 1802.

Ophonidae Laporte, 1834: 68. Type genus: *Ophonus* Dejean, 1821.

Stenomorphidae Laporte, 1834: 71. Type genus: *Stenomorphus* Dejean, 1831.

Daptini LeConte, 1847: 371. Type genus: *Daptus* Fischer von Waldheim, 1823.

Amblystomini Fauvel, 1889a: 17. Type genus: *Amblystomus* Erichson, 1837.

Selenophorini Casey, 1914: 48, 134. Type genus: *Selenophorus* Dejean, 1829. Synonymy established by Jeannel (1948a: 640).

Trichotichnini Jeannel, 1942: 615, 624. Type genus: *Trichotichnus* Morawitz, 1863. Synonymy established by Jeannel (1948a: 640).

Eriotomi Antoine, 1959: 331, 354. Type genus: *Eriotomus* Piochard de la Brûlerie, 1873 (= *Oedesis* Motschulsky, 1850). Synonymy established by Noonan (1976: 29).

Granigerini Antoine, 1959: 326, 331, 357. Type genus: *Graniger* Motschulsky, 1864. Synonymy established by Noonan (1976: 29).

Bleusei Antoine, 1959: 386, 427. Type genus: *Bleusea* Bedel, 1896. Synonymy established by Noonan (1976: 29).

Cratacanthi Lindroth, 1968: 742. Type genus: *Cratacanthus* Dejean, 1829. Synonymy established by Noonan (1976: 29).

**Diversity.** Worldwide, with about 1,665 species (Lorenz 2005: 362-387, as Harpalina, Amblystomina, and Ditomina). The Northern Hemisphere is represented by about 895 species (53.5% of the world fauna) and North America alone by 138 species (about 8%), of which five are adventive.

**Taxonomic Note.** Noonan (1976) arrayed the genera of this subtribe into the following genus-groups: Acinopi (no North American representatives), Amblystomi (no North American representatives), Bleusei (no North American representatives), Bradybaeni (no North American representatives), Dapti (including *Cratacanthus*), Ditomi (no North American representatives), Harpali (including *Euryderus*, *Harpalobrachys*, *Harpalus*, *Hartonymus*, *Ophonus*, and *Piosoma*), and Selenophori (including *Amblygnathus*, *Athrostictus*, *Aztecarpalus*, *Discoderus*, *Selenophorus*, *Stenomorphus*, and *Trichotichnus*). Ball and Bousquet (2000: 91) followed Noonan's classification with the exception that the Selenophori were divided into the Selenophori proper and the Trichotichni (including *Aztecarpalus* and *Trichotichnus*).

### **Genus *PIOSOMA* LeConte, 1847**

*Piosoma* LeConte, 1847: 374. Type species: *Piosoma setosum* LeConte, 1847 by monotypy. Etymology (original). From the Greek *pio* (fat) and *soma* (body), alluding to the chubby shape of the adults ("*corpus crassum*") [neuter].

**Diversity.** One North American species in the temperate regions.

**Identification.** Lindroth (1968: 745-746) treated the species.

### ***Piosoma setosum* LeConte, 1847**

*Piosoma setosum* LeConte, 1847: 375. Type locality: «circiter Long's Peak [Boulder County, Colorado], Rocky Mountains» (original citation). Syntype(s) in MCZ [# 5872].



*Piosoma brevipennis* Casey, 1914: 54. Type locality not stated. Holotype [by monotypy] (♂) in USNM [# 47725]. Synonymy established by Lindroth (1968: 745).

**Distribution.** This species ranges from Saskatchewan to central British Columbia (Lindroth 1968: 745–746), south to southern Arizona (Snow 1907: 142; Pima County, CMNH), central New Mexico (Fall and Cockerell 1907: 161; Bernalillo and Socorro Counties, CMNH, UASM), and southeastern Kansas (Wilson County, MCZ). One old specimen labeled “Tex” is known (MCZ).

**Records.** CAN: AB, BC, SK USA: AZ, CO, ID, KS, MT, ND, NE, NM, NV, SD, UT, WY [TX]

### Genus *EURYDERUS* LeConte, 1846

*Euryderus* LeConte, 1846a: 151. Type species: *Euryderus zabroides* LeConte, 1846 (= *Amara grossa* Say, 1830) by monotypy. Etymology. From the Greek *eurys* (broad, wide) and *dere* (neck, by extension pronotum), alluding to the broad pronotum (“*thorax ... longitudine duplo latior*”) of the adult [masculine].

*Nothopus* LeConte, 1852b: 67. Unnecessary replacement name for *Euryderus* LeConte, 1846 [incorrectly supposed to be a junior homonym of *Eurydera* Laporte, 1831]. Etymology. Uncertain, possibly from the Greek *nothos* (spurious) and *pous* (foot) [masculine].

**Diversity.** One North American species in the temperate regions.

**Identification.** Ball (1960b) and Lindroth (1968: 747–748) treated the species.

### *Euryderus grossus* (Say, 1830)

*Amara grossa* Say, 1830b: (7) [3]. Type locality: «Denver [Denver County], Col[orado]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 352), in MCZ [# 32974]. NOTE. «North-West Territory» was the area originally cited by Say (1830b: (7) [3]).

*Euryderus zabroides* LeConte, 1846a: 152. Type locality: «apud flumen Platte supra furcationem» (original citation). Holotype [by monotypy] in MCZ [# 5871]. Synonymy established with doubt by LeConte (1863b: 11), accepted by Ball (1960a: 49).

*Nothopus valens* Casey, 1914: 55. Type locality: «Keokuk [Lee County], Iowa» (original citation for the lectotype). Lectotype [as type], designated by Ball (1960a: 49), in USNM [# 47727]. Synonymy established with doubt by Leng (1920: 70), confirmed by Ball (1960b: 49).

*Nothopus obtusus* Casey, 1914: 56. Type locality: «Colorado» (original citation). Lectotype [as type], designated by Ball (1960a: 49), in USNM [# 47729]. Synonymy established by Ball (1960a: 49).

*Nothopus zabroides privatus* Casey, 1914: 56. Type locality: «El Paso [El Paso County], Texas» (original citation). Lectotype [as type], designated by Ball (1960a: 50), in USNM [# 47726]. Synonymy established by Ball (1960a: 50).

*Nothopus arizonicus* Casey, 1914: 56. Type locality: «Arizona» (original citation). Lectotype [as type], designated by Ball (1960a: 50), in USNM [# 47728]. Synonymy established by Ball (1960a: 50).

**Distribution.** This species ranges from western New York (Ball 1960a: 59, Fig. 3) to the Okanagan Valley in British Columbia (Lindroth 1968: 747), south to northeastern Oregon (Hatch 1953: 165), southern Arizona, southern Texas (Ball 1960a: Fig. 3), southern Louisiana (Allen 1965: 69), and northwestern Mississippi (Bolivar County, Drew A. Hildebrandt pers. comm. 2008), east to southern Georgia (Torres and Ruberson 2006: 32). The records from southeastern Pennsylvania (Rathvon 1869: 526, as *Nothopus zabroides*) and “California” (Leng 1920: 70, as *Nothopus valens*) are probably in error.

**Records.** CAN: AB, BC, MB, ON, SK USA: AR, AZ, CO, GA, IA, ID, IL, IN, KS, LA, MI, MN, MO, MS, MT, ND, NE, NM, NY, OH, OK, OR, SD, TX, UT, WA, WI, WY

### Genus *OPHONUS* Dejean, 1821

*Ophonus* Dejean, 1821: 13. Type species: *Carabus sabulicola* Panzer, 1796 designated by Guérin-Méneville (1827: 244) (see ICZN 1990). Etymology. Uncertain, possibly from the Greek prefix *ob-* (to, toward, against, opposite) modified by the elision of the “*b*” and *phonos* (to slaughter, murder) [masculine]. According to Desmarest (1851: 125), the name derives from the mythological name *Ophioneus*. The name was proposed by Franz Anton Ziegler and made available by Dejean.

**Diversity.** About 70 Palaearctic species arrayed in six subgenera: *Brachyophonus* Sciaky (two species), *Hesperophonus* Antoine (16 species), *Incisophonus* Sciaky (one species), *Macrophonus* Tschitschérine (three species), *Metophonus* (about 40 species), and *Ophonus s.str.* (ten species). A single species is found in the Far East and two species are adventive in the Nearctic Region.

**Identification.** Lindroth (1968: 756-758, as *rufibarbis* group) reviewed both species found in North America and provided a mean for their identification through his key to *Harpalus*. Both species are also included in Noonan’s (1991: 20-45) key to the North American species of *Harpalus* excluding the subgenera *Pseudoophonus* and *Glanodes*.

### Subgenus *Metophonus* Bedel, 1897

*Metophonus* Bedel, 1897: 111. Type species: *Harpalus syriacus* Dejean, 1829 by original designation. Etymology. From the Greek *meta* (between, among, beyond) and the generic name *Ophonus* [*q.v.*] [masculine].

*Sulcophonus* Schauberger, 1933: 130. Type species: *Harpalus sulcifer* Tschitschérine, 1902 (= *Ophonus cribrellus* Reiche and Saulcy, 1855) by monotypy. Synonymy established by Sciaky (1987: 70). Etymology. From the Latin *sulcus* (furrow, groove) and the generic name *Ophonus* [*q.v.*] [masculine].

**Diversity.** About 40 Palaearctic species, of which a single one, *O. stricticollis* Tschitschérine, is found in eastern Asia. Two species are adventive in eastern North America.

***Ophonus puncticeps* Stephens, 1828**

*Ophonus puncticeps* Stephens, 1828a: 163. Type locality: «near Dover [United Kingdom]» (original citation). Lectotype (♂), designated by Lindroth (1968: 757), in BMNH.

**Distribution.** This Palearctic species is adventive in North America where it is known from Prince Edward Island and Nova Scotia (Majka et al. 2006: 606) to eastern Iowa (Linn County, Doug A. Veal pers. comm. 2009), south to southern Pennsylvania [see Larochelle and Larivière 1989b: Fig. 1] and New Jersey (Steffens and Davidson 1979: 64). The first inventoried specimen collected on this continent was found in Long Island, New York, in 1954 (Dietrich 1958: 46).

**Records.** CAN: NB, NS, ON, PE, QC USA: CT, IA, IL, MA, ME, MI, NH, NJ, NY, OH, PA, RI, VT, WI – **Adventive**

***Ophonus rufibarbis* (Fabricius, 1792)**

*Carabus rufibarbis* Fabricius, 1792: 159. Type locality: «Germania» (original citation). Lectotype (♂), designated by Lindroth (1968: 757), in ZMUC.

**Distribution.** This Palearctic species is adventive in North America where it is known from Montreal (Lindroth 1968: 758) and the Quebec City region (Landry and Rancourt 1976: 53; CNC) in Quebec. The first inventoried specimen collected on this continent was found in Montreal in 1953.

**Records.** CAN: QC – **Adventive**

**Genus *Harpalus* Latreille, 1802**

*Harpalus* Latreille, 1802: 92. Type species: *Carabus proteus* Paykull, 1790 (= *Carabus affinis* Schrank, 1781) designated by Andrewes (1935: 19). Etymology (see Latreille 1804: 325). From the Greek *harpaleos* (grasping, greedy, voracious, by extension living by plunder) [masculine]. According to Mulsant (1830: 327), so named “à cause de la guerre qu’ils font aux insectes plus faibles qu’eux.” NOTE. As stated by Andrewes (1935) and Noonan (1976: 31), the first valid type species designation for *Harpalus* Latreille is *Carabus ruficornis* Fabricius, 1775 (= *Carabus rufipes* DeGeer, 1774) as designated by Latreille (1810: 426). This species is currently included in the subgenus *Pseudoophonus* Motschulsky, 1844. Acceptance of Latreille’s designation would require nomenclatural changes at the subgeneric level within the genus *Harpalus*. A request should be addressed to the Commission to suppress Latreille’s designation. A first request was postponed (ICZN 1950).

*Harpaleus* Billberg, 1820: 23. Unjustified emendation of *Harpalus* Latreille, 1802.

**Diversity.** About 415 species (Lorenz 2005: 363–372) in the Nearctic, Neotropical (Mexico only), Australian (one adventive species in New Zealand), Oriental, Palearctic, and Afrotropical Regions. The Northern Hemisphere is represented by about 360 species (roughly 87% of the world fauna) and North America alone by 59 species (approximately 14%). Five species are Holarctic and three North American species are adventive.

**Subgenus *Pseudoophonus* Motschulsky, 1844**

*Holosus* Fischer von Waldheim, 1829a: 21 [potential *nomen oblitum*, see Bousquet (2002c: 176)]. Type species: *Carabus ruficornis* Fabricius, 1775 (= *Carabus rufipes* DeGeer, 1774) designated by Bousquet (2002c: 176). Etymology. Uncertain, possibly from the Greek *holos* (whole, entire) and *sos* (sound) [masculine].

*Pseudoophonus* Motschulsky, 1844: 196 [potential *nomen protectum*]. Type species: *Carabus ruficornis* Fabricius, 1775 (= *Carabus rufipes* DeGeer, 1774) designated by Desmarest (1851: 124). Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Ophonus* [*q.v.*] [masculine]. NOTE. *Pseudophonus* is an incorrect subsequent spelling, introduced by Ménétriés (1848: 37), not in prevailing usage.

*Empeirus* Motschulsky 1844: 197 (as *Empeinus*). Type species: *Harpalus pastor* Motschulsky, 1844 designated by Noonan (1976: 36). Synonymy established by Kataev (2002: 192). NOTE. Motschulsky originally used the spelling *Empeinus* (p. 197) but corrected it to *Empeirus* in his corrigendum (p. xi) issued simultaneously with the original work. Therefore *Empeirus* is the correct original spelling (ICZN 1999: Article 32.5.1.1) despite that Motschulsky used *Empeinus* in his subsequent publications (1848: 487; 1850a: vii, 25).

*Platus* Motschulsky, 1844: 197. Type species: *Harpalus calcitrapus* Motschulsky, 1844 (= *Carabus calceatus* Duftschmid, 1812) designated by Noonan (1976: 33).

*Pardileus* des Gozis 1882: 289. Type species: *Carabus calceatus* Duftschmid, 1812 by original designation. Synonymy established by Ball and Anderson (1962: 4).

*Migadophonus* Tschitschérine, 1897: 47. Type species: *Ophonus aenigma* Tschitschérine, 1897 by monotypy. Synonymy established by Habu (1968: 287). Etymology. From the Greek *migados* (mixed pell-mell) and the generic name *Ophonus* [*q.v.*] [masculine].

*Neopardileus* Habu, 1954b: 281. Type species: *Ophonus itoshimanus* Habu, 1954 (= *Carabus calceatus* Duftschmid, 1812) by monotypy. Etymology. From the Greek prefix *neo-* (new) and the generic name *Pardileus* [masculine].

**Diversity.** About 60 species in North America (13 species), Mexico (four species, one of them, *H. alienus* Bates, endemic), Asia (about 45 species), and Europe and northern Africa (three species, none endemic).

**Identification.** Ball and Anderson (1962) revised the North American species and provided a key for their identification. Lindroth (1968: 758-765) covered ten species. Subsequently one new species was described by Will (2002a).

**[compar group]*****Harpalus actiosus* Casey, 1914**

*Harpalus actiosus* Casey, 1914: 79. Type locality: «Keokuk [Lee County], Iowa» (original citation for the lectotype). Lectotype (♂), designated by Ball and Anderson (1962: 67), in USNM [# 47759].

*Harpalus pubitarsis* Casey, 1914: 82. Type locality: «probably Indiana» (original citation for the lectotype). Lectotype (♂), designated by Ball and Anderson

(1962: 67), in USNM [# 47762]. Synonymy established by Ball and Anderson (1962: 67).

**Distribution.** This species ranges from New Jersey and Virginia to northeastern North Dakota, south to the Gulf Coast of Texas and northwestern Mississippi (Bolivar County, Drew A. Hildebrandt pers. comm. 2007); also known from north-central Colorado [see Ball and Anderson 1962: Fig. 39].

**Records. USA:** AR, CO, IA, IL, IN, KS, MD, MO, MS, ND, NE, NJ, OH, OK, PA, SD, TX, VA, WI

### *Harpalus compar* LeConte, 1847

*Carabus bicolor* Fabricius, 1775: 241 [primary homonym of *Carabus bicolor* Drury, 1773]. Type locality: «America» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1968: 763). Lectotype (♀), designated by Lindroth (1968: 763) in ZMUC.

*Harpalus compar* LeConte, 1847: 395. Type locality: United States east of the Rocky Mountains (inferred from title of the paper). Lectotype (♀), designated by Ball and Anderson (1962: 70), in MCZ [# 5895]. Synonymy established by Ball and Anderson (1962: 70).

*Harpalus nactus* Casey, 1914: 82. Type locality: «Arizona» (original citation). Lectotype (♀), designated by Ball and Anderson (1962: 70), in USNM [# 47773]. Synonymy established by Hatch (1932: 174), confirmed by Ball and Anderson (1962: 70).

*Harpalus feroculus* Casey, 1924: 98. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Holotype [by monotypy] (♀) in USNM [# 47760]. Synonymy established with doubt by Hatch (1932: 174), confirmed by Ball and Anderson (1962: 70).

*Harpalus admissus* Casey, 1924: 99. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation for the lectotype). Lectotype (♂), designated by Ball and Anderson (1962: 70), in USNM [# 47772]. Synonymy established by Ball and Anderson (1962: 70).

*Harpalus excubans* Casey, 1924: 99. Type locality: «Watch Hill [Washington County], Rhode Island» (original citation). Lectotype (♂), designated by Lindroth (1975: 137), in USNM [# 47775]. Synonymy established with doubt by Lindroth (1968: 763). NOTE. Ball and Anderson (1962: 79) regarded the lectotype of *H. excubans* Casey as an hybrid *erythropus* x *bicolor*. Lindroth (1968: 764) believed the specimen was probably a small *H. bicolor*.

**Distribution.** This species ranges from Nova Scotia to southern Manitoba, south to southeastern Arizona, southeastern Texas, and central Florida [see Ball and Anderson 1962: Fig. 39].

**Records. CAN:** MB, NS, ON, QC **USA:** AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY



***Harpalus erythropus* Dejean, 1829**

*Harpalus erythropus* Dejean, 1829: 258. Type locality: «Amérique septentrionale» (original citation), restricted to «Dorchester [Suffolk County], Mass[achusetts]» by Lindroth (1968: 764). One syntype in MHNP (Lindroth 1955b: 27).

*Harpalus rufopiceus* Casey, 1914: 80. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype (♀), designated by Ball and Anderson (1962: 76), in USNM [# 47765]. Synonymy established by Hatch (1932: 174), confirmed by Ball and Anderson (1962: 76).

*Harpalus deludens* Casey, 1914: 80. Type locality: «Keokuk [Lee County], Iowa» (original citation). Lectotype (♀), designated by Ball and Anderson (1962: 77), in USNM [# 47763]. Synonymy established by Hatch (1932: 174), confirmed by Ball and Anderson (1962: 76).

*Harpalus effetus* Casey, 1914: 81. Type locality: «Willeys Point [Queens County], Long Island, New York» (original citation). Holotype [by monotypy] (♂) in USNM [# 47769]. Synonymy established by Hatch (1932: 174), confirmed by Ball and Anderson (1962: 76).

*Harpalus fenisex* Casey, 1914: 81. Type locality: «S[ain]t Louis, Missouri» (original citation). Holotype [by monotypy] (♂) in USNM [# 47767]. Synonymy established by Hatch (1932: 174), confirmed by Ball and Anderson (1962: 76).

*Harpalus abstrusus* Casey, 1914: 87. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♂), designated by Ball and Anderson (1962: 79), in USNM [# 47764]. Synonymy established with doubt by Lindroth (1968: 764). NOTE. Ball and Anderson (1962: 76) regarded the lectotype of *H. abstrusus* Casey as an hybrid *erythropus* x *bicolor*. Lindroth (1968: 764) believed the specimen was probably an abnormal *H. erythropus*.

*Harpalus cupiens* Casey, 1924: 98. Type locality: «northern Illinois» (original citation). Holotype [by monotypy] (♀) in USNM [# 47766]. Synonymy established with doubt by Hatch (1932: 174), confirmed by Ball and Anderson (1962: 76).

**Distribution.** This species is widely distributed east of the Rocky Mountains from Nova Scotia (Lindroth 1968: 764) to southern Manitoba, south to north-central Colorado, southern Oklahoma, and central Florida [see Ball and Anderson 1962: Fig. 39]. The record from south-central Montana (Hatch 1933a: 10) is probably in error.

**Records.** CAN: MB, NS, ON, QC USA: AL, AR, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, VA, VT, WI, WV, WY

***Harpalus paratus* Casey, 1924**

*Harpalus paratus* Casey, 1924: 100. Type locality: «Akron [Washington County], Colorado» (original citation for the lectotype). Lectotype (♂), designated by Ball and Anderson (1962: 73), in USNM [# 47771].

*Harpalus spaldingi* Casey, 1924: 103. Type locality: «Vineyard [Utah County], Utah» (original citation). Holotype [by monotypy] (♂) in USNM [# 47768]. Synonymy established by Ball and Anderson (1962: 74).

**Distribution.** This primarily prairie species ranges from southeastern Michigan to southern Alberta, south to central Arizona and the Rio Grande Basin in south-central Texas [see Ball and Anderson 1962: Fig. 39]. According to Ball and Anderson (1962: 76), the species is also found in “Mexico.” The records from “Arkansas” and “Pennsylvania” (Bousquet and Larochelle 1993: 232) need confirmation.

**Records.** CAN: AB, SK USA: AZ, CO, IA, ID, IN, KS, MI, MN, ND, NE, NM, OH, OK, SD, TX, UT, WI [AR, PA] – Mexico

### *Harpalus vagans* LeConte, 1865

*Harpalus longicollis* LeConte, 1847: 396 [primary homonym of *Harpalus longicollis* Rambur, 1838]. Type locality: «NovEboraci [= New York]» (original citation). Lectotype (♂), designated by Ball and Anderson (1962: 64), in MCZ [# 5887].

*Harpalus vagans* LeConte, 1865b: 102. Type locality: «western states» (original citation). Lectotype (♀), designated by Ball and Anderson (1962: 64), in MCZ [# 5886]. Synonymy established by Ball and Anderson (1962: 64).

*Harpalus haldemani* Casey, 1914: 79. Type locality: «Pennsylvania» (original citation). Lectotype (♀), designated by Ball and Anderson (1962: 64), in USNM [# 47766]. Synonymy established by Ball and Anderson (1962: 64).

*Harpalus dolosus* Casey, 1914: 84. Type locality: «R[hode] I[sland]» (lectotype label). Lectotype (♀), designated by Ball and Anderson (1962: 79), in USNM [# 47778]. Synonymy established by Lindroth (1968: 762). NOTE. Ball and Anderson (1962: 79) regarded the lectotype of *H. dolosus* Casey as an hybrid *erythropus* x *bicolor*. Lindroth (1968: 764) believed the specimen was conspecific with members of *H. longicollis*.

*Harpalus latescans* Casey, 1924: 97. Type locality: «Pennsylvania» (original citation). Lectotype (♂), designated by Ball and Anderson (1962: 64), in USNM [# 47758]. Synonymy established by Hatch (1932: 174), confirmed by Ball and Anderson (1962: 64).

**Distribution.** This eastern species occurs from the Saguenay River in southern Quebec to eastern South Dakota, south to central Kansas, southern Mississippi, and southwestern Georgia [see Ball and Anderson 1962: Fig. 39]. The record from “Nova Scotia” (Bousquet and Larochelle 1993: 231) was based on a misidentified specimen of *Harpalus erythropus* (Majka and Bousquet 2008: 474).

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, GA, IA, IL, IN, KS, MA, MD, MI, MO, MS, NC, NJ, NY, OH, OK, PA, RI, SC, SD, TN, VA, VT, WI, WV

[**pensylvanicus group**]***Harpalus liobasis* Chaudoir, 1868**

*Harpalus mexicanus* Chaudoir, 1837b: 46 [primary homonym of *Harpalus mexicanus* Dejean, 1828]. Type locality: «Mexique» (original citation). Syntype(s) probably in MHNP.

*Harpalus liobasis* Chaudoir, 1868b: 170. Type locality: «côte occidentale de l'Amérique septentrionale» (original citation). Holotype [by monotypy; designated lectotype by Lindroth (1968: 761)] (♂) in MHNP. Synonymy established by Erwin et al. (1977: 4.48)].

*Harpalus montezumae* Csiki, 1932a: 1183. Replacement name for *Harpalus mexicanus* Chaudoir, 1837.

**Distribution.** This species is known only from “Arizona” (Erwin et al. 1977: 4.48) and “Mexico” (Bates 1882a: 57). The record from “near Philadelphia,” Pennsylvania (Casey 1914: 82) is likely in error.

**Records. USA:** AZ – Mexico

**Note.** Ball and Anderson (1962: 45) listed *H. liobasis* Chaudoir as a junior synonym of *H. pensylvanicus* but Lindroth (1968: 761) treated it as a distinct species.

***Harpalus pensylvanicus* (DeGeer, 1774)**

*Carabus pensylvanicus* DeGeer, 1774: 108. Type locality: «Pensylvanie» (original citation). Lectotype (♂), designated by Lindroth (1968: 760), in NRSS.

*Harpalus longior* Kirby, 1837: 43. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), which according to Lindroth (1968: 760) is probably incorrect. Two syntypes [2 originally cited] in BMNH (Lindroth 1953b: 174). Synonymy established by Lindroth (1953b: 174).

*Harpalus pennsylvanicus mormonicus* Casey, 1914: 86. Type locality: «Utah» (original citation). Lectotype (♂), designated by Ball and Anderson (1962: 47), in USNM [# 47779]. Synonymy established by Hatch (1932: 174), confirmed by Ball and Anderson (1962: 47).

*Harpalus immixtus* Casey, 1924: 97. Type locality: «Keene Valley, Adirondack M[oun]t[ain]s [Essex County], New York» (original citation). Lectotype (♂), designated by Ball and Anderson (1962: 47), in USNM [# 47761]. Synonymy established by Ball and Anderson (1962: 47).

**Distribution.** This common species occurs over a large area in North America from Prince Edward Island (Lindroth 1968: 761) and Nova Scotia to south-central British Columbia, south to southern California, northwestern Mexico, southeastern Texas, southern Florida, and the Bahamas [see Ball and Anderson 1962: Fig. 38].

**Records. CAN:** BC, MB, NB, NS, ON, PE, QC, SK **USA:** AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY – Bahamas, Mexico

***Harpalus protractus* Casey, 1914**

*Harpalus protractus* Casey, 1914: 85. Type locality: «S[ain]t Louis, Missouri» (original citation). Holotype [by monotypy] (♂) in USNM [# 47776].

*Harpalus thoracinus* Casey, 1914: 85. Type locality not stated. Holotype [by monotypy] (♂) in USNM [# 47770]. Synonymy established by Ball and Anderson (1962: 57).

**Distribution.** This species is found from Maryland to southern Nebraska (Nuckolls County, Foster F. Purrington pers. comm. 2011), south to south-central Oklahoma, northern Louisiana, and east-central Alabama [see Ball and Anderson 1962: Fig. 38].

**Records. USA:** AL, GA, IL, IN, KS, KY, LA, MD, MO, MS, NC, NE, OH, OK, SC, TN, VA, WV

***Harpalus texanus* Casey, 1914**

*Harpalus texanus* Casey, 1914: 83. Type locality: «Austin [Travis County], Texas» (original citation). Lectotype (♀), designated by Ball and Anderson (1962: 51), in USNM [# 47777].

**Distribution.** This species is restricted to the Coastal Plain ranging from south-central North Carolina to southern Florida, west to eastern Texas [see Ball and Anderson 1962: Fig. 38].

**Records. USA:** FL, GA, MS, NC, TX

**[rufipes group]*****Harpalus faunus* Say, 1823**

*Harpalus faunus* Say, 1823a: 28. Type locality: «Penn[sylvania]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 352), in MCZ [# 32970].

*Harpalus badius* Dejean, 1829: 254. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 27). Synonymy established with doubt by Brullé (1835c: 286), confirmed by Lindroth (1955b: 27). NOTE. Dejean (1829: 256) noted that the unique specimen of *H. badius* he had was a female.

*Harpalus convivus* LeConte, 1865b: 102. Type locality: «New York» (original citation). Lectotype (♀), designated by Ball and Anderson (1962: 38), in MCZ [# 5885]. Synonymy established by Ball and Anderson (1962: 38).

**Distribution.** This species ranges from southwestern Maine (Majka et al. 2011: 46) and southern Quebec (Laroche 1975: 87) to western North Dakota, south to western (Dajoz 2007: 23) and northeastern Texas, southeastern Louisiana, and the Florida Panhandle (Peck and Thomas 1998: 21); also known from northern (Villa-Castillo and Wagner 2002: 246) and east-central Arizona [see Ball and Anderson 1962: Fig. 37].

**Records. CAN:** MB, ON, QC **USA:** AR, AZ, CO, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV



***Harpalus hatchi* Ball and Anderson, 1962**

*Harpalus hatchi* Ball and Anderson, 1962: 41. Type locality: «Harvey County, Kansas» (original citation). Holotype (♂) in SMEK [# 6478] (Byers and Karren 1968: 3).

**Distribution.** This species is known only from three specimens collected in Kansas (Ball and Anderson 1962: 43) and five specimens from central Oklahoma (Seminole County, Robert L. Davidson pers. comm. 2008).

**Records. USA:** KS, OK

***Harpalus rufipes* (DeGeer, 1774)**

*Carabus rufipes* DeGeer, 1774: 96. Type locality not stated; «Sweden» selected by Lindroth (1968: 759). Lectotype (♂), designated by Lindroth (1968: 759), in NRSS. *Carabus ruficornis* Fabricius, 1775: 241 [primary homonym of *Carabus ruficornis* DeGeer, 1774]. Type locality: «Europa» (original citation). Lectotype (♂), designated by Lindroth (1968: 759), in ZMUC. Synonymy established by Schönherr (1806: 182).

**Distribution.** This adventive species is found from Newfoundland (Larson and Langor 1982: 593) to near Montreal, Quebec (Mercado Cárdenas and Buddle 2007: 140), south to Connecticut (Krinsky and Oliver 2001: 210) and Rhode Island (Zhang et al. 1994: 69). The record from Wayne County, New York (Hajek et al. 2007) is in error (see Hajek et al. 2009: 913). The first inventoried specimen collected on this continent was found on Prince Edward Island in 1937 (Brown 1950b: 199).

**Records. FRA:** PM **CAN:** NB, NF, NS (CBI), PE, QC **USA:** CT, MA, ME, NH, RI, VT – **Adventive**

[*incertae sedis*]

***Harpalus poncei* Will, 2002**

*Harpalus poncei* Will, 2002a: 448. Type locality: «Naples [Collier County], Fl[orid]a» (original citation). Holotype (♂) in CUIIC [# 7161]. Etymology. The specific name honors the Spanish explorer Juan Ponce de León [1460-1521] who died in Cuba of wounds sustained during an expedition against the Carib Indians of Guadeloupe.

**Distribution.** This species is known only from two specimens collected in 1963 in two localities in Florida, along the coast of the Gulf of Mexico [see Will 2002a: Fig. 5].

**Records. USA:** FL

**Subgenus *Megapangus* Casey, 1914**

*Megapangus* Casey, 1914: 71. Type species: *Carabus caliginosus* Fabricius, 1775 by monotypy. Etymology. From the Greek *megas* (large) and the generic name *Pangus* [masculine].

**Diversity.** Two North American species, both extending into northern Mexico.



**Identification.** Will (1997) reviewed the species of this subgenus and provided a key for their identification.

**Taxonomic Note.** This taxon is listed as a synonym of *Pseudoophonus* Motschulsky by Kataev et al. (2003: 384).

### *Harpalus caliginosus* (Fabricius, 1775)

*Carabus caliginosus* Fabricius, 1775: 240. Type locality: «America» (original citation), restricted to «Hope [Hempstead County], Arkansas» by Lindroth (1968: 765). Lectotype (♂), designated by Lindroth (1968: 765), in ZMUC.

*Harpalus caliginosus dux* Casey, 1924: 94. Type locality: «southern Illinois» (original citation). Lectotype (♀), designated by Lindroth (1975: 138), in USNM [# 47741]. Synonymy established by Lindroth (1968: 765).

**Distribution.** This species ranges from Nova Scotia (King County, CNC) to Washington, north to southern Manitoba (Lindroth 1968: 765) and southern Saskatchewan (CNC), south to the northern part of the Baja California Peninsula, northeastern Mexico, and northern Florida [see Will 1997: Fig. 1A].

**Records.** CAN: MB, NS, ON, QC, SK USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY – Mexico

### *Harpalus katiae* Battoni, 1985

*Harpalus katiae* Battoni, 1985: 356. Type locality: «Burkburnett at Red river, Wichita Co[unty], Texas» (original citation). Holotype (♂) location unknown.

**Distribution.** This species ranges from northern Colorado (Will 1997: 47) to southern Virginia (Hoffman and Roble 2000: 37), north to Wisconsin (Purrington et al. 2002: 201), south to northern Florida, northeastern Mexico (Will 1997: 47, 49), southeastern New Mexico (Dunn 1986: 2), and southeastern Arizona (Cochise County, Ken Karns pers. comm. 2009) [see Will 1997: Fig. 1B].

**Records.** USA: AL, AR, AZ, CO, GA, FL, IL, LA, MO, MS, NC, NE, NM, OK, SC, TN, TX, VA, WI – Mexico

### Subgenus *Plectralidus* Casey, 1914

*Plectralidus* Casey, 1914: 72. Type species: *Harpalus erraticus* Say, 1823 designated by El-Moursy (1959: 37). Etymology. From the Greek *plectron* (spur), probably alluding to the dentiform process on the elytral edge delimiting laterally the subapical sinuation («external dentition of the elytral apices») [masculine].

**Diversity.** Two North American species.

**Identification.** El-Moursy (1959) and Noonan (1991: 131-135) revised the species. Both species were also treated by Lindroth (1968: 766-767).

***Harpalus erraticus* Say, 1823**

*Harpalus erraticus* Say, 1823a: 27 (as *eraticus*). Type locality: «Medora [Reno County], K[ansa]s» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 352), in MCZ [# 32973]. NOTE. The incorrect subsequent spelling *erraticus*, introduced by Harris (1833: 568), is in prevailing usage and attributed to the publication of the original spelling; therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Harpalus caudalis* Casey, 1914: 73. Type locality: «S[ain]t L[ouis], M[iss]o[uri]» (lectotype label). Lectotype (♂), designated by Lindroth (1975: 138), in USNM [# 47742]. Synonymy established by El-Moursy (1959: 41).

**Distribution.** This species occurs east of the Rocky Mountains ranging from southern Quebec to southeastern Alberta, south to central New Mexico, southern Kansas, central Alabama [see Noonan 1991: Fig. 285], and southeastern South Carolina (Ciegler 2000: 100).

**Records.** CAN: AB, MB, ON, QC, SK USA: AL, AR, AZ, CO, CT, DC, DE, GA, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, MS, MT, ND, NE, NH, NJ, NM, NY, OH, RI, SC, SD, TN, VT, WI

***Harpalus retractus* LeConte, 1863**

*Harpalus impiger* LeConte, 1854c: 79 [secondary homonym of *Harpalus impiger* (Duftschmid, 1812)]. Type locality: «Santa Fe, New Mexico; Frontera [New Mexico]» (original citation), restricted to «Santa Fe [Santa Fe County]» by Lindroth (1968: 767). Lectotype (♂), designated by Noonan (1991: 134), in MCZ [# 5884].

*Harpalus retractus* LeConte, 1863b: 13. Replacement name for *Harpalus impiger* LeConte, 1854.

*Harpalus collucens* Casey, 1914: 73. Type locality: «Fort Wingate [McKinley County], New Mexico» (original citation). Lectotype (♂), designated by Noonan (1991: 134), in USNM [# 47743]. Synonymy established by El-Moursy (1959: 41).

*Harpalus acomanus* Casey, 1914: 73. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Twelve syntypes [12 originally cited] in USNM [# 47744]. Synonymy established by El-Moursy (1959: 41).

*Harpalus rectangulus* Casey, 1914: 74. Type locality: «Arizona» (original citation). Holotype [by monotypy] (♂) in USNM [# 47745]. Synonymy established by El-Moursy (1959: 41).

**Distribution.** This species is restricted to mountains in “Utah” (Noonan 1991: 135), Arizona, New Mexico, and southern Colorado [see Noonan 1991: Fig. 285]. The record from “Mexico” (Csiki 1932a: 1186) is probably in error.

**Records.** USA: AZ, CO, NM, UT

### Subgenus *Opadius* Casey, 1914

*Opadius* Casey, 1914: 66. Type species: *Cratognathus cordatus* LeConte, 1853 by original designation. Etymology. Possibly from the Greek *opados* (accompanying, attending) [masculine].

*Pharalus* Casey, 1914: 68. Type species: *Pangus testaceus* LeConte, 1853 (= *Harpalus indianus* Csiki, 1932) by monotypy. **New synonymy.** Etymology. Anagram of the generic name *Harpalus* [*q.v.*] [masculine].

*Euharpalops* Casey, 1924: 116. Type species: *Euharpalops wadei* Casey, 1924 (= *Harpalus fraternus* LeConte, 1852) by original designation. **New synonymy.** Etymology. From the Greek *eu* (good, agreeable, very), the generic name *Harpalus* [*q.v.*], and the suffix *-ops* (having the appearance of) [masculine].

*Haploharpalus* Schauburger, 1926: 44. Type species: *Harpalus froelichii* Sturm, 1818 designated by Habu (1973a: 68). **New synonymy.** Etymology. From the Greek prefix *haplo-* (single) and the generic name *Harpalus* [*q.v.*] [masculine].

*Cordoharpalus* Hatch, 1949a: 87. Type species: *Harpalus cordifer* Notman, 1919 by original designation. Synonymy established by Bousquet and Larochelle (1993: 234). Etymology. From the Latin *cordis* (heart) and the generic name *Harpalus* [*q.v.*] [masculine].

**Diversity.** This group is represented in the Nearctic and Palaearctic Regions but the number of species cannot be assessed at this time. The North American fauna has 19 species.

**Identification.** The species of this subgenus have been revised by Noonan (1991: 45-127). Lindroth (1968) covered all the species except *H. gravis*, *H. cordatus*, and *H. apache*.

**Taxonomic Note.** This taxon corresponds to the *fraternus* stock of Noonan (1991: 45). Although I have doubt about monophyly of this complex, I have followed Noonan's (1991) conclusion since it is the last major study on these species. Kataev et al. (2003: 371) listed *Opadius* Casey and its synonyms as synonyms of the subgenus *Harpalus* Latreille. In 2010, Kataev included *H. apache* and *H. cordatus* (as *cordatus* group) in the subgenus *Glanodes* Casey.

#### [*cordatus* group]

### *Harpalus apache* Kataev, 2010

*Harpalus apache* Kataev, 2010: 829. Type locality: «near Santa Rosa, Guadalupe Co[unty], N[ew] M[exico]» (original citation). Holotype (♂) in FMNH.

**Distribution.** This species is known only from the type locality in east-central New Mexico.

**Records. USA:** NM

***Harpalus cordatus* (LeConte, 1853)**

*Cratognathus cordatus* LeConte, 1853c: 381. Type locality: «New Mexico» (original citation), herein restricted to Albuquerque, Bernalillo County (see Noonan 1991: 99). Lectotype (♀), designated by Noonan (1991: 95), in MCZ [# 5913].

*Harpalus tadorcus* Ball, 1972: 185. Replacement name for *Harpalus cordatus* (LeConte, 1853).

**Distribution.** This species is restricted to arid grasslands in eastern Arizona, southern Colorado, and New Mexico [see Noonan 1991: Fig. 276].

**Records. USA:** AZ, CO, NM

**Note.** Ball (1972: 185) proposed *H. tadorcus* to replace *H. cordatus* (LeConte, 1853), a junior secondary homonym of *H. cordatus* (Duftschmid, 1812), both species being then placed in the genus *Harpalus*. Since Duftschmid's species is currently included in the genus *Ophonus* and the replacement name was proposed after 1960, the original species-group name is to be reinstated (ICZN 1999: Article 59.4).

***Harpalus cordifer* Notman, 1919**

*Harpalus cordifer* Notman, 1919b: 235. Type locality: «Br[itish] Col[umbia]» (original citation), herein restricted to Mission City (CNC). Lectotype (♂), designated by Noonan (1991: 93), in SIM.

*Harpalus washingtoniensis* Van Dyke, 1926a: 123. Type locality: «Port Angeles [Clallam County], Washington» (original citation). Holotype (♂) in CAS [# 1865]. Synonymy established by Hatch (1949a: 87), confirmed by Lindroth (1968: 786).

**Distribution.** This species ranges from the Alexander Archipelago and northwestern British Columbia south to southwestern Oregon, east to eastern Washington [see Noonan 1991: Fig. 276].

**Records. CAN:** BC (VCI) **USA:** AK, OR, WA

**[desertus group]*****Harpalus desertus* LeConte, 1859**

*Harpalus desertus* LeConte, 1859c: 3. Type locality: «near Santa Fé [Santa Fe County, New Mexico]» (original citation as deduced from page vi). Holotype [by monotypy] (♀) in MCZ [# 5907].

*Harpalus furtivus* LeConte, 1865b: 103. Type locality: «Colorado Territory» (original citation), restricted to «Colorado» by Noonan (1991: 116). Holotype [by monotypy] (♂) in MCZ [# 5905]. Synonymy established by Noonan (1991: 116).

*Harpalus lucidus* LeConte, 1865b: 104 [primary homonym of *Harpalus lucidus* Morawitz, 1863]. Type locality: «Nebraska [Territory], near the Rocky Mountains [probably in present day Colorado]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5908]. Synonymy established by Lindroth (1968: 810).



- Harpalus clandestinus* LeConte, 1878a: 450. Type locality: «[Fort] Garland (8,000 feet) [Costilla County], Col[orado]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 3904]. Synonymy established by Noonan (1991: 116).
- Harpalus lustrans* Casey, 1884a: 64. Replacement name for *Harpalus lucidus* LeConte, 1865.
- Harpalus probatus* Casey, 1914: 119. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation for the lectotype). Lectotype (♂), designated by Noonan (1991: 117), in USNM [# 47849]. Synonymy established by Noonan (1991: 117).
- Harpalus nitescans* Casey, 1914: 119. Type locality: «Socorro Co[unty], New Mexico» (original citation). Lectotype (♂), designated by Noonan (1991: 116), in USNM [# 47847]. Synonymy established by Noonan (1991: 117).
- Harpalus clientus* Casey, 1914: 120. Type locality: «Socorro Co[unty], New Mexico» (original citation). Lectotype (♀), designated by Noonan (1991: 116), in USNM [# 47850]. Synonymy established by Noonan (1991: 116).
- Harpalus malacus* Casey, 1914: 121. Type locality: «New Mexico» (original citation). Holotype [by monotypy] (♂) in USNM [# 47848]. Synonymy established by Noonan (1991: 116).
- Harpalus illectus* Casey, 1914: 121. Type locality: «Virgin River [Clark County], Utah» (original citation). Holotype [by monotypy] (♂) in USNM [# 47852]. Synonymy established by Noonan (1991: 116).
- Harpalus nugax* Casey, 1914: 122. Type locality: «New Mexico» (original citation). Lectotype (♀), designated by Noonan (1991: 117), in USNM [# 47851]. Synonymy established by Noonan (1991: 117).
- Harpalus vacivus* Casey, 1914: 123. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47853]. Synonymy established by Lindroth (1968: 810).
- Harpalus socors* Casey, 1914: 124. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Noonan (1991: 117), in USNM [# 47854]. Synonymy established by Noonan (1991: 117).
- Harpalus curticornis* Casey, 1914: 124. Type locality: «Salida [Chaffee County], Colorado» (original citation). Lectotype (♂), designated by Noonan (1991: 116), in USNM [# 47853]. Synonymy established by Noonan (1991: 116).
- Harpalus cyrtonotoides* Notman, 1919b: 234 [*nomen dubium*]. Type locality: «Col[orado]» (original citation). Syntype(s) [2 ♂ originally cited] location unknown (originally in collection C.W. Leng). **New synonymy.** NOTE. *Harpalus cyrtonotoides* is here considered a doubtful synonym of *H. desertus* LeConte based on comment made by Ball and Bousquet (2000: 98).
- Harpalus maxwelli* Casey, 1924: 108. Type locality: «Maxwell [Colfax County], New Mexico» (original citation). Holotype [by monotypy] (♂) in USNM [# 47856]. Synonymy established by Noonan (1991: 117).
- Harpalus dulciculus* Casey, 1924: 109. Type locality: «Akron [Washington County], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47830]. Synonymy established by Lindroth (1968: 810).



*Harpalus captiosus* Casey, 1924: 110. Type locality: «Akron [Washington County], Colorado» (original citation). Holotype [by monotypy] (♀) in USNM [# 47831]. Synonymy established by Lindroth (1968: 810).

*Harpalus metuens* Casey, 1924: 110. Type locality: «Arizona» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 140), in USNM [# 47829]. Synonymy established by Lindroth (1968: 810).

*Harpalus maxwellensis* Csiki, 1932a: 1183. Unjustified emendation of *Harpalus maxwelli* Casey, 1924.

*Harpalus couleensis* Hatch, 1949a: 87. Type locality: «Upper Grand Coulee [Grant County, Washington]» (original citation). Holotype (♂) in USNM. Synonymy established, under the name *H. lustrans* Casey, by Hatch (1953: 171), confirmed by Lindroth (1968: 810).

**Distribution.** This western species occurs from south-central British Columbia to western Minnesota (Gandhi et al. 2005: 930), south to east-central and westernmost Texas, southern Arizona, and northern California [see Noonan 1991: Figs 279-282].

**Records.** CAN: AB, BC, SK USA: AZ, CA, CO, ID, KS, MN, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WY

**Note.** Noonan (1991: 119-124) recognized two morphs within this species, the *desertus* and *furtivus* morphs, that Lindroth (1968: 809) regarded as distinct species. Noonan (1991: 124) indicated that intergradation between the two morphs occurs throughout the areas in which the *furtivus* morph occurs.

### *Harpalus gravis* LeConte, 1858

*Harpalus gravis* LeConte, 1858b: 60. Type locality: «San Antonio [Bexar County], Texas» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5911].

**Distribution.** This species is found along the Coastal Plain and Piedmont Plateau from southeastern New York and New Jersey to northern Florida, west to southeastern Oklahoma and southeastern Texas [see Noonan 1991: Fig. 270]. The record from southwestern Ohio (Blatchley 1910: 186) is probably in error.

**Records.** USA: AL, AR, FL, GA, LA, MO, MS, NC, NJ, NY, OK, SC, TX, VA

### *Harpalus indianus* Csiki, 1932

*Pangus testaceus* LeConte, 1853c: 385 [secondary homonym of *Harpalus testaceus* Hal-deman, 1843]. Type locality: «Illinois» (original citation), herein restricted to Chicago, Cook County (see Noonan 1991: 115). Lectotype (♀), designated by Noonan (1991: 113), in MCZ [# 5910]. NOTE. The lectotype designated by Noonan (1991: 113) is labeled “Io[w]a” and is probably not a syntype. One specimen with a yellow disc (which includes Illinois) in the LeConte collection (MCZ) may be one of the two syntypes cited originally by LeConte (1853c: 385).

*Harpalus indianus* Csiki, 1932a: 1186. Replacement name for *Harpalus testaceus* (LeConte, 1853).

**Distribution.** This species ranges from southernmost Ontario (Bousquet 1987a: 130) to southeastern South Dakota (Kirk and Balsbaugh 1975: 28), south to southeastern Kansas (Noonan 1991: 115) and northern Mississippi (Drew A. Hildebrandt pers. comm. 2007). Two old specimens simply labeled from Louisiana and Florida are known (Noonan 1991: 115).

**Records.** CAN: ON USA: AR, IA, IL, IN, KS, MI, MO, MS, NE, OH, SD, TN, WI [FL, LA]

### [*laticeps* group]

#### *Harpalus animosus* Casey, 1924

*Harpalus montanus* LeConte, 1865b: 102 [primary homonym of *Harpalus montanus* Sturm, 1818]. Type locality: «Colorado Territory» (original citation), restricted to «Colorado» by Noonan (1991: 46). Lectotype (♂), designated by Noonan (1991: 46), in MCZ [# 5898].

*Harpalus animosus* Casey, 1924: 101. Type locality: «Miner's Peak [Iron County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 138), in USNM [# 47783]. Synonymy established by Lindroth (1968: 774).

*Harpalus montuosus* Csiki, 1932a: 1183. Replacement name for *Harpalus montanus* LeConte, 1865.

**Distribution.** This western species occurs from northwestern British Columbia to southwestern Saskatchewan, south to north-central New Mexico and northern Arizona in the Rocky Mountains and to northern Oregon along the coast [see Noonan 1991: Fig. 267]. The record from south-central South Dakota (Kirk and Balsbaugh 1975: 29, as *H. montuosus*) needs confirmation.

**Records.** CAN: AB, BC (VCI), SK USA: AZ, CO, ID, MT, NM, NV, OR, UT, WA, WY [SD]

#### *Harpalus laticeps* LeConte, 1850

*Harpalus laticeps* LeConte, 1850: 208. Type locality: Lake Superior (inferred from title of the paper), herein restricted to Marquette, Marquette County, Michigan (see Noonan 1991: 56). Lectotype (♂), designated by Noonan (1991: 53), in MCZ [# 5900].

*Harpalus solutus* Casey, 1914: 90. Type locality: «New Hampshire» (original citation). Lectotype (♀), designated by Lindroth (1975: 138), in USNM [# 47784]. Synonymy established by Lindroth (1968: 774).

**Distribution.** This species is transcontinental in the north ranging from Newfoundland (Lindroth 1955a: 139; probably only as strays) to western Yukon Territory, south to northern Oregon along the west coast, southeastern Arizona and central New Mexico in the Rocky Mountains, the Black Hills in western South Dakota, northern Illinois, and southwestern Pennsylvania (Noonan 1991: 56) in the east [see Noonan 1991: Fig. 268]. The records from Connecticut (Britton 1920: 218; see Krinsky and

Oliver 2001: 5), Indiana (Blatchley 1910: 186), and southwestern Oklahoma (Kon-dratieff et al. 2005: 172) need confirmation.

**Records.** **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT  
**USA:** AK, AZ, CO, ID, IL, MA, ME, MI, MN, MT, ND, NH, NM, NV, NY, OR, PA, SD, VT, WA, WI, WY [CT, IN, OK]

### *Harpalus providens* Casey, 1914

*Harpalus viduus* LeConte, 1865b: 103 [primary homonym of *Harpalus viduus* LeConte, 1859]. Type locality: «Rock Island [Rock Island County], Illinois» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5901].

*Harpalus providens* Casey, 1914: 90. Type locality: «New Jersey» (original citation). Lectotype (♀), designated by Lindroth (1975: 138), in USNM [# 472785]. Synonymy established by Lindroth (1968: 775).

**Distribution.** This eastern species ranges from southern Quebec to northern Minnesota, south to central Missouri and southwestern Virginia (Hoffman and Roble 2000: 38) [see Noonan 1991: Fig. 267]; also known from southwestern South Dakota (Larsen and Purrington 2010: 571). An old specimen simply labeled from Kansas and one labeled from Alabama are known (Noonan 1991: 51).

**Records.** **CAN:** ON, QC **USA:** CT, DC, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, NE, NH, NJ, NY, OH, PA, RI, SD, VA, VT, WI, WV [AL, KS]

### [nigritarsis group]

### *Harpalus megacephalus* LeConte, 1847

*Harpalus megacephalus* LeConte, 1847: 397. Type locality: «Lacum Superiorem» (original citation), herein restricted to Marquette, Marquette County, Michigan (see Hubbard and Schwarz 1878: 629). Lectotype (♂), designated by Noonan (1991: 108), in MCZ [# 5888].

**Distribution.** This species ranges from Maine (Piscataquis County, CNC) and northern New Brunswick (Webster and Bousquet 2008: 20) west to Manitoba and Minnesota (Lindroth 1968: 785), south to the Black Hills in western South Dakota (CMNH). The record from the Ungava Bay in Labrador (Sherman 1910: 181) is probably in error.

**Records.** **CAN:** MB, NB, ON, QC **USA:** ME, MI, MN, SD, WI

**Note.** This species is externally very similar to *H. fulvilabris* and Lindroth (1968: 783) included these two species in one species group. However, Noonan (1991) listed the two species in different species groups suggesting that the similarities are probably due to convergent evolution.

### *Harpalus nigritarsis* Sahlberg, 1827

*Harpalus nigritarsis* C.R. Sahlberg, 1827b: 237. Type locality: «Lapponia» (original citation). Lectotype (♂), designated by Noonan (1991: 100), in ZMH.

- Harpalus femoralis* Motschulsky, 1844: 215 [primary homonym of *Harpalus femoralis* Stephens, 1828]. Type locality: «montagnes du Hamar-Daban au sud du Baïcal [Irkutsk Oblast, Russia]» (original citation). Lectotype (♂), designated by Kataev and Shilenkov (in Kryzhanovskij et al. 1995: 145), in ZMMU. Synonymy established by Kataev and Shilenkov (in Kryzhanovskij et al. 1995: 145).
- Harpalus proximus* LeConte, 1847: 398. Type locality: «Lacum Superiorem» (original citation). Lectotype (♀), designated by Noonan (1991: 100), in MCZ [# 5891]. Synonymy established by Lindroth (1968: 795).
- Harpalus curtatus* Mannerheim, 1853: 124. Type locality: «ad sinum Woskresensk [= Resurrection Bay] peninsulae Kenai [Alaska]» (original citation). Lectotype (♂), designated by Noonan (1991: 100), in MHNP. Synonymy established by Lindroth (1968: 795).
- Harpalus recens* Casey, 1914: 99. Type locality: «W[est] S[ain]t Modest[e], Labrador» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47798]. Synonymy established, under the name *H. nigratarsis proximus* LeConte, by Lindroth (1954b: 141).
- Harpalus mansuetus* Casey, 1914: 104. Type locality: «Tallac [El Dorado County], California» (original citation). Lectotype (♂), designated by Noonan (1991: 100), in USNM [# 47810]. Synonymy established by Noonan (1991: 100).
- Harpalus seclusus* Casey, 1914: 106. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47813]. Synonymy established by Noonan (1991: 100).
- Harpalus opicus* Casey, 1914: 106. Type locality: «Placer Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 139), in USNM [# 47808]. Synonymy established by Noonan (1991: 100).
- Harpalus fanaticus* Casey, 1924: 102. Type locality: «The Mammoth, summit of Parowan M[oun]t[ain]s (10000 ft.), Utah» (original citation). Lectotype (♀), designated by Noonan (1991: 101), in USNM [# 47786]. Synonymy established by Noonan (1991: 101).
- Harpalus parowanus* Casey, 1924: 105. Type locality: «The Mammoth, Parowan M[oun]t[ain]s (10000 feet), Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47815]. Synonymy established, under the name *H. seclusus* Casey, by Lindroth (1968: 797).
- Harpalus sibiricus* Csiki, 1932a: 1141. Replacement name for *Harpalus femoralis* Motschulsky, 1844.

**Distribution.** This Holarctic species ranges in the Nearctic Region from Newfoundland to the Alaskan coast, south to the Sierra Nevada in California, southern Arizona, southeastern Nebraska, and New Hampshire and New York [see Noonan 1991: Figs 277 and 278]. The species is known only from a few scattered localities in the prairies. The record from southern Indiana (Wiedenmann et al. 1992: 286) needs confirmation. In the Palaearctic Region, the species is known from Sweden to the Far East and the Altai in Kazakhstan (Kataev et al. 2003: 379).

**Records. FRA:** PM **CAN:** AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, QC, YT **USA:** AK, AZ, CA, CO, ID, MI, MN, MT, NE, NH, NM, NV, NY, OR, SD, UT, WA, WI, WY [IN] – **Holarctic**

**Note.** Noonan (1991: 102-104) recognized two morphs in this species, the *nigritarsis* and *seclusus* morphs, which Lindroth (1968) regarded as distinct species. Noonan stated that a broad zone of intergradation between the two morphs occurs in the northern part of the Rocky Mountains and adjacent mountains and in lowland areas of northwestern United States, western Canada, and Alaska.

[**spadiceus group**]

***Harpalus fraternus* LeConte, 1852**

*Harpalus fraternus* LeConte, 1852a: 185. Type locality: «Oregon» (original citation), herein restricted to Moro, Sherman County (see Casey 1924: 116, as *Euharpalops wadei*). Holotype [by monotypy; designated lectotype by Noonan 1991: 70] (♂) in MCZ [# 96].

*Harpalus oblitus* LeConte, 1859c: 2 [primary homonym of *Harpalus oblitus* Dejean, 1829]. Type locality: «Santa Fé [Santa Fe County, New Mexico]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5903]. Synonymy established by LeConte (1861b: 339), confirmed by Noonan (1991: 70).

*Harpalus occidentalis* Chaudoir, 1868b: 168. Type locality: «Vancouver [British Columbia]» (original citation). Holotype [by monotypy] (♂) in MHNP. Synonymy established by Horn (1875: 126), confirmed by Noonan (1991: 70).

*Harpalus lecontei* Casey, 1914: 117. Replacement name for *Harpalus oblitus* LeConte, 1859.

*Harpalus fraternus nimius* Casey, 1924: 100. Type locality: «Columbia River [Clatsop County], Oregon» (original citation). Holotype [by monotypy] (♂) in USNM [# 47781]. Synonymy established by Hatch (1953: 172), confirmed by Noonan (1991: 71).

*Harpalus praestans* Casey, 1924: 101. Type locality: «Provo Cañon [Utah County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 138), in USNM [# 47782]. Synonymy established by Lindroth (1968: 771).

*Euharpalops wadei* Casey, 1924: 116. Type locality: «Moro [Sherman County], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 138), in USNM [# 47746]. Synonymy established by Hatch (1953: 172), confirmed by Noonan (1991: 71).

*Harpalus hoppingi* Lindroth, 1968: 777. Type locality: «Vernon, B[ritish] C[olumbia]» (original citation). Holotype (♂) in CAS [# 9860]. Synonymy established by Noonan (1991: 71). Etymology. The specific name was proposed for George Redstone Hopping [1899-1974], entomologist for the Federal Government in Vernon and later in Calgary. Hopping published many papers on forest entomology and management of stands subject to insect attack but also on taxonomy of various groups of beetles including Cerambycidae and Scolytinae.



**Distribution.** This western species occurs from Vancouver Island to southeastern Manitoba (Roughley et al. 2010: 230), north to northeastern British Columbia, south to western Texas, southern Arizona, and the White Mountains in California, east to eastern Nebraska [see Noonan 1991: Fig. 271].

**Records.** CAN: AB, BC (VCI), MB, SK USA: AZ, CA, CO, ID, KS, MT, NE, NM, NV, OR, SD, TX, UT, WA, WY

**Note.** Noonan (1991: 75) recognized two forms within this species, a southern one, known as *H. lecontei*, that Lindroth (1968) treated as a distinct species, and a more northern one which corresponds to *H. fraternus* LeConte *sensu* Lindroth.

### *Harpalus fulvilabris* Mannerheim, 1853

*Harpalus fulvilabris* Mannerheim, 1853: 123. Type locality: «in ora orientali insulae Kadjak [Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1968: 783), in ZMH [# 2348].

*Harpalus subaeneus* Mannerheim, 1853: 123. Type locality: «in ora orientali insulae Kadjak [Alaska]» (original citation). Syntype(s) probably in ZMH. **New synonymy.** NOTE. This taxon was described by Mannerheim (1853: 123) as “var[iety] b” of *Harpalus fulvilabris* Mannerheim, 1853.

**Distribution.** This species is transcontinental in the north, ranging from Newfoundland to the Aleutian Islands in Alaska, south to the Lillooet Land District in British Columbia, north-central New Mexico along the Rocky Mountains, the Black Hills in western South Dakota, and New England in the east [see Noonan 1991: Fig. 276].

**Records.** CAN: AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT USA: AK, CO, ME, MI, MN, NH, NM, NY, SD, VT, WI

### *Harpalus indigens* Casey, 1924

*Harpalus indigens* Casey, 1924: 114. Type locality: «Monmouth [Kennebec County], Maine» (original citation). Holotype [by monotypy] (♂) in USNM [# 47863].

*Opadius piperi* Casey, 1924: 93. Type locality: «Grayline, near Bay City [Bay County], Michigan» (original citation). Lectotype (♀), designated by Lindroth (1975: 139), in USNM [# 47740]. Synonymy established by Lindroth (1968: 782).

*Harpalus beatulus* Casey, 1924: 114. Type locality: «Marquette [Marquette County], Michigan» (original citation). Holotype [by monotypy] (♂) in USNM [# 47862]. Synonymy established by Lindroth (1968: 782).

**Distribution.** This species ranges from the Nova Scotia Peninsula (Christopher G. Majka pers. comm. 2008) to southern South Dakota (Kirk and Balsbaugh 1975: 30), north to southeastern Manitoba (Roughley et al. 2010: 230), south to Nebraska and southern Pennsylvania (Noonan 1991: 85; Fig. 272).

**Records.** CAN: MB, NB, NS, ON, QC USA: CT, IA, IL, MA, ME, MI, NE, NH, NJ, NY, PA, SD, VT, WI

***Harpalus laevipes* Zetterstedt, 1828**

*Harpalus laevipes* Zetterstedt, 1828: 26. Type locality: «Juckasjervi Lapponiae Tornensis [Sweden]; Bossekop [= Bossogohppi, Finnmark, Norway] prope Altengaard Finmarkiae» (original citation). Four syntypes in ZMLS (Lindroth 1938: 18).

*Harpalus quadripunctatus* Dejean, 1829: 326. Type locality: «Styrie [Austria]» (original citation for the lectotype). Lectotype (♂), designated by Noonan (1991: 58), in MHNP. Synonymy established by Schaum (1860: 596).

*Harpalus impressipennis* Motschulsky, 1844: 213 [primary homonym of *Harpalus impressipennis* Dejean, 1829]. Type locality: «Tourkinsk [= Turka] sur le bord oriental du [Lac] Baïcal» (original citation). Three syntypes in ZMMU (Keleinikova 1976: 200). Synonymy established by Kryzhanovskij et al. (1995: 142).

*Harpalus rufimanus* LeConte, 1847: 402 [secondary homonym of *Harpalus rufimanus* (Marsham, 1802)]. Type locality: «Lacum Superiorem» (original citation). Lectotype (♂), designated by Noonan (1991: 58), in MCZ [# 5897]. Synonymy established, under the name *H. egregius* Casey, by Lindroth (1968: 776).

*Harpalus alienus* LeConte, 1879d: 508 [primary homonym of *Harpalus alienus* Bates, 1878]. Type locality: «[La] Veta Pass [Costilla County, Colorado]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5912]. Synonymy established, under the name *H. egregius* Casey, by Lindroth (1968: 776).

*Harpalus sachalinensis* Matsumura, 1911: 110. Type locality: «Kusunnai [Sakhalin, Russia]» (original citation). Holotype (♀) location unknown. Synonymy established by Kataev (in Kryzhanovskij et al. 1995: 142).

*Harpalus pimalicus* Casey, 1914: 87. Type locality: «base of Humphrey's Peak [Coconino County], Arizona» (original citation). Lectotype (♂), designated by Noonan (1991: 58), in USNM [# 47774]. Synonymy established, under the name *H. quadripunctatus* Dejean, by Noonan (1991: 58).

*Harpalus egregius* Casey, 1914: 88. Replacement name for *Harpalus alienus* LeConte, 1879.

*Harpalus instructus* Casey, 1924: 107. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♂), designated by Lindroth (1975: 138), in USNM [# 47833]. Synonymy established, under the name *H. egregius* Casey, by Lindroth (1968: 776).

*Harpalus motschoulskyanus* Schauburger, 1928: 80. Replacement name for *Harpalus impressipennis* Motschulsky, 1844.

*Harpalus baergi* Csiki, 1932a: 1180. Replacement name for *Harpalus rufimanus* LeConte, 1847.

*Harpalus cascadiensis* Hatch, 1949a: 85. Type locality: «Van Horn, Skagit Co[unty], Wash[ington]» (original citation). Holotype (♂) in USNM. Synonymy established, under the name *H. egregius* Casey, by Lindroth (1968: 776).

**Distribution.** This Holarctic species ranges in North America from Newfoundland to southeastern Alaska (Lindroth 1968: 777), south to west-central Oregon, southern Nevada, southeastern Arizona and south-central New Mexico along the Rocky Mountains, the lower peninsula of Michigan, and southern New York [see Noonan 1991: Fig. 269]. The records from southern Indiana (Wiedenmann et al. 1992: 282,

as *H. egregius*) and “Iowa” (Jaques and Redlinger 1946: 297, as *H. rufimanus*) need confirmation.

**Records.** CAN: AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT USA: AK, AZ, CO, ME, MI, MN, MT, NH, NM, NV, NY, OR, UT, WA, WI [IA, IN] – **Holarctic**

### *Harpalus lewisii* LeConte, 1865

*Harpalus lewisii* LeConte, 1865b: 103. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation for the lectotype). Lectotype (♂), designated by Noonan (1991: 62), in MCZ [# 5899]. Etymology. The specific name was proposed for Samuel Lewis, a physician from Philadelphia who had an interest in North American Coleoptera. Lewis provided LeConte and other coleopterists with fine specimens from many parts of the continent.

*Harpalus aesopus* Casey, 1914: 117. Type locality: «Plattsburg [Clinton County], New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 138), in USNM [# 47780]. Synonymy established by Casey (1924: 101), confirmed by Lindroth (1968: 773).

**Distribution.** This species ranges from Nova Scotia to central Alberta and southeastern Northwest Territories, south to southern Wisconsin and Connecticut [see Noonan 1991: Fig. 270]. All known sites in the United States are east of the Mississippi.

**Records.** CAN: AB, MB, NB, NS, NT, ON, QC, SK USA: CT, IN, MA, ME, MI, MN, ND, NH, NY, VT, WI

### *Harpalus reversus* Casey, 1924

*Harpalus funestus* LeConte, 1847: 402 [primary homonym of *Harpalus funestus* Audinet-Serville, 1821]. Type locality: «prope Long’s Peak [Boulder County, Colorado], Rocky Mountains» (original citation). Lectotype (♂), designated by Noonan (1991: 66), in MCZ [# 5902].

*Harpalus reversus* Casey, 1924: 103. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♀), designated by Lindroth (1975: 138), in USNM [# 47794]. Synonymy established by Lindroth (1968: 779).

*Harpalus funerarius* Csiki, 1932a: 1182. Replacement name for *Harpalus funestus* LeConte, 1847.

**Distribution.** With the exception of two specimens labeled from “British Columbia” and “Victoria” on Vancouver Island (Noonan 1991: 70), this species occurs east of the Rocky Mountains from central Alberta to the Quebec City area (Larochelle 1975: 87, map 302), south to Massachusetts, northwestern Pennsylvania (Erie County, Robert L. Davidson pers. comm. 2012), southern Kansas, central New Mexico, and southeastern Arizona [see Noonan 1991: Fig. 271]. This species is much more abundant in the prairies of central North America and both Lindroth

(1968: 779; 1971: 1456, 1457) and Noonan (1991: 69) concluded that the species was originally an inhabitant of the prairies that expanded its range eastwards after humans cut down forests in the east.

**Records.** CAN: AB, MB, ON, QC, SK USA: AZ, CO, IA, KS, MA, ME, MI, MN, MT, ND, NE, NH, NM, NY, PA, SD, VT, WI, WY [BC]

### *Harpalus spadiceus* Dejean, 1829

*Harpalus spadiceus* Dejean, 1829: 336. Type locality: «Amérique septentrionale» (original citation), restricted to «White Sulphur Springs [Greenbrier County], W[est] Virg[ina]» by Lindroth (1968: 780). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 27).

*Harpalus comis* Haldeman, 1843b: 301 [*nomen dubium*]. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Syntype(s) presumably lost. Synonymy established with doubt by LeConte (1863b: 13).

*Harpalus carolinae* Schaeffer, 1910: 402. Type locality: «Black Mountains, North Carolina» (original citation). Lectotype (♂), designated by Erwin and House (1978: 238), in USNM [# 42509]. Synonymy established by Noonan (1991: 86).

**Distribution.** This eastern species ranges from southern Quebec, southern Ontario, and the New England states south through the Appalachian mountains to northern Georgia [see Noonan 1991: Figs 273-275]. The record from southwestern Manitoba (Stjernberg 2011: 70) is probably in error.

**Records.** CAN: ON, QC USA: CT, DC, DE, GA, KY, MA, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WV

**Note.** Noonan (1991: 87-88) recognized two morphs for this species, the *spadiceus* and *carolinae* morphs, that Lindroth (1968: 780-781) treated as distinct species. According to Noonan (1991: 88), the two morphs intergrade over an area extending southwards from Virginia to Georgia.

### *Harpalus ventralis* LeConte, 1847

*Harpalus ventralis* LeConte, 1847: 399. Type locality: «prope Long's Peak [Boulder County, Colorado]» (original citation). Lectotype (♀), designated by Noonan (1991: 80), in MCZ [# 5892].

*Harpalus electus* Casey, 1924: 115. Type locality: «Edmonton, Alberta» (original citation). Holotype [by monotypy] (♀) in USNM [# 47861]. Synonymy established by Lindroth (1968: 781).

**Distribution.** This species ranges from central Alberta to southeastern Manitoba (Roughley et al. 2010: 230), south to western Kansas, northern New Mexico, and northeastern Utah [see Noonan 1991: Fig. 272].

**Records.** CAN: AB, MB, SK USA: CO, KS, MN, MT, ND, NE, NM, SD, UT, WY



**Figure 38.** *Perigona nigriceps* (Dejean). While most adventive carabid species have been introduced from Europe, this species, which is now subcosmopolitan, is probably native from southern Asia where it is common around the Indian Ocean. Contrary to European adventive species which have been introduced to North America through ballast and nursery stocks, this species was probably transported around the world among stored products on ships.



**Subgenus *Harpalus* Latreille, 1802**

*Harpalus* Latreille, 1802: 92. Type species: *Carabus proteus* Paykull, 1790 (= *Carabus affinis* Schrank, 1781) designated by Andrewes (1935: 19).

*Proteonus* Fischer von Waldheim, 1829a: 21. Type species: *Carabus distinguendus* Duftschmid, 1812 designated by Bousquet (2002c: 178). Synonymy established by Bousquet (2002c: 178).

*Amblystus* Motschulsky, 1864: 209. Type species: *Carabus rubripes* Duftschmid, 1812 by original designation. Synonymy established by Tschitschérine (1901: 240).

*Harpalomerus* Casey, 1914: 76. Type species: *Harpalus amputatus* Say, 1830 designated by Lindroth (1968: 769). Synonymy established by Kataev et al. (2003: 371). Etymology. From the generic name *Harpalus* [*q.v.*] and the Greek *meros* (part, segment) [masculine].

**Diversity.** This subgenus includes native species in North America, Mexico, and the Palaearctic and Afrotropical Regions. The total number of species cannot be determined at this time. The North American fauna is represented by 17 species, of which two are adventive.

**Identification.** Noonan (1991) revised all the North American species except the two adventive ones but his key (pages 20-45) included all 17 species. Lindroth (1968) covered all but three (*H. balli*, *H. martini*, and *H. rubripes*) species in his monograph of the Canadian Carabidae.

**[*affinis* group]*****Harpalus affinis* (Schrank, 1781)**

*Carabus aeneus* Fabricius, 1775: 245 [primary homonym of *Carabus aeneus* DeGeer, 1774]. Type locality: «Lipsia [= Leipzig, Saxony, Germany]» (original citation). Lectotype (♂), designated by Lindroth (1968: 768), in ZMUC.

*Carabus affinis* Schrank, 1781: 212. Type locality: Austria (inferred from title of the book). Syntype(s) probably lost (Lindroth 1968: 768). Synonymy established by Schönherr (1806: 204).

*Carabus proteus* Paykull, 1790: 115. Type locality: «Svecia australi» (original citation). Syntype(s) probably in NRSS. Synonymy established by Fabricius (1792: 156).

*Harpalus viridi-aeneus* Palisot de Beauvois, 1811: 108. Type locality: «Pensylvanie» (original citation). Syntype(s) probably lost (Lindroth 1968: 768). Synonymy established by Hatch (1949a: 84).

*Harpalus viridis* Say, 1823a: 31. Type locality: «East Boston, Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 352), in MCZ [#32972]. Synonymy established by Brullé (1835c: 287).

*Harpalus assimilis* Dejean, 1829: 272. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 26). Synonymy established, under the name *H. viridis* Say, by Say (1830c: 19), confirmed by Lindroth (1955b: 26).

*Harpalus convictor* Casey, 1884b: 12. Type locality: «Willets Point [Queens County], Long Island [New York]» (original citation). One syntype in USNM [# 47747]. Synonymy established, under the name *H. viridiaeneus* Palisot de Beauvois, by Horn (1885b: 109), confirmed by Lindroth (1954b: 141).

*Harpalus canonicus* Casey, 1884b: 12. Type locality: «Rhode Island» (original citation). One syntype in USNM [# 47748]. Synonymy established, under the name *H. viridiaeneus* Palisot de Beauvois, by Horn (1885b: 109), confirmed by Lindroth (1968: 768).

*Harpalus lustralis* Casey, 1884b: 12. Type locality: «New York State» (original citation). One syntype in USNM [# 47749]. Synonymy established, under the name *H. viridiaeneus* Palisot de Beauvois, by Horn (1885b: 109), confirmed by Lindroth (1968: 768).

*Harpalus aenescens* Casey, 1884b: 12. Type locality: «Rhode Island; Willets Point, Long Island» (original citation). One syntype [4 originally cited] in USNM [# 47750]. Synonymy established, under the name *H. viridiaeneus* Palisot de Beauvois, by Horn (1885b: 109), confirmed by Lindroth (1968: 768).

**Distribution.** This Palaearctic species is adventive in North America where it is known in the east from Newfoundland (Lindroth 1955a: 137) to eastern Minnesota (Ramsey County, CMNH), south to “Kansas” (Lindroth 1955a: 137) and northern (Tucker and Preston Counties, CMNH) and eastern West Virginia (Pendleton County, Foster F. Purrington pers. comm. 2009). The record from southern Florida (Peck and Thomas 1998: 21) may represent a separate introduction. In the west, the species ranges from Alberta and British Columbia, including Vancouver Island (Lindroth 1968: 769), south to western Oregon (Clackamas, Linn, and Yamhill Counties, CMNH) and southwestern Idaho (Owyhee County, Ken Karns pers. comm. 2009); the species is also found in southeastern Arizona (Cochise County, CNC). The first inventoried specimen caught in the east was collected prior to 1798 in Pennsylvania (Palisot de Beauvois, 1811: 108, as *H. viridiaeneus*). The species is also adventive in New Zealand since 1975 (Laroche and Larivière 2005: 52).

**Records.** **FRA:** PM **CAN:** AB, BC (VCI), LB, NB, NF, NS (CBI), ON, PE, QC **USA:** AZ, CT, DE, FL, IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MO, NH, NJ, NY, OH, OR, PA, RI, VA, VT, WA, WI, WV – **Adventive**

### *Harpalus rubripes* (Duftschmid, 1812)

*Carabus rubripes* Duftschmid, 1812: 77. Type locality: «um Linz [Austria]» (original citation). Syntype(s) probably lost.

*Harpalus rufipes* Motschulsky, 1844: 212 [secondary homonym of *Harpalus rufipes* (DeGeer, 1774)]. Type locality: «Alpes du Caucase» (original citation). Lectotype (♀), designated by Kataev (1989: 200), in ZMMU. Synonymy established by Kataev (1989: 199).

*Harpalus hyperboreus* Motschulsky, 1844: 214. Type locality: «bords du fleuve Selenga à Tchertovkino [Siberia, Russia]» (original citation). Lectotype, designated by Kataev (1989: 200), in ZMMU. Synonymy established by Kataev (1989: 199).

**Distribution.** This Palearctic species is adventive in North America where it is known from Nova Scotia (Majka et al. 2006: 606) and Prince Edward Island (Majka et al. 2008: 132) to eastern Ontario (near Reids Mills, CNC), including southern Quebec (Chantal 1994: 29), south to eastern Pennsylvania (Davidson et al. 2011: 517). The first inventoried specimen collected on this continent was found in New Hampshire in 1981 (Bell and Davidson 1987: 56).

**Records.** CAN: NB, NS, ON, PE, QC USA: CT, MA, ME, NH, NY, PA, RI, VT –  
**Adventive**

[**amputatus group**]

***Harpalus amputatus amputatus* Say, 1830**

*Harpalus amputatus* Say, 1830c: 19. Type locality: «La Junta, Bent Co[unty], Col[orado]» (neotype label), not «San Luis Valley, Colo[rado]» as specified by Lindroth and Freitag (1969: 352). Neotype (♂), designated by Lindroth and Freitag (1969: 352), in MCZ [# 32971]. NOTE. The type locality of *H. amputatus* was discussed by Noonan (1991). «N[orth] W[est] Territory» was the area originally cited by Say (1830c: 19).

*Harpalus rotundicollis* Kirby, 1837: 44. Type locality: northern parts of British America (inferred from title of the book). Lectotype (♀), designated by Noonan (1991: 174), in BMNH. Synonymy established by Horn (1876e: 130), confirmed by Lindroth (1953b: 174).

*Harpalus stephensii* Kirby, 1837: 45. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Holotype [by monotypy] (♂) in BMNH (Noonan 1991: 174). Synonymy established by LeConte (1847: 397), confirmed by Noonan (1991: 175).

*Harpalus transversus* Casey, 1914: 77. Type locality: near Santa Fé, Santa Fe County, New Mexico (lectotype label according to Lindroth 1975: 138). Lectotype (♀), designated by Lindroth (1975: 138), in USNM [# 47751]. Synonymy established by Lindroth (1968: 769).

*Harpalus papagonalis* Casey, 1914: 77. Type locality: «Arizona » (original citation). Holotype [by monotypy] (♀) in USNM [# 47753]. Synonymy established by Lindroth (1968: 769).

*Harpalus bracatus* Casey, 1924: 95. Type locality: «Miner's Peak [Iron County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 138), in USNM [# 47752]. Synonymy established by Lindroth (1968: 769).

*Harpalus ancillaris* Casey, 1924: 95. Type locality: «Columbia River [Clatsop County], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 138), in USNM [# 47754]. Synonymy established by Hatch (1953: 170), confirmed by Noonan (1991: 175).

*Harpalus cupreolatus* Casey, 1924: 96. Type locality: «Pullman [Whitman County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 138), in USNM [# 47756]. Synonymy established by Hatch (1953: 170), confirmed by Noonan (1991: 175).

*Harpalus cuculus* Casey, 1924: 96. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). Holotype [by monotypy] (♂) in USNM [# 47755]. Synonymy established by Lindroth (1968: 769).

**Distribution.** This species is found west of the Mississippi River from northeastern Alaska to northwestern Minnesota, south to the highlands of central Mexico (Noonan 1991: 179) and southern California [see Noonan 1991: Fig. 289].

**Records.** CAN: AB, BC, MB, NT, SK, YT USA: AK, AZ, CA, CO, ID, KS, MN, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WY – Mexico

**Note.** Three subspecies of *H. amputatus* are known from Asia (see Kataev et al. 2003: 372).

#### [*atrichatus* group]

##### *Harpalus atrichatus* Hatch, 1949

*Harpalus atrichatus* Hatch, 1949a: 86. Type locality: «Ocean Park [Pacific County], Wash[ington]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known only from a few scattered localities from southwestern British Columbia, including Vancouver Island, south to west-central Oregon, east to northern Idaho [see Noonan 1991: Fig. 291].

**Records.** CAN: BC (VCI) USA: ID, OR, WA

#### [*cautus* group]

##### *Harpalus balli* Noonan, 1991

*Harpalus balli* Noonan, 1991: 151. Type locality: «Mantoloking, Ocean County, New Jersey» (original citation). Holotype (♂) in MCZ [# 35204].

**Distribution.** This species is known from only six specimens collected near the coast in Massachusetts and New Jersey [see Noonan 1991: Fig. 283]. The collection date of the last known specimen is 1932 and Noonan (1991: 153) believes that it “might be extinct because of destruction of ocean side habitats.”

**Records.** USA: MA, NJ

##### *Harpalus cautus* Dejean, 1829

*Harpalus cautus* Dejean, 1829: 367. Type locality: «Californie» (original citation), herein restricted to Point Reyes National Seashore, Marin County (see Noonan 1991: 142). Lectotype (♀), designated by Noonan (1991: 138), in MHNP.

*Harpalus albionicus* Mannerheim, 1843: 213 [*nomen dubium*]. Type locality: «California ad Ross [farming community about 75 miles north of San Francisco along the coast]» (original citation). Syntype(s) presumably lost (Lindroth 1968: 802). Synonymy established with doubt by LeConte (1865b: 102).

*Harpalus advena* LeConte, 1852a: 185. Type locality not stated; «Oregon» selected by Noonan (1991: 138). Holotype [by monotypy] (♂) in MCZ [# 95]. Synonymy established by Casey (1914: 95), confirmed by Lindroth (1968: 802).

*Harpalus defixus* Walker, 1866: 316 [*nomen dubium*]. Type locality: British Columbia (inferred from title of the book). Syntype(s) lost (Lindroth 1968: 802; Noonan 1991: 138). Synonymy established with doubt by LeConte (1870: 400).

*Harpalus crenatellus* Casey, 1914: 94. Type locality: «California» (original citation). Holotype [by monotypy] (♂) in USNM [# 47788]. Synonymy established by Lindroth (1968: 802).

*Harpalus oregonensis* Casey, 1914: 94. Type locality: «Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47789]. Synonymy established by Hatch (1953: 168), confirmed by Lindroth (1968: 802).

*Harpalus columbianus* Casey, 1924: 104. Type locality: «Goldstream, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47809]. Synonymy established by Hatch (1953: 168), confirmed by Lindroth (1968: 802).

**Distribution.** This western species occurs from central Alaska south to southern California, southeastern Arizona, and south-central Colorado, east to western Nebraska [see Noonan 1991: Fig. 286]. The records from northeastern Kansas (Popenoe 1877: 24) and Beaver Island in Michigan (Hatch 1925: 554) are probably in error. According to Noonan (1991: 143), this species is one of the most abundant *Harpalus* along the west coast.  
**Records.** CAN: AB, BC (VCI) USA: AK, AZ, CA, CO, ID, MT, NE, NV, OR, UT, WA, WY

### *Harpalus ellipsis* LeConte, 1847

*Harpalus ellipsis* LeConte, 1847: 400. Type locality: «Territorio Missouriensi» (original citation), herein restricted to Halsey, Thomas County, Nebraska (see Noonan 1991: 148). Lectotype (♂), designated by Noonan (1991: 143), in MCZ [# 5893].

*Harpalus vespertinus* Casey, 1884b: 10. Type locality: «Arizona» (original citation). Lectotype [as holotype] (♂), designated by Noonan (1991: 143), in USNM [# 47826]. Synonymy established by Noonan (1991: 143).

*Harpalus fractus* Casey, 1924: 107. Type locality: «Akron [Washington County], Colorado» (original citation). Lectotype (♂), designated by Noonan (1991: 143), in USNM [# 47838]. Synonymy established by Noonan (1991: 143).

*Harpalus provensis* Casey, 1924: 113. Type locality: «North Fork, Provo Cañon [Utah County], Utah» (original citation). Lectotype (♂), designated by Noonan (1991: 143), in USNM [# 47834]. Synonymy established by Noonan (1991: 143).

**Distribution.** The range of this species extends from central Alberta and southern Saskatchewan south to southwestern Texas and southeastern Arizona; seemingly isolated in Minnesota (Gandhi et al. 2005: 930) and northwestern Oregon [see Noonan 1991: Fig. 287]; also recorded from northern Sonora in Mexico (Bates 1884: 271).



**Records.** CAN: AB SK USA: AZ, CO, ID, KS, MN, MT, NE, NM, OR, SD, TX, UT, WY – Mexico

***Harpalus innocuus* LeConte, 1863**

*Harpalus innocuus* LeConte, 1863c: 17. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5894].

*Harpalus persolus* Casey, 1914: 96. Type locality: «Oregon» (original citation). Lectotype (♀), designated by Lindroth (1975: 139), in USNM [# 47787]. Synonymy established by Lindroth (1968: 800).

*Harpalus macilentus* Casey, 1914: 96. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Noonan (1991: 155), in USNM [# 47822]. Synonymy established by Noonan (1991: 155).

*Harpalus fugitans* Casey, 1914: 98. Type locality: «Frazier Valley, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47796]. Synonymy established by Lindroth (1968: 800).

*Harpalus paululus* Casey, 1914: 110. Type locality: «Eldora [Boulder County], Colorado» (original citation). Lectotype (♂), designated by Noonan (1991: 155), in USNM [# 47821]. Synonymy established by Noonan (1991: 155).

*Harpalus intactus* Casey, 1924: 112 [primary homonym of *Harpalus intactus* Casey, 1914]. Type locality: «Marquette [Marquette County], Michigan» (original citation). Holotype [by monotypy] (♂) in USNM [# 47843]. Synonymy established by Lindroth (1968: 800).

**Distribution.** This species ranges from western Quebec to Vancouver Island, north to southern Northwest Territories, south to the Sierra Nevada in California, southern Colorado in the Rocky Mountains, southwestern South Dakota (Custer County, Peter W. Messer pers. comm. 2011), the upper peninsula of Michigan, and southwestern Pennsylvania [see Noonan 1991: Fig. 288]. Several specimens simply labeled from “New Mexico” are known (Noonan 1991: 159). East of the Rocky Mountains, the species is known only from a few scattered localities.

**Records.** CAN: AB, BC (VCI), NT, ON, QC, SK USA: CA, CO, ID, MI, MN, MT, OR, PA, SD, WA, WI, WY [NM]

***Harpalus ochropus* Kirby, 1837**

*Harpalus ochropus* Kirby, 1837: 42. Type locality: northern parts of British America (inferred from title of the book), restricted to «Nipigon, Ont[ario]» by Lindroth (1968: 808)]. Lectotype [as holotype] (♂), designated by Noonan (1991: 149), in BMNH.

**Distribution.** The range of this species extends from Alaska (Lindroth 1968: 808) east to Anticosti Island in Quebec, south to northeastern Minnesota (Purrington and Maxey 2007: 219) and the southern part of the Prairie Provinces [see Noonan 1991:

Fig. 287]. The records from Colorado (Wickham 1902: 242) and New Mexico (Fall and Cockerell 1907: 161) are likely in error.

**Records.** CAN: AB, BC, MB, ON, QC, SK, YT USA: AK, MN

### ***Harpalus vittatus alaskensis* Lindroth, 1968**

*Harpalus alaskensis* Lindroth, 1968: 801. Type locality: «7-15 mi[les] N[orth] of New Rampart House, Alaska» (original citation). Holotype (♂) in USNM [# 75705].

NOTE. New Rampart House was a trading post on the Porcupine River in Yukon Territory near the border with Alaska.

**Distribution.** This Holarctic subspecies ranges from eastern Siberia (Kataev et al. 2003: 384) to the Alaska-Yukon border along the Porcupine River. On this continent, the subspecies is known from extant specimens only from the type locality. It was cited as a dominant taxon in a late Pleistocene site in the Klondike region of Yukon Territory (Zazula et al. 2006: 265).

**Records.** USA: AK – Holarctic

**Note.** This taxon was originally described as a distinct species but Kataev (1990: 396) listed it as a subspecies of *H. vittatus* Gebler. The nominotypical subspecies and *H. vittatus kiselevi* Kataev and Shilenkov are found in Asia (Kataev et al. 2003: 384).

### **[obnixus group]**

### ***Harpalus obnixus* Casey, 1924**

*Harpalus obnixus* Casey, 1924: 105. Type locality: «Provo Cañon [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47837].

*Harpalus antiphon* Casey, 1924: 106. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Lectotype (♀), designated by Noonan (1991: 160), in USNM [# 47839]. Synonymy established by Noonan (1991: 160).

**Distribution.** This species ranges from southwestern Alberta and British Columbia (Noonan 1991: 162-163) south to west-central Oregon, northeastern Nevada, and northwestern New Mexico (Casey 1924: 106, as *H. antiphon*) [see Noonan 1991: Fig. 290]. One old specimen simply labeled from Nebraska is known (Noonan 1991: 163).

**Records.** CAN: AB, BC USA: CO, ID, MT, NM, NV, OR, UT, WA, WY [NE]

### ***Harpalus plenalis* Casey, 1914**

*Harpalus plenalis* Casey, 1914: 108. Type locality: «New Brunswick» (original citation), herein restricted to Pennfield, Charlotte County (CNC). Lectotype (♀), designated by Lindroth (1975: 140), in USNM [# 47819].

*Harpalus latebricola* Casey, 1914: 109. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 140), in USNM [# 47845]. Synonymy established by Lindroth (1968: 807).

*Harpalus modulatus* Casey, 1924: 112. Type locality: «F[or]t Coulonge, Quebec» (original citation). Holotype [by monotypy] (♀) in USNM [# 47844]. Synonymy established by Lindroth (1954b: 142).

**Distribution.** This species is known from scattered localities from Newfoundland (Lindroth 1955a: 143) to southern British Columbia, north to southwestern Northwest Territories, south to central Arizona, north-central New Mexico, eastern Texas, and southwestern North Carolina [see Noonan 1991: Fig. 292].

**Records.** CAN: BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK USA: AR, AZ, CO, ID, IL, KS, MA, ME, MI, NC, NH, NJ, NM, NY, TX, VA, VT, WI

[*opacipennis* group]

*Harpalus opacipennis* (Haldeman, 1843)

*Ophonus opacipennis* Haldeman, 1843b: 301. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Lectotype (♀), designated by Noonan (1991: 169), in MCZ [# 28698].

*Harpalus oodioides* Chaudoir, 1868b: 168. Type locality: «terre de Rupert [former name for the entire drainage basin of Hudson's Bay, thus including most of northern Quebec, Ontario, Manitoba, etc. (Lamb 1971)]» (original citation). Holotype [by monotypy] (♂) in MHNP. Synonymy established by Lindroth (1968: 804).

*Harpalus lacustris* Casey, 1914: 111. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47823]. Synonymy established by Lindroth (1968: 805).

*Harpalus coloradensis* Casey, 1914: 111. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Noonan (1991: 169), in USNM [# 47824]. Synonymy established by Noonan (1991: 169).

*Harpalus mobilis* Casey, 1914: 112. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Noonan (1991: 169), in USNM [# 47827]. Synonymy established by Noonan (1991: 169).

*Harpalus leviceps* Casey, 1924: 112. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♀), designated by Lindroth (1975: 140), in USNM [# 47846]. Synonymy established by Lindroth (1968: 805).

**Distribution.** This species ranges from southern New Brunswick (Webster and DeMerchant 2012: 6) to south-central Alaska (Lindroth 1968: 806), south to the Sierra Nevada in California, central Arizona and central New Mexico along the Rocky Mountains, southern Indiana, and Maryland (Erwin 1981b: 175) [see Noonan 1991: Fig. 296].

**Records.** CAN: AB, BC (VCI), MB, NB, NT, ON, QC, SK, YT USA: AK, AZ, CA, CO, ID, IN, MA, MD, ME, MI, MN, MT, ND, NM, NV, NY, OH, OR, PA, SD, UT, VT, WA, WI, WY

[**somnulentus group**]***Harpalus herbivagus* Say, 1823**

*Harpalus herbivagus* Say, 1823a: 29. Type locality: «Rumney [Grafton County], N[ew] H[ampshire]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 353), in MCZ [# 32769].

*Ophonus mutabilis* Haldeman, 1843b: 301. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Lectotype (♂), designated by Noonan (1991: 181), in MCZ [# 34542]. Synonymy established by LeConte (1863b: 13), confirmed by Lindroth (1968: 794).

*Harpalus foveicollis* LeConte, 1847: 399. Type locality: «fines Aquilones, provinciae Maine» (original citation). Lectotype (♂), designated by Noonan (1991: 181), in MCZ [# 5890]. Synonymy established by Lindroth (1954b: 141).

*Harpalus assensus* Casey, 1924: 107. Type locality: «Boulder Co[unty], Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 47828]. Synonymy established by Lindroth (1968: 794).

**Distribution.** The range of this species extends from Nova Scotia to south-central British Columbia, north to central Alberta, south to southern Oregon, east-central Arizona and central New Mexico along the Rocky Mountains, the Texas Panhandle (Michels et al. 2010: 743), northern Missouri, and southern Georgia [see Noonan 1991: Fig. 293]. The record from “Florida” (Leng 1920: 71) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NS, ON, PE, QC, SK USA: AL, AR, AZ, CO, CT, DC, DE, GA, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY [FL]

***Harpalus martini* Van Dyke, 1926**

*Harpalus martini* Van Dyke, 1926a: 124. Type locality: «Bear Lake [= Baldwin Lake, San Bernardino County (see Noonan 1991: 190)], San Bernardino Mountains, California» (original citation). Holotype (♂) in CAS [# 1867]. Etymology. The specific name was proposed for James Otis Martin [1870-1951], a coleopterist by avocation. Martin served as a preparator of insects at the California Academy of Sciences from 1924 to 1932. His collection of 12,000 well-prepared beetles, most from western North America, was presented to the California Academy of Sciences in 1928.

**Distribution.** This species is known from only 16 specimens (including 15 ♂) from mountains in southern California [see Noonan 1991: Fig. 287] and could be either endangered or extinct according to Noonan (1991: 189). The last known specimen found was collected in 1919.

**Records.** USA: CA

***Harpalus solitaris* Dejean, 1829**

*Carabus fuliginosus* Duftschmid, 1812: 83 [primary homonym of *Carabus fuliginosus* Panzer, 1809]. Type locality: «um Linz [Austria]» (original citation). Syntype(s) probably lost (Lindroth 1968: 798).

*Harpalus lapponicus* Zetterstedt, 1828: 26 [primary homonym of *Harpalus lapponicus* Sahlberg, 1827]. Type locality: «Lapponia Tornensi; Juckasjervi [Sweden]» (original citation). Five syntypes in ZMLS (Lindroth 1938: 18). Synonymy established by Schaum (1860: 596). NOTE. This name was listed as *nomen oblitum* by Kataev et al. (2003: 382) and *Harpalus solitaris* Dejean, 1829 as *nomen protectum*. Since *Harpalus lapponicus* Zetterstedt, 1828 is a junior primary homonym, there is no need for such qualifiers.

*Harpalus solitaris* Dejean, 1829: 337. Type locality: «Kamtschatka [Russia]; nord de la Laponie» (original citation). Syntype(s) in MHNP. Synonymy established, under the name *H. lapponicus* Zetterstedt, by Mäklin (1857: 179).

**Distribution.** The range of this Holarctic species extends in northern North America from Newfoundland to south-central Alaska (Lindroth 1968: 799), south to east-central British Columbia, “Minnesota” (Lindroth 1968: 799), northeastern Wisconsin (Messer 2010: 41), “Michigan” (Lindroth 1968: 799), and Maine (Noonan 1991: 187) [see Noonan 1991: Fig. 294]. The records from the Sierra Nevada and Colorado (Elias 1987: 633) are probably in error; that from Prince Edward Island (Bousquet and Laroche 1993: 237) needs confirmation (see Majka et al. 2008: 132).

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS, NT, ON, QC, SK, YT **USA:** AK, ME, MI, MN, NH, WI [PE] – **Holarctic**

***Harpalus somnulentus* Dejean, 1829**

*Harpalus somnulentus* Dejean, 1829: 333. Type locality: «détroit de Norfolk [= Norfolk Sound, Baranof Island, Alaska] sur la côte nord-ouest de l’Amérique septentrionale» (original citation). Lectotype (♂), designated by Noonan (1991: 190), in MHNP.

*Harpalus pleuriticus* Kirby, 1837: 41. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1968: 792). Lectotype (♂), designated by Noonan (1991: 190), in BMNH. Synonymy established by Noonan (1991: 190).

*Harpalus fallax* LeConte, 1859c: 2. Type locality: «Santa Fé [Santa Fe County, New Mexico]» (original citation). Lectotype (♂), designated by Noonan (1991: 190), in MCZ [# 5889]. Synonymy established by Noonan (1991: 190).

*Harpalus stupidus* LeConte, 1859c: 3. Type locality: «route to Fort Bridger» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5906]. Synonymy established by Noonan (1991: 191).

*Harpalus viduus* LeConte, 1859c: 3. Type locality: «New Jersey» (original citation). Syntype(s) presumably lost. Synonymy established, under the name *H. fallax* LeConte, by Lindroth (1968: 794).



- Harpalus carbonatus* LeConte, 1860: 319. Type locality: «Saskatchewan» (original citation). Lectotype (♀), designated by Noonan (1991: 191), in MCZ [# 5896]. Synonymy established by Noonan (1991: 191).
- Harpalus placidus* Casey, 1884b: 10 [primary homonym of *Harpalus placidus* Gyllenhal, 1827]. Type locality: «N[ew] J[ersey]» (holotype label). Holotype [by monotypy] (♂) in USNM [# 47807]. Synonymy established, under the name *H. fallax* LeConte, by Horn (1885b: 109), confirmed by Noonan (1991: 191). NOTE. «Willetts Point, Long Island» was the locality cited in the original description.
- Harpalus recisus* Casey, 1914: 93. Type locality: «New Jersey» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47791]. Synonymy established, under the name *H. fallax* LeConte, by Lindroth (1968: 794).
- Harpalus futilis* Casey, 1914: 97. Type locality: «Lake Tahoe [Placer County], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 47803]. Synonymy established by Noonan (1991: 191).
- Harpalus intactus* Casey, 1914: 97. Type locality: «California» (original citation). Holotype [by monotypy] (♀) in USNM [# 47795]. Synonymy established by Noonan (1991: 192).
- Harpalus aequabilis* Casey, 1914: 100. Type locality: «Buena Vista [Chaffee County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 139), in USNM [# 47779]. Synonymy established, under the name *H. pleuriticus* Kirby, by Lindroth (1954b: 142).
- Harpalus lascivus* Casey, 1914: 100. Type locality: «British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47800]. Synonymy established, under the name *H. pleuriticus* Kirby, by Hatch (1953: 169), confirmed by Noonan (1991: 192).
- Harpalus pumilio* Casey, 1914: 100 [primary homonym of *Harpalus pumilio* Dejean, 1829]. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♀), designated by Lindroth (1975: 139), in USNM [# 47801]. Synonymy established, under the name *H. pleuriticus* Kirby, by Lindroth (1954b: 142).
- Harpalus perspicuus* Casey, 1914: 101. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47797]. Synonymy established, under the name *H. pleuriticus* Kirby, by Lindroth (1954b: 142).
- Harpalus lividulus* Casey, 1914: 101. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47804]. Synonymy established, under the name *H. pleuriticus* Kirby, by Lindroth (1954b: 142).
- Harpalus pallax* Casey, 1914: 105. Type locality: «Yellowstone National Park» (original citation). Lectotype (♂), designated by Noonan (1991: 190), in USNM [# 47812]. Synonymy established by Noonan (1991: 192).
- Harpalus peritus* Casey, 1914: 107. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Noonan (1991: 190), in USNM [# 47814]. Synonymy established by Noonan (1991: 192).

- Harpalus celox* Casey, 1914: 107 (as *celax*, typographic error, see Casey 1914: 383). Type locality: «Clackamas Co[unty], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47816]. Synonymy established by Noonan (1991: 191).
- Harpalus uteanus* Casey, 1914: 118. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47835]. Synonymy established by Noonan (1991: 191).
- Harpalus oppositus* Casey, 1914: 125. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47860]. Synonymy established, under the name *H. celox* Casey, by Hatch (1953: 169), confirmed by Lindroth (1968: 789).
- Harpalus amicus* Casey, 1924: 102. Type locality: «Lake George [Warren County], New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47792]. Synonymy established, under the name *H. fallax* LeConte, by Lindroth (1968: 794).
- Harpalus contactus* Casey, 1924: 106. Type locality: «Cedar City [Iron County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47818]. Synonymy established by Lindroth (1968: 789).
- Harpalus uintanus* Casey, 1924: 106. Type locality: «Cedar City [Iron County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47820]. Synonymy established, under the name *H. intactus* Casey, by Lindroth (1968: 789).
- Harpalus blanditus* Casey, 1924: 108. Type locality: «Terrace, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 139), in USNM [# 47802]. Synonymy established, under the name *H. pleuriticus* Kirby, by Hatch (1953: 169), confirmed by Noonan (1991: 193).
- Harpalus nivalis* Casey, 1924: 109. Type locality: «Redvers, Sask[at]chewan» (holotype label). Holotype [by monotypy] (♂) in USNM [# 47805]. Synonymy established, under the name *H. pleuriticus* Kirby, by Lindroth (1954b: 142).
- Harpalus pacificus* Fall, 1926a: 136. Type locality: «Ketchikan, Alaska» (original citation). Holotype (♂) in MCZ [# 23876]. Synonymy established by Lindroth (1968: 789).
- Harpalus rewolinskii* Noonan, 1991: 214. Type locality: «2.3 mi[les] S[outh] Oyen, Alberta» (original citation). Holotype (♂) in CNC [# 23531]. Synonymy established by Ball and Bousquet (2000: 99).

**Distribution.** This species is transcontinental in the north ranging from Newfoundland to the Kenai Peninsula in Alaska, south to southern California, central Arizona and New Mexico in the Rocky Mountains, Nebraska, and northern Virginia [see Noonan 1991: Figs 297-309]. The records from central Alabama (see Noonan 1991: Figs 302 and 304), “Arkansas” (Bousquet and Laroche 1993: 237) and southern Kansas (Snow 1903: 194, as *H. fallax*) need confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC (QCI, VCI), LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, AZ, CA, CO, CT, DE, IA, ID, IL, IN, MA, MD,

ME, MI, MN, MO, MT, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SD, UT, VA, VT, WA, WI, WV, WY [AL, AR, KS]

**Note.** Noonan (1991: 196-207) recognized six morphs within this species, the *pleuriticus*, *fallax*, “dark,” *uteanus*, *somnulentus*, and *carbonatus* morphs, which Lindroth (1968) treated as distinct species, except for the “dark” one. Noonan went on to report numerous intergradation zones between all morphs.

### Subgenus *Glanodes* Casey, 1914

*Glanodes* Casey, 1914: 50, 60. Type species: *Harpalus obliquus* Horn, 1880 by original designation. Etymology. Uncertain, possibly from the Greek *glanos* (hyena) and the suffix *-odes* (likeness) [masculine].

**Diversity.** Six species in southwestern North America.

**Identification.** Ball (1972) revised the species and provided a key for the identification of the males.

### *Harpalus cobni* Ball, 1972

*Harpalus cobni* Ball, 1972: 195. Type locality: «Marfa [Presidio County], Texas» (original citation). Holotype (♂) in CAS [# 11640].

**Distribution.** This species is known only from western Texas (Ball 1972: Fig. 13) and southeastern New Mexico (Perrault 1974: 120).

**Records. USA:** NM, TX

### *Harpalus corpulentus* (Casey, 1914)

*Glanodes corpulentus* Casey, 1914: 62. Type locality: «Virgin River, Utah» (original citation), restricted to «S[ain]t George [Washington County]» by Ball (1972: 191). Lectotype [as holotype] (♀), designated by Ball (1972: 191), in USNM [# 47736].

**Distribution.** This species is known for sure only from Summit and Washington Counties in Utah (Ball 1972: 192). The record from “Arizona” (Bousquet and Laroche 1993: 237) needs confirmation.

**Records. USA:** UT [AZ]

### *Harpalus huachuca* Ball, 1972

*Harpalus huachuca* Ball, 1972: 193. Type locality: «Huachuca M[oun]t[ain]s, Ariz[ona]» (original citation). Holotype (♂) in USNM [# 72116].

**Distribution.** This species is known only from the holotype collected in southeastern Arizona [see Ball 1972: Fig. 13].

**Records. USA:** AZ

***Harpalus obliquus* Horn, 1880**

*Harpalus obliquus* G.H. Horn, 1880a: 140. Type locality: «Fort Bayard [Grant County], New Mexico» (original citation). Lectotype [as type] (♂), designated by Ball (1972: 194), in MCZ [# 34601].

*Glanodes regressus* Casey, 1914: 62. Type locality: «near Benson [Cochise County], Arizona» (original citation). Lectotype [as holotype] (♀), designated by Ball (1972: 196), in USNM [# 47737]. **New synonymy.** NOTE. The lectotype of *H. regressus* (Casey) is a female that could not be identified with certainty. However, Ball (1972: 196) wrote that the specimen is “probably ... a member of *H. obliquus* Horn.” Based on that statement, I believe it is best to treat Casey’s name as a junior synonym of *H. obliquus*.

**Distribution.** This species is found in southern (Perrault 1974: 120) and western New Mexico and southeastern Arizona [see Ball 1972: Fig. 13].

**Records. USA:** AZ, NM

***Harpalus puncticeps* (Casey, 1914)**

*Glanodes puncticeps* Casey, 1914: 61. Type locality: «Peach Spring[s] [Mohave County], Arizona» (original citation). Lectotype [as holotype] (♀), designated by Ball (1972: 192), in USNM [# 47735].

*Harpalus cunctipeps* Ball, 1973: 74. Replacement name for *Harpalus puncticeps* (Casey, 1914).

**Distribution.** This species is known only from northwestern Arizona [see Ball 1972: Fig. 13; Perrault 1982b: 269].

**Records. USA:** AZ

**Note.** Ball (1973: 74) proposed *H. cunctipeps* to replace *H. puncticeps* (Casey, 1914), a junior secondary homonym of *H. puncticeps* (Stephens, 1828), both species being then placed in the genus *Harpalus*. Since Stephens’ species is currently included in the genus *Ophonus* and the replacement name was proposed after 1960, the original species-group name is to be reinstated (ICZN 1999: Article 59.4).

***Harpalus stephani* Ball, 1972**

*Harpalus stephani* Ball, 1972: 194. Type locality: «Arivaca, Pima County, Arizona» (original citation). Holotype (♂) in USNM [# 72117]. Etymology. This species was named after Karl Heinz Stephan [1931-2005], an accomplished beetle collector and naturalist. Stephan spent 30 years collecting Coleoptera in Latimer County in Oklahoma. Most of his specimens are deposited in the Florida State Collection of Arthropods, in Texas A&M Insect Collection, and in the Field Museum of Natural History (Staphylinidae and Histeridae).

**Distribution.** This species is known only from Culberson County in western Texas and Pima County in southern Arizona [Ball 1972: 194, Fig. 13].

**Records. USA:** AZ, TX

**Subgenus *Harpalobius* Reitter, 1900**

*Harpalobius* Reitter, 1900: 76. Type species: *Harpalus fuscipalpis* Sturm, 1818 designated by Habu (1973a: 68). Etymology. From the generic name *Harpalus* [*q.v.*] and the Greek *bios* (life) [masculine].

*Harpalellus* Lindroth, 1968: 815. Type species: *Harpalus basilaris* Kirby, 1837 (= *Harpalus fuscipalpis* Sturm, 1818) by original designation. Synonymy established by Kataev (1989: 219). Etymology. From the generic name *Harpalus* [*q.v.*] and the suffix *-ellus* (small, little) [masculine].

**Diversity.** Four Palearctic species, of which one is Holarctic.

**Identification.** The North American species was covered in Lindroth (1968: 815-817) monograph under the name *Harpalellus basilaris*.

***Harpalus fuscipalpis* Sturm, 1818**

*Carabus contristatus* Duftschmid, 1812: 102 [potential *nomen oblitum*]. Type locality: «Wien [Austria]» (original citation). Syntype(s) probably lost (see Ledoux and Roux 2005: 682).

*Harpalus fuscipalpis* Sturm, 1818: 66 [potential *nomen protectum*]. Type locality: «Oesterreich [= Austria]» (original citation). Syntype(s) location unknown. Synonymy established by Schaum (1860: 610).

*Harpalus basilaris* Kirby, 1837: 41. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1968: 816). Two syntypes in BMNH (Lindroth 1953b: 173). Synonymy established by Kataev (1989: 219).

*Harpalus taphrioides* Motschulsky, 1844: 201. Type locality: «step[pe]s Kislar» (lectotype label). Lectotype (♂), designated by Kataev (1989: 221), in ZMMU. Synonymy established by Kataev (1989: 219).

*Harpalus fulvipennis* Motschulsky, 1844: 221. Type locality: «Kulscha Bäd[er], Transbaic[alia] [Russia]» (lectotype label). Lectotype (♂), designated by Kataev (1989: 221), in ZMMU. Synonymy established by Kataev (1989: 219).

*Harpalus varicornis* LeConte, 1847: 401. Type locality: «Lacum Superiorem» (original citation). One syntype in MCZ [# 5909]. Synonymy established, under the name *Harpalellus basilaris* Kirby, by Lindroth (1968: 816).

*Harpalus celioïdes* Ménétriés, 1848: 39. Type locality: «steppes des Kirghises?» (original citation). Lectotype (♂), designated by Kataev (1989: 221), in ZILR. Synonymy established by Kataev (1989: 219).

*Harpalus obesulus* LeConte, 1852a: 185. Type locality: «Oregon» (original citation). Holotype [by monotypy] (♀) in MCZ [# 94]. Synonymy established, under the name *H. basilaris* Kirby, by LeConte (1870: 397), confirmed by Lindroth (1968: 816).

*Amara extensa* Walker, 1866: 314. Type locality: British Columbia (inferred from title of the book). Syntype(s) in BMNH. Synonymy established, under the name *H. basilaris* Kirby, by LeConte (1873b: 325), confirmed by Lindroth (1954b: 142).



*Harpalus turculus* Bates, 1878b: 714. Type locality: «probably near Yarkand [Kashgaria, China]» (original citation). Lectotype (♂), designated by Kataev (2002: 193), in MHNP. Synonymy established by Kataev (2002: 193).

*Harpalus oblongus* Casey, 1914: 126. Type locality: «Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 140), in USNM [# 47836]. Synonymy established, under the name *H. basilaris* Kirby, by Hatch (1953: 171), confirmed by Lindroth (1968: 816).

*Harpalus sejunctus* Casey, 1914: 126. Type locality: «Eldora [Boulder County], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47858]. Synonymy established, under the name *Harpalellus basilaris* Kirby, by Lindroth (1968: 816).

*Harpalus renoicus* Casey, 1914: 127. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47857]. Synonymy established, under the name *Harpalellus basilaris* Kirby, by Lindroth (1968: 816).

*Harpalus furviculus* Casey, 1924: 110. Type locality: «Wawawai [Whitman County], Washington» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 140), in USNM [# 47840]. Synonymy established, under the name *H. basilaris* Kirby, by Hatch (1953: 171), confirmed by Lindroth (1968: 816).

*Harpalus stocktonensis* Casey, 1924: 111. Type locality: «Stockton [Tooele County], Utah» (original citation). Holotype [by monotypy] (♀) in USNM [# 47832]. Synonymy established, under the name *Harpalellus basilaris* Kirby, by Lindroth (1968: 816).

*Harpalus ventricosus* Casey, 1924: 111. Type locality: «Spencer, British Columbia» (original citation). Holotype [by monotypy] (♀) in USNM [# 47841]. Synonymy established, under the name *H. basilaris* Kirby, by Hatch (1953: 171), confirmed by Lindroth (1968: 816).

*Harpalus durescans* Casey, 1924: 111. Type locality: «F[or]t Coulonge, Quebec» (original citation). Lectotype (♀), designated by Lindroth (1975: 140), in USNM [# 47842]. Synonymy established, under the name *Harpalellus basilaris* Kirby, by Lindroth (1968: 816).

*Harpalus subenormis* Casey, 1924: 113. Type locality: «Callao [Juab County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 140), in USNM [# 47859]. Synonymy established, under the name *Harpalellus basilaris* Kirby, by Lindroth (1968: 816).

**Distribution.** This Holarctic species ranges from Germany to eastern Siberia (Kataev et al. 2003: 376) and from Alaska to Nova Scotia (Lindroth 1968: 817, as *Harpalellus basilaris*), south to northwestern Ohio (Lucas County, Harry J. Lee, Jr. pers. comm. 2008), southeastern Wisconsin (Messer 2010: 41), northern Iowa (Wickham 1911b: 8, as *H. basilaris*), northwestern New Mexico (Lindroth 1968: 816), and northern California (Siskiyou County, CNC).

**Records.** CAN: AB, BC (VCI), MB, NS, NT, ON, QC, SK, YT **USA:** AK, AZ, CA, CO, IA, ID, MI, MN, MT, ND, NH, NM, NV, OH, OR, SD, UT, WA, WI, WY – **Holarctic**

**Genus** *HARPALOBACHYS* Tschitschérine, 1899

*Harpalobrachys* Tschitschérine, 1899c: 601. Type species: *Harpalus leiroides* Motschulsky, 1844 by monotypy. Etymology. From the generic name *Harpalus* [*q.v.*] and the Greek *brachys* (short) [masculine].

**Diversity.** One Holarctic species.

**Identification.** The species was treated by Lindroth (1968: 748-749) and Noonan (1991: 212-213).

**Taxonomic Note.** Noonan (1991: 211) treated this taxon as a group within the genus *Harpalus*. Lindroth (1968: 748), Kryzhanovskij et al. (1995: 140), and Kataev et al. (2003: 370) regarded *Harpalobrachys* as a distinct genus.

*Harpalobrachys leiroides* (Motschulsky, 1844)

*Harpalus leiroides* Motschulsky, 1844: 217. Type locality: «environs de Koul [near Nerchinsk, eastern Siberia, Russia] sur la grande route de Nertchinsk» (original citation). Five syntypes in ZMMU (Keleinikova 1976: 203).

**Distribution.** This Holarctic species ranges from the European part of Russia to eastern Siberia (Kataev et al. 2003: 370) and in the Nearctic Region from east-central Alaska to southern Northwest Territories (Lindroth 1968: 749), south to central Alberta (Bousquet 1987a: 130). The species is rarely collected on this continent.

**Records.** CAN: AB, NT, YT **USA:** AK – **Holarctic**

**Genus** *HARTONYMUS* Casey, 1914

*Hartonymus* Casey, 1914: 165. Type species: *Hartonymus hoodi* Casey, 1914 by original designation. Etymology. From the surname of Charles Arthur Hart [1859-1918], an entomologist at the Illinois State Natural History Survey who first found adults of the type species [masculine].

**Diversity.** Two allopatric species in temperate areas of North America.

**Identification.** Ball (1976b) revised the species and provided a key for their recognition.

*Hartonymus alternatus* (LeConte, 1863)

*Cratognathus alternatus* LeConte, 1863c: 13. Type locality: «Arkansas» (original citation). Lectotype (♂), designated by Ball (1976b: 425), in CMNH (collection Ulke).

**Distribution.** This species is known from “Arkansas” to eastern New Mexico [see Ball 1976b: Fig. 7], including southeastern Colorado (Michels et al. 2008).

**Records.** **USA:** AR, CO, NM, OK, TX

***Hartonymus hoodi* Casey, 1914**

*Hartonymus hoodi* Casey, 1914: 167. Type locality: «Topeka [Mason County], Illinois» (original citation). Lectotype (♀), designated by Ball (1976b: 423), in USNM [# 47906]. Etymology. The specific name honors Joseph Douglas Hood [1889–1966], professor at the University of Rochester and later at Cornell University. Hood (1952) recounted that while he already had the description of this species ready for publication and a drawing of the habitus of the adult, for which he paid \$6.00 in 1911, he visited Casey in Washington to “ask him to check my determination.” Casey looked at the specimens, closed the box which he carefully placed at the near corner of his desk and said to Hood “I am an old man. This is the finest carabid that I have ever seen or will see, and I hope that you will allow me to describe it.”

**Distribution.** This species is found along the Mississippi Basin from west-central Wisconsin (Messer 2010: 41) to eastern Nebraska (Colfax County, Foster F. Purrington pers. comm. 2010; Greeley County, R. Michael Brattain collection), south to Oklahoma (Ball and Bousquet 2000: 99) and Missouri [see Ball 1976b: Fig. 7].

**Records. USA:** IA, IL, MO, NE, OK, WI

**Genus *AMBLYGNATHUS* Dejean, 1829**

*Amblygnathus* Dejean, 1829: 62. Type species: *Amblygnathus cephalotes* Dejean, 1829 designated by Brullé (1835b: 10). Etymology (original). From the Greek *amblys* (blunt, obtuse) and *gnathos* (jaw, by extension mandible), alluding to the obtuse mandibles (“*mandibules ... obtuses*”) of adults of the four species Dejean had before him [masculine].

**Diversity.** Twenty-four species in temperate, subtropical, and tropical areas of the Nearctic (four species, only one endemic) and Neotropical (23 species) Regions, including the West Indies (three species, one of them endemic).

**Identification.** Ball and Maddison (1987) revised the species and provided a key for their identification.

***Amblygnathus evansi* Ball and Maddison, 1987**

*Amblygnathus evansi* Ball and Maddison, 1987: 214. Type locality: «Mazatlan, State of Sinaloa, México» (original citation). Holotype (♂) in USNM. Etymology. The specific name was proposed in honor of Howard Ensign Evans [1919–2002], an internationally recognized authority on the systematics and behavior of Hymenoptera, especially the Sphecidae, Pompilidae, and Bethyridae. During his academic career, Evans worked at the Kansas State University (1949–1952), Cornell University (1952–1960), the Museum of Comparative Zoology (1960–1973), and the Colorado State University (1973–1986). He described one new wasp family (Scolebythidae), 31 new genera, and almost 800 new species of wasps.

**Distribution.** This species ranges from southeastern California and southwestern Arizona, south along the Pacific Coast to El Salvador [see Ball and Maddison 1987: Fig. 29].

**Records. USA:** AZ, CA – El Salvador, Guatemala, Mexico

*Amblygnathus iripennis* (Say, 1823)

*Harpalus iripennis* Say, 1823a: 30. Type locality: «Ent[er]prise [Volusia County], Fl[orid]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 353), in MCZ [# 32989].

*Selenophorus varicolor* LeConte, 1847: 392. Type locality: «Pennsylvania et Georgia» (original citation). Lectotype (♀), designated by Ball and Maddison (1987: 206), in MCZ [# 5920]. Synonymy established by LeConte (1863b: 13), confirmed by Ball and Maddison (1987: 206).

**Distribution.** This species is found along and near the Atlantic Coastal Plain from New Jersey to the Florida Keys [see Ball and Maddison 1987: Fig. 28] and along the Gulf of Mexico in southwestern Alabama (Löding 1945: 25; Robert L. Davidson pers. comm. 2012). The record from “Pennsylvania” (LeConte 1847: 392), “Illinois,” and “Texas” (Horn 1880e: 182) are probably in error.

**Records. USA:** AL, FL, GA, MD, NC, NJ, SC, VA

*Amblygnathus mexicanus* Bates, 1882

*Amblygnathus mexicanus* Bates, 1882a: 66. Type locality: «Cordova [Veracruz], Mexico» (original citation). Lectotype (♀), designated by Ball and Maddison (1987: 208), in BMNH.

*Hemisopalus delumbis* Casey, 1914: 140. Type locality: «Lake Worth [Palm Beach County], Florida» (original citation). Lectotype (♀), designated by Ball and Maddison (1987: 208), in USNM [# 47872]. Synonymy established by Ball and Maddison (1987: 208).

**Distribution.** This species ranges along the Coastal Plain from New Jersey to southern Florida, west to southeastern Texas, north along the Mississippi Basin to southern Arkansas (Ouachita County, CMNH) and northeastern Mississippi; south of the Rio Grande it occurs through eastern Mexico and Central America to the Canal Zone in Panama [see Ball and Maddison 1987: Fig. 29]. The record from “Pennsylvania” (Ball and Maddison 1987: 210) needs confirmation.

**Records. USA:** AL, AR, FL, GA, LA, MS, NC, NJ, SC, TX, VA [PA] – Guatemala, Honduras, Mexico, Nicaragua, Panama

*Amblygnathus subtinctus* (LeConte, 1867)

*Selenophorus subtinctus* LeConte, 1867b: 365. Type locality: «Louisiana» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5919].



*Hemisopalus angulatus* Casey, 1914: 139. Type locality: «Brownsville [Cameron County], Texas» (original citation). Lectotype [as holotype] (♀), designated by Ball and Maddison (1987: 226), in USNM [# 47871]. Synonymy established by Ball and Maddison (1987: 226).

**Distribution.** The range of this species extends along the Gulf Coast from the Florida Panhandle (Jefferson County, CMNH) to central Veracruz in Mexico [see Ball and Maddison 1987: Fig. 31].

**Records. USA:** FL, LA, MS, TX – Mexico

### Genus *ATHROSTICTUS* Bates, 1878

*Athrostictus* Bates, 1878a: 592. Type species: *Athrostictus sericatus* Bates, 1878 designated by Noonan (1976: 41). Etymology. From the Greek *athroos* (assembled, crowded) and *stictos* (punctured), alluding to the dense punctuation on the dorsum of the body (“*corpus ... supra (praecipue elytris) dense minute punctatum*”) of the adult [masculine]. NOTE. *Arthrostictus* is an incorrect subsequent spelling, introduced by Rye (1880: 33), not in prevailing usage.

**Diversity.** Eighteen species in the Neotropical Region, of which one extends into southern Texas.

**Identification.** There is no modern key for the identification of the species. The genus is in need of a revision.

### *Athrostictus punctatulus* (Putzeys, 1878)

*Selenophorus punctatulus* Putzeys, 1878: 65. Type species: «Yucatan» (original citation). Syntype(s) [8 originally cited] in MHNP (collection Chaudoir) and probably IRSN (collection Putzeys).

*Selenophorus perpolitus* Casey, 1884c: 76. Type locality: «Texas» (original citation). Three syntypes [6 originally cited] in USNM [# 47866]. **New synonymy** (based on a communication of George E. Ball posted on <http://bugguide.net/node/view/204062>).

**Distribution.** This species is known from northeastern Arkansas (Kraim 1983: 137, as *Selenophorus perpolitus*), Amite County in southwestern Mississippi (Peter W. Messers pers. comm. 2012), East Baton Rouge Parish in southern Louisiana (Igor Sokolov pers. comm. 2009), and from southern Texas (Johnson 1978: 68; Zapata, Live Oak, and Uvalde Counties, CMNH) to Yucatán (Putzeys 1878: 65).

**Records. USA:** AR, LA, MS, TX – Mexico

**Note.** The systematic position of this species is not quite settled. It was transferred to the genus *Athrostictus* by Erwin [in Reichardt 1977: 428, under the spelling *A. punculatus* (Putzeys, 1878)]. It was retained in the genus *Selenophorus* by Noonan (1985: 41) although he did not study specimens. Bates (1891a: 243) wrote “the species [i.e., *Selenophorus punctatulus*] belongs to a group of the genus in which the thorax (except on the disk) and the elytra are closely punctured, a group which connects *Selenophorus* with *Arthrostictus* [sic].”



**Genus *SELENOPHORUS* Dejean, 1829**

*Selenophorus* Dejean, 1829: 80. Type species: *Carabus palliatus* Fabricius, 1798 designated by Hope (1838: 84). Etymology (original). From the Greek *selenis* (half-moon, lunule) and *phero* (to bear, carry), possibly alluding to the shape of the mentum of the adult which, in the absence of a median tooth, is in the shape of a half-moon (“*menton échancré en arc de cercle*”) [masculine].

**Diversity.** Western Hemisphere, with about 190 species arrayed in two subgenera: *Celiamorphus* and *Selenophorus s.str.*, both represented in North America.

**Identification.** Putzeys (1878) reviewed the genus but his work is outdated. About one-third of the currently recognized valid North American species were described by Casey and there is little doubt that several of them will turn out to be synonyms. A revision of the genus is much needed.

**Subgenus *Celiamorphus* Casey, 1914**

*Celiamorphus* Casey, 1914: 141. Type species: *Selenophorus ellipticus* Dejean, 1829 designated by Lindroth (1968: 828). Etymology. From the generic name *Celia* [*q.v.*] and the Greek *morphe* (form), probably alluding to a vague resemblance of adults of the species Casey had before him to those of *Celia* [masculine].

**Diversity.** Fourteen species in temperate, subtropical, and tropical areas of the Nearctic (nine species) and Neotropical (eight species) Regions.

***Selenophorus adjunctus* (Casey, 1914)**

*Celiamorphus adjunctus* Casey, 1914: 144. Type locality: «Galveston [Galveston County], Texas» (original citation). Four syntypes [5 originally cited] in USNM [# 47875].

**Distribution.** This species is known only from the type locality in southeastern Texas.  
**Records. USA:** TX

***Selenophorus contractus* (Casey, 1914)**

*Celiamorphus contractus* Casey, 1914: 144. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). One syntype in USNM [# 47876].

**Distribution.** This species is known from North Carolina (Casey 1914: 144) and northeastern Georgia (Fattig 1949: 48).

**Records. USA:** GA, NC

***Selenophorus discopunctatus* Dejean, 1829**

*Selenophorus discopunctatus* Dejean, 1829: 92. Type locality: «île Saint-Barthélemy [Guadeloupe]; Amérique septentrionale» (original citation). Syntype(s) location unknown (not found in MHNP, George E. Ball pers. comm. 2008).

*Selenophorus cuprinus* Dejean, 1829: 96. Type locality: «île Saint-Barthélemy [Gua-deloupe]» (original citation). Syntype(s) in MHNP. Synonymy established by Putzeys (1878: 25).

*Selenophorus harpaloides* Reiche, 1843b: 142. Type locality: «Caracas, Venezuela» (original citation). Syntype(s) in MHNP (George E. Ball pers. comm. 2008). Synonymy established by Putzeys (1878: 25).

*Selenophorus aeratus* Reiche, 1843b: 142. Type locality: «Colombia» (original citation). Syntype(s) in MHNP (George E. Ball pers. comm. 2008). Synonymy established by Putzeys (1878: 25).

*Selenophorus chokoloskei* Leng, 1915: 596. Type locality: «Chokoloskee; Everglade [Florida]» (original citation). Syntype(s) location unknown. Synonymy established by Darlington (1935a: 161).

**Distribution.** This species is found in Mississippi (Harrison, Jackson, and Stone Counties, Paul K. Lago pers. comm. 2009), throughout the Florida Peninsula (Peck and Thomas 1998: 22), on several islands of the West Indies (Peck 2005: 32; Peck 2011: 13), and in Venezuela (Reiche 1843b: 142, as *S. harpaloides*) and Colombia (Reiche 1843b: 142, as *S. aeratus*).

**Records. USA:** FL, MS – Antigua, Bahamas, British Virgin Islands, Cayman Islands, Colombia, Cuba, Dominica, Guana Island, Hispaniola, Jamaica, Montserrat, Navassa, Puerto Rico, Venezuela

### *Selenophorus ellipticus* Dejean, 1829

*Selenophorus ellipticus* Dejean, 1829: 108. Type locality: «Amérique septentrionale» (original citation), restricted to «Atlantic City [Atlantic County], N[ew] J[ersey]» by Lindroth (1968: 829). One syntype in MHNP (Lindroth 1955b: 28).

*Selenophorus ovalis* Dejean, 1829: 106. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 27). Synonymy established by Lindroth (1968: 829).

*Celiamorphus opaculus* Casey, 1914: 143. Type locality: «Atlantic City [Atlantic County], New Jersey» (original citation). Lectotype (♂), designated by Lindroth (1975: 141), in USNM [# 47873]. Synonymy established by Lindroth (1968: 829).

*Celiamorphus currens* Casey, 1914: 143. Type locality: «Catskill M[oun]t[ain]s, New York» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 141), in USNM [# 47874]. Synonymy established by Lindroth (1968: 829).

**Distribution.** The range of this species extends from west-central Maine (Majka et al. 2011: 46) to eastern Minnesota (Gandhi et al. 2005: 931), south to “Texas” (Horn 1880e: 183) and southern Florida (Peck and Thomas 1998: 22); also cited from “northern Mexico” (Casey 1914: 143).

**Records. CAN:** ON **USA:** AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI – Mexico

***Selenophorus fossulatus* Dejean, 1829**

*Selenophorus fossulatus* Dejean, 1829: 88. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 28).

**Distribution.** This species is known from North Carolina (Brimley 1938: 128), Georgia (Horn 1880e: 182; Fattig 1949: 48), throughout Florida (Peck and Thomas 1998: 22), Alabama (Löding 1945: 25), and southeastern coastal Mississippi (Drew A. Hildebrandt pers. comm. 2007).

**Records. USA:** AL, FL, GA, MS, NC

***Selenophorus granarius* Dejean, 1829**

*Selenophorus granarius* Dejean, 1829: 109. Type locality: «Amérique septentrionale» (original citation), restricted to «Mass[achusetts]» by Lindroth (1968: 830). One syntype in MHNP (Lindroth 1955b: 28).

*Selenophorus pulicarius* Dejean, 1829: 108. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 28). Synonymy established by Putzeys (1878: 21), confirmed by Lindroth (1955b: 28).

**Distribution.** This species ranges from “Massachusetts” (Lindroth 1968: 830) to southern Florida (Vince Golia pers. comm. 2007), west to southern Texas (Johnson 1978: 67), and north along the Mississippi Basin to eastern Iowa (Linn County, Doug A. Veal pers. comm. 2009), “Illinois” (Bousquet and Laroche 1993: 239), and “Indiana” (Schrock 1985: 355).

**Records. USA:** AL, CT, FL, GA, IA, IL, IN, MA, MD, MS, NC, NJ, NY, RI, TX, VA

***Selenophorus municeps* (Casey, 1924)**

*Celiomorphus municeps* Casey, 1924: 117. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Two syntypes [2 originally cited] in USNM [# 47878].

**Distribution.** This species is known only from the type locality in central North Carolina.

**Records. USA:** NC

***Selenophorus nanulus* (Casey, 1924)**

*Celiomorphus nanulus* Casey, 1924: 118. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Two syntypes [2 ♂ originally cited] in USNM [# 47877].

**Distribution.** This species is known only from the type locality in central North Carolina.

**Records. USA:** NC

***Selenophorus subtropicus* (Casey, 1924)**

*Celiamorphus subtropicus* Casey, 1924: 118. Type locality: «Texas and northern Mexico» (original citation). Five syntypes [5 originally cited] in USNM [# 47879].

**Distribution.** This species is known only from the type series.

**Records. USA:** TX – Mexico

**Subgenus *Selenophorus* Dejean, 1829**

*Selenophorus* Dejean, 1829: 80. Type species: *Carabus palliatus* Fabricius, 1798 designated by Hope (1838: 84).

*Gynandropus* Dejean, 1831: 810, 817. Type species: *Gynandropus americanus* Dejean, 1831 (= *Harpalus hylacis* Say, 1823) by monotypy. Synonymy established by Noonan (1985: 39). Etymology (original). From the Greek *gyne* (female), *andros* (male), and *pous* (foot), alluding to the expanded first protarsomere of the male and female (“*les quatre premiers articles des ... tarses antérieurs dilatés dans les mâles ... le premier des tarses antérieurs des femelles fortement dilaté*”) [masculine].

*Hemisopalus* Casey, 1914: 135. Type species: *Harpalus opalinus* LeConte, 1863 by original designation. Synonymy established by Noonan (1976: 41).

**Diversity.** About 175 species in temperate, subtropical, and tropical areas of the Nearctic (29 species) and Neotropical (about 150 species) Regions.

***Selenophorus aeneopiceus* Casey, 1884**

*Selenophorus aeneopiceus* Casey, 1884b: 13. Type locality: «Arizona» (original citation). Six syntypes in USNM [# 47888].

**Distribution.** This species is known from northern Colorado (Denver and Boulder Counties, UASM) and southern Utah (Kane and Garfield Counties, CMNH) south to the Isthmus of Tehuantepec in Mexico (UASM).

**Records. USA:** AZ, CO, NM, TX, UT – Mexico

***Selenophorus blanchardi* Manee, 1915**

*Selenophorus blanchardi* Manee, 1915: 175. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). One syntype [4 originally cited] in ANSP [# 8223].

**Distribution.** This species is known from North Carolina (Manee 1915: 175), northeastern Georgia (Fattig 1949: 49), and southern South Carolina (Ciegler 2000: 103).

**Records. USA:** GA, NC, SC

***Selenophorus chaparralus* Purrington, 2000**

*Selenophorus chaparralus* Purrington, 2000: 9. Type locality: «Amistad Reservoir, Val Verde Co[unty], Tex[as]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from a few localities on the lower Rio Grande of southern Texas (Purrrington 2000: 9).

**Records. USA:** TX

***Selenophorus concinnus* Schaeffer, 1910**

*Selenophorus concinnus* Schaeffer, 1910: 403. Type locality: «Huachuca Mountains, Arizona» (original citation). Lectotype (♀), designated by Erwin and House (1978: 248), in USNM [# 42511].

**Distribution.** This species is known yet only from the Huachuca Mountains in southeastern Arizona.

**Records. USA:** AZ

***Selenophorus cupreolus* Casey, 1914**

*Selenophorus cupreolus* Casey, 1914: 149. Type locality: «Texas» (original citation). One syntype in USNM [# 47883].

**Distribution.** This species is known only from the type series.

**Records. USA:** TX

***Selenophorus discoderoides* Schaeffer, 1910**

*Selenophorus discoderoides* Schaeffer, 1910: 404. Type locality: «Esperanza Ranch, near Brownsville [Cameron County], Texas» (original citation for the lectotype). Lectotype (♂), designated by Erwin and House (1978: 248), in USNM [# 42512].

**Distribution.** This species is known only from southeastern Texas.

**Records. USA:** TX

***Selenophorus elongatus* (LeConte, 1847)**

*Gynandropus elongatus* LeConte, 1847: 408. Type locality: «Georgia» (original citation). One syntype in MCZ [# 5883].

**Distribution.** This species ranges from “Georgia” (LeConte 1847: 408) to central Florida (Peck and Thomas 1998: 22), west to southwestern Alabama (Löding 1945: 25).

**Records. USA:** AL, FL, GA

***Selenophorus famulus* Casey, 1914**

*Selenophorus famulus* Casey, 1914: 146. Type locality: «Arizona (probably southern)» (original citation). Five syntypes [5 originally cited] in USNM [# 47880].

**Distribution.** This species is known from southern Arizona (Cochise, Graham, Maricopa, Pima and Santa Cruz Counties, UASM), northern Sonora (UASM), Baja California Norte (UASM), and “California” (CMNH).



**Records. USA:** AZ, CA – Mexico

***Selenophorus fatuus* LeConte, 1863**

*Harpalus fatuus* LeConte, 1863c: 17. Type locality: «South Carolina to Texas» (original citation). Syntype(s) in MCZ [# 5917].

**Distribution.** This species ranges from North Carolina (Brimley 1938: 128) and northern Tennessee (Montgomery County, Foster F. Purrington pers. comm. 2011) to southern Florida (Peck and Thomas 1998: 22), west to eastern Texas (Johnson 1978: 68) and south to eastern Mexico (George E. Ball pers. comm. 2008).

**Records. USA:** AL, FL, GA, LA, MS, NC, SC, TN, TX – Mexico

***Selenophorus gagatinus* Dejean, 1829**

*Selenophorus gagatinus* Dejean, 1829: 112. Type locality: «Amérique septentrionale» (original citation), restricted to «Arlington [Middlesex County], Mass[achusetts]» by Lindroth (1968: 824). One syntype in MHNP (Lindroth 1955b: 27).

*Selenophorus maurus* Haldeman, 1843b: 301. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). One possible syntype, a ♀ labeled “[pink disc] / 243. [handwritten] / H. (S.) gagatinus (Dej.) maurus Hald. [handwritten],” in MCZ (collection LeConte). Synonymy established by LeConte (1847: 390).

*Selenophorus viridescens* LeConte, 1847: 392. Type locality: «insula Longa NovEboraci [= Long Island, New York]» (original citation). Syntype(s) in MCZ [# 5921]. Synonymy established by Horn (1880e: 183).

**Distribution.** The range of this species extends from Nova Scotia (Kings County, NSNH) to central Wisconsin (Purrington et al. 2002: 201), south to central Texas (Travis County, UASM) and southern Florida (Peck and Thomas 1998: 22). The records from southern Arizona (Horn 1880e: 181; Wickham 1898: 301) need confirmation.

**Records. CAN:** NB, NS, ON, QC **USA:** AL, AR, CT, DC, FL, GA, IL, IN, MA, MD, ME, MI, MO, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TX, VA, VT, WI, WV [AZ]

***Selenophorus houstoni* Casey, 1914**

*Selenophorus houstoni* Casey, 1914: 151. Type locality: «Austin [Travis County], Texas» (original citation). Six syntypes in USNM [# 47886].

**Distribution.** This species is known only from the type locality in central Texas.

**Records. USA:** TX

***Selenophorus hylacis* (Say, 1823)**

*Harpalus hylacis* Say, 1823a: 31. Type locality: «Dorchester [Suffolk County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 32988].

*Gynandropus americanus* Dejean, 1831: 818. Type locality: «Amérique septentrionale» (original citation). One syntype [2 originally cited] in MHNP (Lindroth 1955b: 29). Synonymy established by LeConte (1847: 408), confirmed by Lindroth (1955b: 29).

**Distribution.** This species is found from southwestern Maine (Majka et al. 2011: 46) to eastern Minnesota (Gandhi et al. 2005: 931), including southernmost Ontario (possibly only as strays) (Lindroth 1968: 821), south to eastern Texas (Nacogdoches County, CMNH) and central Florida (Manatee County, CNC).

**Records.** CAN: ON USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WI, WV

### *Selenophorus implicans* Casey, 1914

*Selenophorus implicans* Casey, 1914: 151. Type locality: «Alexandria [Rapides Parish], Louisiana» (original citation). Three syntypes [3 originally cited] in USNM [# 47887].

**Distribution.** This species is known from central Louisiana (Casey 1914: 151) and Texas (Leng 1920: 72; McCulloch County, USNM). One specimen determined by Casey (USNM) from Kansas is known.

**Records.** USA: LA, TX [KS]

### *Selenophorus integer* (Fabricius, 1798)

*Carabus integer* Fabricius, 1798: 58 (as *nteger*). Type locality: «Americae Insulis» (original citation). One syntype in ZMUC (Zimsen 1964: 57). NOTE. The spelling *integer*, used by all subsequent authors, is an incorrect subsequent spelling in prevailing usage and attributed to the publication of the original spelling; therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

**Distribution.** This species is known from southern Florida and several islands of the West Indies (Peck and Thomas 1998: 22).

**Records.** USA: FL – Bahamas, Cuba, Hispaniola, Jamaica, Puerto Rico

### *Selenophorus laesus* (LeConte, 1858)

*Harpalus laesus* LeConte, 1858b: 59. Type locality: «Fort Gates, Texas and Tampico [Tamaulipas]» (original citation). Syntype(s) in MCZ [# 5914].

**Distribution.** This species ranges from central Texas south at least to southern Tamaulipas in Mexico (LeConte 1858b: 59). The record from “Arizona” (Bousquet and Laroche 1993: 241) needs confirmation.

**Records.** USA: TX [AZ] – Mexico

**Note.** Horn (1880e: 180) regarded *S. palliatus* (Fabricius) as synonym of this species.

***Selenophorus maritimus* Casey, 1914**

*Selenophorus maritimus* Casey, 1914: 148. Type locality: «Galveston [Galveston County], Texas» (original citation). Two syntypes in USNM [# 47882].

**Distribution.** This species is known from central and southern Florida (Vince Golias pers. comm. 2007; Highland and Palm Beach Counties, CMNH, UASM), southern Mississippi (Hancock and Jackson Counties, Drew A. Hildebrandt pers. comm. 2008; Lago et al. 2002: 202), and southern Texas (Casey 1914: 148; Zapata and San Patricio Counties, CMNH, UASM).

**Records. USA:** FL, MS, TX

***Selenophorus opalinus* (LeConte, 1863)**

*Selenophorus iripennis* LeConte, 1847: 389 [secondary homonym of *Selenophorus iripennis* (Say, 1823)]. Type locality: «Carolina, et NovEboraci [= New York]» (original citation), restricted to «Carolina» by Lindroth (1968: 824). Syntype(s) in MCZ [# 32989].

*Harpalus opalinus* LeConte, 1863b: 13. Replacement name for *Harpalus iripennis* (LeConte, 1847).

**Distribution.** The range of this species extends from western New Brunswick (Webster and Bousquet 2008: 19) to Minnesota (Epstein and Kulman 1990: 215) and South Dakota (Kirk and Balsbaugh 1975: 30), including southern Quebec and Ontario (Lindroth 1968: 824), north to southeastern Manitoba (Roughley et al. 2010: 230), south to southern Texas (Johnson 1978: 67), the Florida Keys (Peck and Thomas 1998: 22), and South Bimini Island in the Bahamas (Ball and Shpeley 1992b: 96).

**Records. CAN:** MB, NB, ON, QC **USA:** AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV – Bahamas

***Selenophorus otiosus* Casey, 1914**

*Selenophorus otiosus* Casey, 1914: 148. Type locality: «Arizona (southern)» (original citation). One syntype in USNM [# 47881].

**Distribution.** This species is known only from the type series.

**Records. USA:** AZ

***Selenophorus palliatus* (Fabricius, 1798)**

*Carabus palliatus* Fabricius, 1798: 58. Type locality: «America boreali» (original citation). One syntype in ZMUC (Zimsen 1964: 57).

*Harpalus stigmosus* Germar, 1824: 25. Type locality: «Georgia» (original citation). Syntype(s) probably lost. Synonymy established by Brullé (1835c: 290).

*Selenophorus impressus* Dejean, 1829: 82. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 28). Synonymy established with the name *S. stigmatosus* Germar by Dejean (1829: 82), confirmed by Lindroth (1955b: 28).

**Distribution.** This species is found throughout much of southern United States from North Carolina (Brimley 1938: 128) to the Florida Keys and the Bahamas (Peck and Thomas 1998: 22), west to southeastern California (Andrews et al. 1979: 28) and the Baja California Peninsula (Horn 1894: 312), including southern Illinois (Union and Pope Counties, UASM), south to southeastern Texas (Wickham 1897: 113; Johnson 1978: 68; Cameron and San Patricio Counties, UASM) and San Luis Potosí (UASM). The record from “Virginia” (Bousquet and Laroche 1993: 241) needs confirmation.  
**Records. USA:** AL, AR, AZ, CA, FL, GA, IL, LA, MS, NC, NM, SC, TX [VA] – Bahamas, Mexico

### *Selenophorus parumpunctatus* Dejean, 1829

*Carabus sinuatus* Gyllenhal [in Schönherr], 1806: 203 [primary homonym of *Carabus sinuatus* Gmelin, 1790]. Type locality: «Americae insulis» (original citation). Syntype(s) location unknown (possibly in UZIU).

*Selenophorus parumpunctatus* Dejean, 1829: 104. Type locality: «je crois qu’il vient d’Amérique et probablement des Antilles, mais je n’en suis pas certain [I believe it came from America and probably from the West Indies but I am not certain]» (original citation). Syntype(s) in MHNP (George E. Ball pers. comm. 2008). **New synonymy** (George E. Ball pers. comm. 2008).

*Selenophorus excisus* LeConte, 1878b: 377 [primary homonym of *Selenophorus excisus* Putzeys, 1878]. Type locality: «southern Florida» (original citation). Syntype(s) [3 originally cited] in MCZ [# 5918]. **New synonymy** (George E. Ball pers. comm. 2008).

*Selenophorus mustus* Casey, 1914: 152. Type locality: «Biscayne Bay [Dade County], Florida» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47889]. Synonymy established, under the name *S. excisus* LeConte, by Casey (1918: 413).

**Distribution.** This species is known from southern Florida (Peck and Thomas 1998: 22, as *S. sinuatus*) and several islands of the West Indies (Peck 2011: 13). The record from South Carolina (Ciegler 2000: 103, as *S. mustus*) is probably in error.

**Records. USA:** FL – Antigua, Bahamas, Barbados, Cayman Islands, Cuba, Dominica, Guadeloupe, Guana Island, Hispaniola, Jamaica, Montserrat, Navassa, Puerto Rico, Virgin Islands.

### *Selenophorus pedicularius* Dejean, 1829

*Selenophorus pedicularius* Dejean, 1829: 100. Type locality: «Amérique septentrionale» (original citation), restricted to «Fort Worth [Tarrant County], Texas» by Lindroth (1968: 825). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 29).

*Selenophorus troglodytes* Dejean, 1829: 101. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 28).

Synonymy established by Horn (1880e: 183), confirmed by Lindroth (1955b: 28).

*Selenophorus aereus* LeConte, 1847: 393. Type locality: «territorio Missouriensi» (original citation). Syntype(s) in MCZ [# 5915]. Synonymy established by Horn (1880e: 183), confirmed by Lindroth (1968: 825).

*Selenophorus puellus* Putzeys, 1878: 40. Type locality: «Etats-unis» (original citation). Syntype(s) [9 originally cited] in MHNP (collection Chaudoir). Synonymy established by Horn (1880e: 180), confirmed by Lindroth (1955b: 29).

**Distribution.** This species is found from Connecticut (Krinsky and Oliver 2001: 218) to southern Montana (Hatch 1933a: 10), south to southern New Mexico (Fall and Cockerell 1907: 162), southern Texas (Johnson 1978: 67), and central Florida (Peck and Thomas 1998: 22), west along the south to southern Arizona (Griffith 1900: 566; Snow 1906b: 163; Snow 1907: 142; Greenlee and Pima Counties, CMNH) and Baja California (Horn 1894: 311).

**Records.** CAN: ON USA: AL, AR, AZ, CO, CT, DC, FL, GA, IA, IL, IN, KS, LA, MD, MO, MS, MT, NC, NJ, NM, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV, WY – Mexico

### *Selenophorus planipennis* LeConte, 1847

*Selenophorus planipennis* LeConte, 1847: 394. Type locality: «prope Long's Peak [Boulder County, Colorado], Rocky Mountains» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5916].

**Distribution.** This species ranges from southernmost Ontario (possibly only as strays) to south-central British Columbia (Lindroth 1968: 828), south to northeastern Oregon (Westcott et al. 2006: 9), Durango in Mexico (Ball and Shpeley 1992a: 59), northwestern Mississippi (Bolivar County, Drew A. Hildebrandt pers. comm. 2008), and northwestern Ohio (Lucas County, Harry J. Lee, Jr. pers. comm. 2008).

**Records.** CAN: AB, BC, MB, ON, SK USA: AZ, CO, IA, IL, KS, MI, MN, MS, MT, ND, NE, NM, OH, OK, OR, SD, TX, UT, WI, WY – Mexico

### *Selenophorus riparius* Casey, 1914

*Selenophorus riparius* Casey, 1914: 150. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). One syntype in USNM [# 47885].

**Distribution.** This species is known only from the type locality in western Mississippi.

**Records.** USA: MS



***Selenophorus schaefferi* Csiki, 1932**

*Selenophorus schaefferi* Csiki, 1932a: 1201. Type locality: «Huachuca Mountains [Cochise County] and Yuma County, Arizona» (original citation for *S. semirufus* Bates *sensu* Schaeffer, 1910). Syntype(s) [2 originally cited] probably in USNM. NOTE. This name was proposed for *Selenophorus semirufus* Bates, 1882 *sensu* Schaeffer (1910: 403) and the name is available by indication (bibliographic reference to a previously published description).

**Distribution.** This species is known from the Huachuca Mountains and Yuma County in southern Arizona (Schaeffer 1910: 403) and from Riverside County in southeastern California (Andrews et al. 1979: 28, as *S. semirufus*). The record from “Texas” (Csiki 1932a: 1201) is probably in error.

**Records. USA:** AZ, CA

***Selenophorus scolopaceus* Casey, 1914**

*Selenophorus scolopaceus* Casey, 1914: 150. Type locality: «Colorado» (original citation). One syntype in USNM [# 47884].

**Distribution.** This species is known only from the type series.

**Records. USA:** CO

***Selenophorus sinuaticollis* Notman, 1922**

*Selenophorus sinuaticollis* Notman, 1922b: 102. Type locality: «Tucson [Pima County], Ariz[ona]» (original citation). Holotype (♀) in USNM [# 26590].

**Distribution.** This species is known from the type locality in southern Arizona, from southern New Mexico (Dona Ana County, CMNH), and from southern Sonora in Mexico (UASM).

**Records. USA:** AZ, NM – Mexico

***Selenophorus striatopunctatus* Putzeys, 1878**

*Selenophorus striatopunctatus* Putzeys, 1878: 33. Type locality: «Antilles; Chiapas, Mexique» (original citation). Syntype(s) in MHNP (collection Chaudoir) and probably IRSN (collection Putzeys).

*Hemisopalus vigilans* Casey, 1914: 137. Type locality: «Florida» (original citation). One syntype in USNM [# 47869]. Synonymy established by Peck and Thomas (1998: 22).

*Hemisopalus depressulus* Casey, 1914: 137. Type locality: «Lake Worth [Palm Beach County], Florida» (original citation). Lectotype (♂), designated by Lindroth (1975: 141), in USNM [# 47867]. Synonymy established by Peck and Thomas (1998: 22).

**Distribution.** This species is known so far from Florida and several islands of the West Indies (Peck and Thomas 1998: 22; Peck 2009a: 13), from south-central Louisiana (Saint Landry Parish, Igor M. Sokolov pers. comm. 2009), as well as from southern Texas (Johnson 1978: 67; San Patricio and Cameron Counties, UASM), southern Mexico (Putzeys 1878: 33), and Colombia (Martínez 2003: 9). The record from Georgia (Fattig 1949: 48, as *S. depressulus*) needs confirmation. The species is adventive on several islands of Hawaii (Liebherr 2009: 403).

**Records. USA:** FL, LA, TX [GA] – Bahamas, Barbados, Cayman Islands, Cuba, Colombia, Dominican Republic, Jamaica, Leeward Islands, Mexico, Puerto Rico, Windward Islands

### ***Selenophorus trepidus* (Casey, 1924)**

*Hemisopalus trepidus* Casey, 1924: 117. Type locality: «Cape Sable [Monroe County], Florida» (original citation). Holotype [by monotypy] (♀) in USNM [# 47868].

**Distribution.** This species is known only from the type locality in southern Florida.

**Records. USA:** FL

[*incertae sedis*]

### ***Selenophorus brevisculus* Horn, 1880**

*Selenophorus brevisculus* G.H. Horn, 1880e: 181. Type locality: «Fort Cobb [Caddo County, Oklahoma], Indian Territory» (original citation). One syntype [2 originally cited] in MCZ [# 34543] and one in CMNH (collection Ulke).

**Distribution.** This peculiar species is known from southern Kansas (Barber County, Robert L. Davidson pers. comm. 2012), west-central Oklahoma (Horn 1880e: 181), and northeastern Texas (Hunt County, CNC).

**Records. USA:** KS, OK, TX

**Note.** The systematic position of this species is not settled. It was not listed by Noonan (1985) in his classification and names of the Selenophori group. The species is markedly distinctive in its structural characters.

### **Genus *DISCODERUS* LeConte, 1853**

*Discoderus* LeConte, 1853c: 381. Type species: *Selenophorus parallelus* Haldeman, 1843 designated by Lindroth (1968: 830). Etymology. From the Greek *discos* (circular plate) and *dere* (neck, by extension pronotum), alluding to the rounded lateral edges of the pronota (“*thorace ... lateribus rotundatis*” for *D. parallelus* and “*magis rotundatis*” for *D. tenebrosus*) of adults of the two species LeConte had before him [masculine].

*Selenalius* Casey, 1914: 153. Type species: *Discoderus cordicollis* Horn, 1891 by original designation. Synonymy established by Noonan (1985: 48).

**Diversity.** Twenty-eight species in North America (19 species) and Middle America (11 species).

**Identification.** This genus has never been revised and such study is much needed. More than 60% of the currently valid North American species have been described by Casey and some of them will certainly fall in synonymy.

***Discoderus aequalis* Casey, 1914**

*Discoderus aequalis* Casey, 1914: 161. Type locality: «Texas» (original citation). Two syntypes in USNM [# 47899].

**Distribution.** This species is known from western Missouri (Vernon County, UASM), Texas (several Counties, UASM), southeastern New Mexico (Chaves County, UASM), and southeastern Arizona (Cochise County, UASM).

**Records. USA:** AZ, MO, NM, TX

***Discoderus amoenus* LeConte, 1863**

*Discoderus amoenus* LeConte, 1863c: 14. Type locality: «New Mexico» (original citation). Syntype(s) location unknown. NOTE. The single specimen in the LeConte collection, labeled “Utah” and “Type 5881,” is not a syntype.

**Distribution.** This species ranges from eastern Wyoming (Lavigne 1977: 45) to southeastern Oregon (Westcott et al. 2006: 8), south to southern California (Fall 1901a: 50) and south-central New Mexico (Fall and Cockerell 1907: 161).

**Records. USA:** AZ, CA, CO, ID, NM, NV, OR, UT, WY

***Discoderus congruens* Casey, 1914**

*Discoderus congruens* Casey, 1914: 162. Type locality: «Arizona (probably southern)» (original citation). One syntype in USNM [# 47893].

**Distribution.** This species is known from southeastern Colorado (Bent County, CNC), central New Mexico (Bernalillo County, CNC), and southern Arizona (Cochise and Santa Cruz Counties, UASM).

**Records. USA:** AZ, CO, NM

***Discoderus cordicollis* Horn, 1891**

*Discoderus cordicollis* G.H. Horn, 1891: 34. Type locality: «from Fort Yuma eastward to Tucson, Ariz[ona]» (original citation). Ten syntypes in MCZ [# 34541].

**Distribution.** This species is known from southern Arizona (Horn 1891: 34; Griffith 1900: 565; Cochise and Maricopa Counties, UASM), New Mexico (Hidalgo and Quay Counties, CMNH; Luna County, UASM; Fall and Cockerell 1907: 161), western Texas (Brewster County, UASM), and Coahuila, Sonora, and Baja California Norte in Mexico.

**Records. USA:** AZ, NM, TX – Mexico

***Discoderus crassicollis* Horn, 1891**

*Discoderus crassicollis* G.H. Horn, 1891: 35. Type locality: «southern Arizona» (original citation). Five syntypes in MCZ [# 34540].

**Distribution.** This species is known, besides the type series, from a few specimens collected in Cochise County in southeastern Arizona (Robert L. Davidson, pers. comm. 2012).

**Records. USA:** AZ

***Discoderus dallasensis* Casey, 1924**

*Discoderus dallasensis* Casey, 1924: 120. Type locality: «Dallas and Amarillo, Texas» (original citation). Eight syntypes [8 originally cited] in USNM [# 47901].

**Distribution.** This species is known from northern Texas only (Casey 1924: 120).

**Records. USA:** TX

***Discoderus impotens* (LeConte, 1858)**

*Harpalus impotens* LeConte, 1858a: 14. Type locality: «El Paso [El Paso County, Texas]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5879].

**Distribution.** This species ranges from Kansas (Knaus 1907: 233; Trego, Scott, and Barber Counties, CMNH, CNC) to southeastern Utah (San Juan County, UASM), south to northern Sonora (Bates 1884: 276), Coahuila (UASM), and southeastern Texas (San Patricio County, UASM).

**Records. USA:** AZ, CO, KS, NM, OK, TX, UT – Mexico

***Discoderus longicollis* Casey, 1914**

*Discoderus longicollis* Casey, 1914: 162. Type locality: «Austin [Travis County], Texas» (original citation). Holotype [by monotypy] (♂) in USNM [# 47894].

**Distribution.** This species is known only from the type locality in central Texas.

**Records. USA:** TX

***Discoderus obsidianus* Casey, 1914**

*Discoderus obsidianus* Casey, 1914: 158. Type locality: «Arizona (probably southern)» (original citation). One syntype in USNM [# 47892].

**Distribution.** This species is known only from Cochise County in southeastern Arizona (UASM).

**Records. USA:** AZ

***Discoderus papagonis* Casey, 1924**

*Discoderus papagonis* Casey, 1924: 119. Type locality: «Arizona; Alamogordo [Otero County], New Mexico» (original citation). Two syntypes in USNM [# 47891].

**Distribution.** This species is known from southeastern Arizona (Cochise County, UASM) and southern New Mexico (Casey 1924: 119).

**Records. USA:** AZ, NM

***Discoderus parallelus* (Haldeman, 1843)**

*Selenophorus parallelus* Haldeman, 1843b: 301. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). Syntype(s) presumably lost.

*Pangus americanus* Motschulsky, 1859a: 137 [*nomen dubium*]. Type locality: «Californie» (original citation). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976). Synonymy established by Casey (1914: 163). NOTE. Horn (1883c: iv) stated that this species is probably identical with *D. impotens* (LeConte) and that Motschulsky's specimen(s) came from the Piccolomini collection. If exact, then the type locality is incorrect and the specimen(s) has probably been collected in Texas or northern Mexico.

*Discoderus hesperus* Casey, 1914: 163. Type locality: «Boulder [Boulder County], Colorado» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [# 47905]. Synonymy established by Lindroth (1968: 831).

*Discoderus parvuliceps* Casey, 1924: 121. Type locality: «Wray [Yuma County], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 141), in USNM [# 47903]. Synonymy established by Lindroth (1968: 831).

*Discoderus gener* Casey, 1924: 121. Type locality: «Wawawai [Whitman County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 141), in USNM [# 47904]. Synonymy established by Hatch (1953: 178), confirmed by Lindroth (1968: 831).

**Distribution.** This species ranges from southeastern New Hampshire (Rockingham County, Ross T. Bell pers. comm. 1992) to the Okanagan Valley in south-central British Columbia (Lindroth 1968: 831), south to northern Oregon (Union, Wallowa, and Wasco Counties, James R. LaBonte pers. comm. 2009), northern Utah (Salt Lake County, Foster F. Purrington pers. comm. 2009), New Mexico (Fall and Cockerell 1907: 161), western and central Texas (Lee and Brewster Counties, MCZ; Lindroth 1968: 831), southwestern Alabama (Clarke County, CMNH), central Georgia (Fattig 1949: 49), and eastern South Carolina (Ciegler 2000: 104).

**Records. CAN:** BC, ON **USA:** AL, AR, AZ, CO, DC, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, MT, NC, NE, NH, NJ, NM, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI, WY



***Discoderus parilis* (Casey, 1914)**

*Selenalius parilis* Casey, 1914: 155. Type locality: «El Paso [El Paso County], Texas» (original citation). Two syntypes in USNM [# 47890].

**Distribution.** This species is known only from the type locality in western Texas.

**Records. USA:** TX

***Discoderus peregrinus* Casey, 1924**

*Discoderus peregrinus* Casey, 1924: 120. Type locality: «El Paso [El Paso County], Texas» (original citation). One syntype in USNM [# 47895].

**Distribution.** This species is known only from the type locality in western Texas.

**Records. USA:** TX

***Discoderus pinguis* Casey, 1884**

*Discoderus pinguis* Casey, 1884c: 75. Type locality: «Arizona» (original citation). One syntype [6 originally cited] in USNM [# 47897].

**Distribution.** This species is known from southern Arizona (Cochise County, UASM).

**Records. USA:** AZ

***Discoderus robustus piceus* Casey, 1914**

*Discoderus robustus piceus* Casey, 1914: 159. Type locality: «near Benson [Cochise County], Arizona» (original citation). Twelve syntypes [12 originally cited] in USNM [# 47896].

**Distribution.** This subspecies is known only from the type locality in southeastern Arizona.

**Records. USA:** AZ

***Discoderus robustus robustus* Horn, 1883**

*Discoderus robustus* G.H. Horn, 1883a: 52. Type locality: «Arizona» (original citation). Syntype(s) in MCZ [# 34539].

**Distribution.** This subspecies ranges from southern Arizona (Wickham 1898: 301; Griffith 1900: 565; Snow 1906b: 162; Snow 1907: 142) and northern Sonora in Mexico (Bates 1884: 276, as *Discoderus* ?, see Horn 1886a: ix) to western Texas (Brewster and Jeff Davis Counties, CMNH, UASM).

**Records. USA:** AZ, NM, TX – Mexico

***Discoderus subviolaceus* Casey, 1914**

*Discoderus subviolaceus* Casey, 1914: 160. Type locality: «near Benson [Cochise County], Arizona» (original citation). One syntype in USNM [# 47898].

**Distribution.** This species is known from Arizona (Cochise, Gila, Graham, Pima, Santa Cruz, and Yavapai Counties, UASM; Casey 1914: 160) and western Texas (Terrell and Jeff Davis Counties, UASM).

**Records. USA:** AZ, TX

***Discoderus symbolicus* Casey, 1914**

*Discoderus symbolicus* Casey, 1914: 161. Type locality: «Arizona (probably southern)» (original citation). One syntype in USNM [# 47902].

**Distribution.** This species is known only from the type series.

**Records. USA:** AZ

***Discoderus tenebrosus* (LeConte, 1847)**

*Selenophorus tenebrosus* LeConte, 1847: 391. Type locality: «ad Rocky Mountains» (original citation). Three syntypes in MCZ [# 5880].

**Distribution.** This species has been recorded only from Santa Fe in New Mexico (Fall and Cockerell 1907: 161).

**Records. USA:** NM

***Discoderus texanus* Casey, 1924**

*Discoderus texanus* Casey, 1924: 119. Type locality: «Dallas [Dallas County], Texas» (original citation). Two syntypes [2 originally cited] in USNM [# 47900].

**Distribution.** This species is known only from the type locality in northeastern Texas.

**Records. USA:** TX

**Genus *STENOMORPHUS* Dejean, 1831**

*Stenomorphus* Dejean, 1831: 696. Type species: *Stenomorphus angustatus* Dejean, 1831 by monotypy. Etymology (original). From the Greek *stenos* (slender) and *morphe* (form), alluding to the slender form (“*corselet très-allongé ... élytres allongées*”) of the species of this genus [masculine].

*Agaosoma* Ménétriés, 1843: 63. Type species: *Agaosoma californicum* Ménétriés, 1843 by monotypy. Synonymy established by Chaudoir (1844: 478). Etymology (original). From the Greek *agaios* (admirable) and *soma* (body), alluding to the unusual and agreeable body form of adults of this genus [neuter].

**Diversity.** Six species in North America (three species), Middle and South America (five species), and the West Indies (two species, one of them endemic).

**Identification.** Ball et al. (1991) revised the species.

**Taxonomic Note.** Ball et al. (1991: 942) postulated that the Neotropical genus *Trichopselaphus* Chaudoir (eight species) is the sister-group to this genus and that *Anisocnemus* Chaudoir (two Neotropical species) is the sister-group to {*Trichopselaphus* + *Stenomorphus*}.

[**angustatus group**]

***Stenomorphus californicus californicus* (Ménétriés, 1843)**

*Agaosoma californicum* Ménétriés, 1843: 63. Type locality: «Californie» (original citation), which is very unlikely (see Ball et al. 1991: 960); Douglas, Cochise County, Arizona (see Ball et al. 1991: 961) herein selected. Lectotype (♂), designated by Ball et al. (1991: 960), in MCZ [# 8235].

*Stenomorphus rossi* Van Dyke, 1943: 29. Type locality: «Chiricahua [Cochise County], Arizona» (original citation). Holotype (♂) in CAS [# 5313]. Synonymy established by Ball et al. (1991: 960).

**Distribution.** This subspecies is known from a small area in southeastern Arizona and southwestern New Mexico [see Ball et al. 1991: Fig. 24].

**Records. USA:** AZ, NM

**Note.** Besides the two subspecies found in North America, two other subspecies are known, one (*S. californicus manni* Darlington) from Haiti and the other (*S. californicus darlingtoni* Ball and Shpeley) from Central America.

***Stenomorphus californicus rufipes* LeConte, 1858**

*Stenomorphus rufipes* LeConte, 1858b: 59. Type locality not stated; «Brownsville, Cameron County, Texas» selected by Ball et al. (1991: 958). Lectotype [as holotype] (♀), designated by Ball et al. (1991: 958), in MCZ [# 5882].

*Stenomorphus batesi* Casey, 1914: 168. Type locality: «Guanajuato, Mexico» (holotype label). Holotype [by monotypy] (♂) in BMNH (Ball et al. 1991: 958). Synonymy established by Ball et al. (1991: 958). Etymology. The specific name was proposed in honor of the English naturalist Henry Walter Bates [1825-1892], one of the most remarkable and progressive systematists of his time. After collecting for 11 years in different areas of Amazonia, Bates returned to England and eventually took the position of Assistant Secretary at the Royal Geographical Society of London. Bates published mainly on the systematics of Lepidoptera and Coleoptera. NOTE. Casey (1914: 168) described this taxon from the illustration published in Bates (1882a: plate III, figure 22). The specimen upon which the illustration was drawn is in the British Museum (Natural History) and is *de facto* the holotype (ICZN 1999: Article 72.5.6).

*Stenomorphus scolopax* Casey, 1914: 169. Type locality: «Fort Worth [Tarrant County], Texas» (original citation). Lectotype (♂), designated by Ball et al. (1991: 958), in USNM [# 47907]. Synonymy established by Ball et al. (1991: 959).

*Stenomorphus parallelus* Casey, 1924: 122. Type locality: «McPherson [McPherson County], Kansas» (original citation). Lectotype [as holotype] (♀), designated by Ball et al. (1991: 958), in USNM [# 47908]. Synonymy established by Ball et al. (1991: 959).

*Stenomorphus arcuatus* Casey, 1924: 122. Type locality: «Dallas [Dallas County], Texas» (original citation). Holotype [by monotypy] (♀) in USNM [# 47909]. Synonymy established by Ball et al. (1991: 959).

**Distribution.** This subspecies ranges from northern Missouri to southern Nebraska (Adams County, Foster F. Purrington pers. comm. 2009), south to the Yucatán Peninsula, west to the southern portion of the Baja California Peninsula, east to central Alabama [see Ball et al. 1991: Fig. 24]. One specimen is known from Clemson, South Carolina (Ciegler 2000: 104).

**Records. USA:** AL, AR, AZ, CA, KS, LA, MO, MS, NE, OK, TX [SC] – Mexico

[convexior group]

*Stenomorphus convexior* Notman, 1922

*Stenomorphus convexior* Notman, 1922b: 103. Type locality: «Tucson [Pima County], Ariz[ona]» (original citation). Holotype (♀) in USNM [# 26593].

**Distribution.** This species ranges from southern Arizona southwards along the Pacific Versant of Mexico to central Jalisco [see Ball et al. 1991: Fig. 21].

**Records. USA:** AZ – Mexico

[sinaloae group]

*Stenomorphus sinaloae* Darlington, 1936

*Stenomorphus sinaloae* Darlington, 1936a: 37. Type locality: «Sinaloa, Mex[ico]» (original citation). Holotype (♂) in USNM [# 75661].

**Distribution.** This species ranges from southeastern Arizona and southwestern New Mexico south along the Pacific Versant of Mexico to Guerrero; it is also known from the southern parts of the Baja California Peninsula [see Ball et al. 1991: Fig. 23]. As pointed out by Ball et al. (1991: 951) the record from central Colorado based on a male is questionable but not impossible.

**Records. USA:** AZ, NM [CO] – Mexico

## Genus *TRICHOTICHNUS* Morawitz, 1863

*Trichotichnus* Morawitz, 1863: 63 [*nomen protectum*, see Bousquet (2008b: 328)]. Type species: *Trichotichnus longitarsis* Morawitz, 1863 by monotypy. Etymology. From the Greek *trichotos* (hairy) and *ichnos* (footprint, track), probably alluding to the long setae present on both side of the tarsomeres (“*Die Füße sind unten zu beiden Seiten mit langen Seidenhaaren besetzt*”) of the adult [masculine].

**Diversity.** About 250 species (Lorenz 2005: 380–382), more than 85% of them inhabiting Asia, arrayed in six subgenera: *Amaroschesis* Tschitschérine (about 55 species), *Bellogenus* Clarke (about 45 species), *Harpaloxenus* Schauberger (12 species), *Iridessus* (six species), *Lampetes* Andrewes (nine species), and *Trichotichnus s.str.* (about 120 species). The Western Hemisphere has only four species, all endemic to eastern North America. **Identification.** Lindroth (1968) reviewed all four North American species, one of them (*T. fulgens*) under the genus *Harpalus*.

## Subgenus *Trichotichnus* Morawitz, 1863

*Trichotichnus* Morawitz, 1863: 63. Type species: *Trichotichnus longitarsis* Morawitz, 1863 by monotypy.

*Asmerinx* Tschitschérine, 1898b: 183. Type species: *Carabus laevicollis* Duftschmid, 1812 designated by Tschitschérine (1900a: 363). Synonymy established by Reitter (1908: 174).

*Pteropalus* Casey, 1914: 64, 131. Type species: *Harpalus vulpeculus* Say, 1823 designated by Habu (1954a: 245). Synonymy established by Csiki (1932a: 1217).

*Carbanus* Andrewes, 1937: 27. Type species: *Carbanus flavipes* Andrewes, 1937 (= *Trichotichnus claripes* Lorenz, 1998) by monotypy. Synonymy established by Noonan (1976: 43).

*Velimius* Jedlička, 1952: 51. Type species: *Velimius edai* Jedlička, 1952 by monotypy. Synonymy established by Habu (1973a: 224).

*Lyter* Darlington, 1968: 40, 63. Type species: *Lyter glaber* Darlington, 1968 by original designation. Synonymy established by Noonan (1985: 67).

**Diversity.** About 120 species in the Nearctic (two eastern species), Australian (six species), Oriental (about 25 species), and Palaearctic (about 90 species, the vast majority in its eastern part) Regions.

## *Trichotichnus dichrous* (Dejean, 1829)

*Harpalus dichrous* Dejean, 1829: 258. Type locality: «Amérique septentrionale» (original citation), restricted to «S[ain]t Charles [Saint Charles County], Missouri» by Lindroth (1968: 819). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 27).

*Pteropalus fluvialis* Casey, 1914: 133. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype (♀), designated by Lindroth (1975: 141), in USNM [#47864]. Synonymy established by Lindroth (1968: 819).



*Pteropalus versutulus* Casey, 1924: 116. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♂), designated by Lindroth (1975: 141), in USNM [# 47865]. Synonymy established by Lindroth (1968: 819).

**Distribution.** The range of this species extends from southern Quebec (Serge Laplante pers. comm. 2002) to southeastern South Dakota (Kirk and Balsbaugh 1975: 30), south to “Texas” (Lindroth 1968: 819) and central South Carolina (Cieglar 2000: 105).

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, SD, TN, TX, VA, VT, WI, WV

**NOTE.** Say (1830c: 19) noted that “*H[arpalus] iricolor*, Say, has been recently described by Dejean under the name of *dichrous*.” I have not found any species described by Say under the name *Harpalus iricolor*. Say’s name has been listed as a junior synonym of *T. dichrous* (Dejean) in several checklists but it is a *nomen nudum* as pointed out by Lindroth and Freitag (1969: 353).

### *Trichotichnus vulpeculus* (Say, 1823)

*Harpalus vulpeculus* Say, 1823a: 30. Type locality: «Washington, D[istrict of] C[olumbia]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 353), in MCZ [# 32990].

*Harpalus nigripennis* Dejean, 1829: 260. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 27). Synonymy established by Say (1830c: 19), confirmed by Lindroth (1955b: 27).

**Distribution.** The range of this species extends from western New Brunswick (Webster and Bousquet 2008: 19) to southwestern Wisconsin (Grant County, Peter W. Messer pers. comm. 2008), south to northern Arkansas (Boone County, UASM) and eastern Georgia (Fattig 1949: 47). The records from “Florida” and “Minnesota” (Bousquet and Larochelle 1993: 244) need confirmation.

**Records.** CAN: NB, ON, QC USA: AL, AR, CT, DC, DE, GA, IA, IL, IN, KY, MA, MD, ME, MI, MO, NC, NH, NJ, NY, OH, PA, RI, TN, VA, VT, WI, WV [FL, MN]

### Subgenus *Iridessus* Bates, 1883

*Argestes* J.E. LeConte, 1849: 26 [*nomen oblitum*, see Bousquet (2008b: 328)]. Type species: *Harpalus nitidulus* Chaudoir, 1843 (= *Trichotichnus fulgens* Csiki, 1932) by monotypy. Etymology. Name of the north-west wind in classical antiquity. **NOTE.** Hardy et al. (1986: 472) argued that the paper in which this name was proposed was written by J.E. LeConte and not his son, J.L. LeConte.

*Iridessus* Bates, 1883b: 240. Type species: *Harpalus lucidus* Morawitz, 1863 designated by Habu (1954a: 245). Etymology. Uncertain, possibly from the Latin *iris* (rain-

bow) and the French noun *dessus* (above), alluding to the iridescence on the elytra of adults of the species included by Bates in this taxon [masculine].

*Episcopellus* Casey, 1914: 235. Type species: *Feronia autumnalis* Say, 1823 by original designation. Synonymy established by Ball and Bousquet (2000: 96). Etymology. Uncertain, possibly from the Greek *episcopos* (overseer) and the suffix *-ellus* (small, little) [masculine].

**Diversity.** Six species in the Nearctic (two species) and east Palaearctic (four species) Regions.

**Taxonomic Note.** Kataev (in Ball and Bousquet 2000: 96) revalidated *Iridessus* Bates as a subgenus, considered by most authors as a synonym of *Trichotichnus*.

### *Trichotichnus autumnalis* (Say, 1823)

*Feronia autumnalis* Say, 1823a: 48. Type locality: «Nahant [Essex County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 355), in MCZ [# 32980].

*Episcopellus nitescens* Casey, 1914: 236. Type locality: «District of Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 140), in USNM [# 47993]. Synonymy established by Lindroth (1968: 813).

**Distribution.** This species ranges from west-central Maine (Majka et al. 2011: 46) and southern Quebec (CNC) to east-central Minnesota (Gandhi et al. 2011: 673), north to Kapuskasing in central Ontario (CNC), south at least to northeastern Kansas (Poppenoe 1877: 24), central Arkansas (Pulaski County, Robert L. Davidson pers. comm. 2008), southwestern Mississippi (Hinds County, CMNH), northern Georgia (Fattig 1949: 52), and eastern South Carolina (Ciegler 2000: 105).

**Records.** CAN: ON, QC USA: AR, CT, DC, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, PA, RI, SC, VA, VT, WI, WV

### *Trichotichnus fulgens* (Csiki, 1932)

*Harpalus nitidulus* Chaudoir, 1843b: 788 [primary homonym of *Harpalus nitidulus* Stephens, 1828]. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♂), designated by Lindroth (1968: 811), in MHNP.

*Harpalus fulgens* Csiki, 1932a: 1182 [primary homonym of *Harpalus fulgens* Dejean, 1829]. Replacement name for *Harpalus nitidulus* Chaudoir, 1843. NOTE. This name is a junior primary homonym of *Harpalus fulgens* Dejean, 1829 (= *Notiobia chalcitis* (Germar, 1824)). Since both names apply to taxa not considered congeneric since 1899, the case is to be referred to the Commission and meanwhile prevailing usage of both names must be maintained (ICZN 1999: Article 23.9.5).

**Distribution.** This eastern species extends from Massachusetts (Middlesex County, Peter W. Messer pers. comm. 2008) to northeastern Kansas, including southernmost Ontario (Bousquet 1987a: 130) and southeastern Iowa, south to southeastern Texas

and southern Florida, west to western Texas [see Noonan 1991: Fig. 286]. The record from southern Wisconsin (Rauterberg 1885: 21, as *H. nitidulus*) needs confirmation.

**Records.** CAN: ON USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MO, MS, NC, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WV [WI]

**Note.** This species was included in the genus *Harpalus* Latreille by Lindroth (1968: 811) and Noonan (1991: 136) but placed in the genus *Trichotichnus* Morawitz by Ball and Bousquet (2000: 96) on information provided *in litteris* by Boris Kataev.

### Genus *AZTECARPALUS* Ball, 1970

*Aztecarpalus* Ball, 1970: 102. Type species: *Harpalus hebesceus* Bates, 1882 by original designation. Etymology (original). From Aztec (name of the most important group of Indians living in Mexico) and the generic name *Harpalus* [*q.v.*], alluding to the homeland and superficial affinities of the species to those of the genus *Harpalus* [masculine].

**Diversity.** Nine species in eastern Mexico, one of them extends into southeastern Texas.

**Identification.** Ball (1970, 1976a) revised the species and provided a key (Ball 1976a: 62-63) for their identification.

### *Aztecarpalus schaefferi* Ball, 1970

*Harpalus iripennis* Schaeffer, 1910: 402 [primary homonym of *Harpalus iripennis* Say, 1823]. Type locality: «Brownsville [Cameron County], Texas» (original citation). Lectotype (♂), designated by Erwin and House (1978: 238), in USNM [# 42510].

*Aztecarpalus schaefferi* Ball, 1970: 119. Replacement name for *Aztecarpalus iripennis* (Schaeffer, 1910).

**Distribution.** This species is known only from southeastern Texas and northeastern Mexico (Ball 1970: 120).

**Records.** USA: TX – Mexico

### Genus *CRATACANTHUS* Dejean, 1829

*Cratacanthus* Dejean, 1829: 40. Type species: *Cratacanthus pensylvanicus* Dejean, 1829 (= *Harpalus dubius* Palisot de Beauvois, 1811) by monotypy. Etymology (original). From the Greek *cratos* (strong) and *acanthos* (spine), alluding to the strong labial tooth (“*menton ... au milieu de son échancrure une forte dent aigüe, presque en épine*”) of the adult [masculine].

**Diversity.** One North American species in the temperate regions.

**Identification.** The species is covered in Lindroth's (1968: 744-745) monograph.

***Cratacanthus dubius* (Palisot de Beauvois, 1811)**

*Harpalus dubius* Palisot de Beauvois, 1811: 108. Type locality: «Pensylvanie» (original citation), herein restricted to Philadelphia, Philadelphia County (see Casey 1884c: 75, as *C. bisectus*). Syntype(s) probably lost (Lindroth 1968: 744).

*Cratacanthus pensylvanicus* Dejean, 1829: 41. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 26). Synonymy established by Duponchel (1843: 327), confirmed by Lindroth (1955b: 26).

*Cratacanthus litoreus* Casey, 1884c: 74. Type locality: «Atlantic City [Atlantic County], New Jersey» (original citation). Lectotype (♀), designated by Lindroth (1975: 137), in USNM [# 47731]. Synonymy established by Horn (1885b: 108).

*Cratacanthus bisectus* Casey, 1884c: 75. Type locality: «Fairmont Park, Philadelphia [Philadelphia County, Pennsylvania]» (original citation). Lectotype (♂), designated by Lindroth (1975: 137), in USNM [# 47730]. Synonymy established by Horn (1885b: 108).

*Cratacanthus texanus* Casey, 1884c: 75. Type locality: «Texas» (original citation). Lectotype (♀), designated by Bousquet and Laroche (1993: 13), in USNM [# 47732]. Synonymy established by Horn (1885b: 108), confirmed by Bousquet and Laroche (1993: 13).

*Cratacanthus subovalis* Casey, 1914: 59. Type locality: «southern Atlantic seaboard» (original citation). Lectotype (♀), designated by Bousquet and Laroche (1993: 13), in USNM [# 47733]. Synonymy established by Bousquet and Laroche (1993: 13).

*Cratacanthus cephalotes* Casey, 1914: 59. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype (♂), designated by Bousquet and Laroche (1993: 13), in USNM [# 47734]. Synonymy established by Bousquet and Laroche (1993: 13).

**Distribution.** The range of this species extends from Long Island, New York (Notman 1928: 244), to southeastern Alberta (Lindroth 1968: 745), south to southern Arizona (Cochise, Greenlee and Pima Counties, CNC, UASM), Durango (Bates 1891a: 241) and southern Coahuila (UASM) in Mexico, western Alabama (Pickens and Tuscaloosa Counties, UASM), and “Florida” (Leng 1920: 70, as *C. subovalis*).

**Records.** **CAN:** AB, SK **USA:** AL, AR, AZ, CO, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NY, OH, OK, PA, SC, SD, TN, TX, UT, VA, WI, WY – Mexico



**Tribe SPHODRINI Laporte, 1834**

Sphodridae Laporte, 1834: 78. Type genus: *Sphodrus* Clairville, 1806.

**Diversity.** About 825 species in the Nearctic (13 species), Neotropical (16 species in Mexico), Oriental (about eight species), Palearctic (about 775 species), and Afrotropical (17 species in Ethiopia) Regions, arrayed in six subtribes: Atranopsina (about 100 species), Calathina (about 185 species), Dolichina (17 species), Pristosiina (about 65 Asian species), Synuchina (about 100 species), and Sphodrina (about 360 species).

**Taxonomic Note.** Several authors, including Lindroth (1966) and Ball and Bousquet (2000), placed the sphodrine within the tribe Platynini.

**Subtribe ATRANOPSINA Baehr, 1982**

Atranopsina Baehr, 1982: 265. Type genus: *Atranopsis* Baehr, 1982.

**Diversity.** About 100 species in Europe (about 60 species), northern Africa (about 20 species), western Asia, including India (about 25 species), and eastern North America (one species); most species occur in the Mediterranean region.

**Taxonomic Note.** Lindroth (1968: 653) listed the genus *Pseudamara* in the tribe Amarini (= Zabryini) and pointed out that the sole species of the genus was “not very closely related to *Amara*”. Recently Hieke (2010) concluded that *Pseudamara* belongs to the subtribe Atranopsina, of the Sphodrini, and was probably closely related to the genus *Amaroschema* Jeannel, which includes a single species in the Canary Islands.

**Genus PSEUDAMARA Lindroth, 1968**

*Pseudamara* Lindroth, 1968: 653. Type species: *Geobaenus arenarius* LeConte, 1847 by original designation. Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Amara* [*q.v.*] [feminine].

*Disamara* Lindroth, 1976b: 132. Unnecessary replacement name for *Pseudamara* Lindroth, 1968. NOTE. Lindroth (1976b: 132) incorrectly assumed that his name *Pseudamara* was a junior homonym of *Pseudoamara* Baliani, 1934.

**Diversity.** One species in the boreal and temperate regions of eastern North America.

**Identification.** Lindroth (1968: 653-654) treated the species in his monograph.

***Pseudamara arenaria* (LeConte, 1847)**

*Geobaenus arenarius* LeConte, 1847: 403. Type locality: «provinciis orientalibus» (original citation), restricted to «M[oun]t Washington [Coos County], N[ew] H[ampshire]» by Lindroth (1968: 654). One syntype in MCZ [# 5673].

**Distribution.** This species is found from Cape Breton Island (Bousquet 1987a: 128) to northern Minnesota (Gandhi et al. 2005: 929), south to southwestern North Carolina (Macon County, MCZ).



**Records.** CAN: NB, NS (CBI), ON, PE, QC USA: IL, MA, ME, MI, MN, NC, NH, NY, OH, PA, RI, VA, VT, WI, WV

### **Subtribe CALATHINA Laporte, 1834**

Calathidae Laporte, 1834: 71. Type genus: *Calathus* Bonelli, 1810.

**Diversity.** About 185 species (Lorenz 2005: 396–399) placed in the genus *Calathus*. Based on recent molecular sequence analyses (Ruiz et al. 2009), *Synuchidius* Apfelbeck and *Thermoscelis* Putzeys, often ranked as distinct genera, are considered subgenera of *Calathus*.

### **Genus CALATHUS Bonelli, 1810**

*Calathus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus cisteloides* Panzer, 1793 (= *Carabus fuscipes* Goeze, 1777) designated by Curtis (1827: plate 184). Etymology. Possibly from the Greek *calathos* (basket) [masculine].

**Diversity.** About 185 species (Lorenz 2005: 396–399) in North America (eight species, one of them adventive), Mexico (14 species), Ethiopia (17 species), and the Palaearctic Region (about 145 species) arrayed in 11 subgenera: *Calathus s.str.* (50 species), *Lauricalathus* Machado (19 species endemic to the Canary Islands), *Trichocalathus* Bolívar y Pieltain (three species endemic to the Canary Islands), *Neocalathus* (45 species), *Amphyginus* Haliday (two European species), *Tachalus* Ball and Nègre (one Mexican species), *Bedelinus* Ragusa (one species in Europe and northern Africa), *Lindrothius* Kurnakov (13 species restricted to Caucasia), *Acalathus* (11 species), *Synuchidius* Apfelbeck (one south-east European species), and *Thermoscelis* Putzeys (one Caucasian species). About 40 species, including all those from Ethiopia, are currently unplaced (Lorenz 2005: 398–399).

**Identification.** Ball and Nègre (1972) revised the Western Hemisphere species and provided a key for their identification.

### **Subgenus Calathus Bonelli, 1810**

*Calathus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus cisteloides* Panzer, 1793 (= *Carabus fuscipes* Goeze, 1777) designated by Curtis (1827: plate 184).

**Diversity.** Fifty species (Lorenz 2005: 396–397) in Europe, the Middle East, and Nepal. Most of the species are endemic to the Mediterranean region. One species is adventive in western North America.

**Taxonomic Note.** *Fuscocalathus* Nègre (1969: 7) is usually cited as a junior synonym of this subgenus following Ball and Nègre (1972: 510). However, the name is a *nomen nudum* since Nègre (1969) failed to designate a type species for his new taxon.

### ***Calathus fuscipes* (Goeze, 1777)**

*Carabus fuscipes* Goeze, 1777: 666. Type locality not stated; «n[ea]r Paris, France» selected by Lindroth (1966: 542). Syntype(s) possibly in MHNP. NOTE. This taxon

was first described by Geoffroy (1762: 161) under the name “*Bupreste noir à pattes brunes*” as mentioned by Goeze (1777: 666). Goeze (1777: 666) reproduced Geoffroy’s original description in Latin and provided a scientific name. I consider that Goeze’s name was made available by a bibliographic reference to a description and as such the type series consists of Geoffroy’s specimens (ICZN 1999: Article 72.4.4).

*Carabus cisteloides* Panzer, 1793: no 12. Type locality: «Brunsvigiae [= Brunswick, Germany]» (original citation). Syntype(s) location unknown (possibly in ZMHB). Synonymy established by Schönherr (1806: 195).

**Distribution.** This Palaearctic species is adventive in North America where it is known from southwestern British Columbia (Lindroth 1966: 543) to northwestern Oregon (Westcott et al. 2006: 7). The first inventoried specimen collected on this continent was found in the vicinity of Vancouver, British Columbia, in 1928 (Hatch 1949c: 151).

**Records.** CAN: BC USA: OR, WA – **Adventive**

### Subgenus *Neocalathus* Ball and Nègre, 1972

*Neocalathus* Ball and Nègre, 1972: 426. Type species: *Carabus melanocephalus* Linnaeus, 1758 by original designation. Etymology. From the Greek prefix *neo-* (new) and the generic name *Calathus* [*q.v.*] [masculine].

**Diversity.** Forty-five species in North America (six species), Mexico (13 species), and the Palaearctic Region (27 species, no endemic species in eastern Asia).

**Taxonomic Note.** Gañán and Novoa (2006) considered *Neocalathus* as a synonym of *Amphyginus* Haliday, 1841 (type species: *Carabus piceus* Marsham, 1802 (= *Calathus rotundicollis* Dejean, 1828)). If this approach is followed, then *Amphyginus* is the valid name for this subgenus (see Alonso-Zarazaga 2006).

**Faunistic Note.** The record of *Calathus ambigens* Bates from Huachuca Mountains in southeastern Arizona (Schaeffer 1910: 394) is probably in error since the species is recorded only from Durango and Chihuahua in Mexico by Ball and Nègre (1972: 461-462).

### *Calathus calceus* Ball and Nègre, 1972

*Calathus calceus* Ball and Nègre, 1972: 489. Type locality: «Sprague R[iver] Canyon, 5 mi[les] E[ast] Bly, Klamath County, Oregon» (original citation). Holotype (♂) in CAS [# 11313].

**Distribution.** This species ranges from the southern Gulf Islands of southwestern British Columbia (James C. Bergdahl pers. comm. 1993) to southern Idaho, south to northern Utah and Mono County in the Sierra Nevada of California [see Ball and Nègre 1972: Fig. 53].

**Records.** CAN: BC USA: CA, ID, NV, OR, UT, WA

***Calathus gregarius* (Say, 1823)**

*Feronia gregaria* Say, 1823a: 47. Type locality: «Phila[delphia] [Philadelphia County], P[ennsylvani]a» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 345), in MCZ [# 33022].

*Calathus piceus* T.W. Harris, 1828c: 123 (as *piceous*). Type locality not stated. Syntype(s) presumably lost. Synonymy established with doubt by Harris (1833: 567).

*Calathus distinguendus* LeConte, 1844: 53 (as *distinguenidus*). Type locality: «Georgia» (original citation). Lectotype [as holotype] (♂), designated by Ball and Nègre (1972: 486), in MCZ [# 5728]. Synonymy established by LeConte (1854b: 36), confirmed by Lindroth (1966: 543).

**Distribution.** This species is found from Cape Breton Island in Nova Scotia (Lindroth 1966: 544) to western North Dakota (Tinerella 2003: 636), south to Nebraska, northern Alabama, and northeastern Georgia (Fattig 1949: 32) [see Ball and Nègre 1972: Fig. 51]. The records from Prince Edward Island (Bousquet and Larochelle 1993: 245, see Majka et al. 2008: 133) and eastern Kansas (Popenoe 1877: 23) need confirmation; those from “Florida,” Texas (Wickham 1896c: 133; Knaus 1905b: 348), and New Mexico (Fall and Cockerell 1907: 159) are likely in error (see Ball and Nègre 1972: 486).

**Records.** CAN: NB, NS (CBI), ON, QC USA: AL, CT, DC, DE, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, NC, ND, NE, NH, NJ, NY, OH, PA, RI, SC, SD, TN, VA, VT, WI, WV [KS, PE]

***Calathus ingratus* Dejean, 1828**

*Calathus ingratus* Dejean, 1828: 77. Type locality: «île d’Ounalaschka, l’une des îles Aleutiennes [Alaska]» (original citation). One possible syntype (♂) in MHNP (Lindroth 1955b: 18).

*Calathus incommodus* Mannerheim, 1853: 139. Type locality: «ad ostia fl[umen] Kaktinu [= Kenai River] peninsulae Kenai [Alaska]» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1966: 544), in ZMH. Synonymy established by LeConte (1860: 317), confirmed by Lindroth (1954b: 137).

*Calathus confusus* LeConte, 1854b: 36. Type locality: «Lake Superior» (original citation). Syntype(s) in MCZ [# 5729]. Synonymy established by LeConte (1860: 317), confirmed by Lindroth (1954b: 136).

*Calathus coloradensis* Casey, 1913: 157. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 125), in USNM [# 47548]. Synonymy established by Lindroth (1954b: 137).

*Calathus reductus* Casey, 1913: 158. Type locality: «Colorado» (original citation). Five syntypes [5 originally cited] in USNM [# 47546]. Synonymy established by Erwin et al. (1977: 4.39).

*Calathus acomanus* Casey, 1913: 158. Type locality: «New Mexico» (original citation). Two syntypes in USNM [# 47536]. Synonymy established by Erwin et al. (1977: 4.39).

- Calathus labradorinus* Casey, 1913: 158. Type locality: «West S[ain]t Modest[e], Labrador» (original citation). Lectotype (♀), designated by Lindroth (1975: 125), in USNM [# 47547]. Synonymy established by Lindroth (1954b: 137).
- Calathus planifer* Casey, 1920: 217. Type locality: «S[ain]t Paul Island, Alaska» (original citation), which is incorrect (Lindroth 1975: 125). Holotype [by monotypy] (♀) in USNM [# 47545]. Synonymy established by Lindroth (1954b: 137).
- Calathus beringi* Casey, 1920: 218. Type locality: «S[ain]t Paul Island, Alaska» (original citation), which is no doubt incorrect (Lindroth 1975: 125). Lectotype (♂), designated by Lindroth (1975: 125), in USNM [# 47543]. Synonymy established by Lindroth (1954b: 137).
- Calathus nanulus* Casey, 1920: 218. Type locality: «S[ain]t Paul Island, Alaska» (original citation), which is incorrect (Lindroth 1975: 125). Lectotype (♂), designated by Lindroth (1975: 125), in USNM [# 47544]. Synonymy established by Lindroth (1954b: 137).
- Calathus calator* Casey, 1920: 220. Type locality: «Peaceful Valley [Boulder County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 125), in USNM [# 47549]. Synonymy established by Lindroth (1966: 544).
- Calathus aquilus* Casey, 1920: 220. Type locality: «Ouray [Ouray County], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 125), in USNM [# 47550]. Synonymy established by Lindroth (1954b: 137).

**Distribution.** The range of this transamerican species extends from Newfoundland (Lindroth 1955a: 112-113) to Alaska, including the Aleutian Islands (Lindroth 1966: 545), south to Washington (Hatch 1953: 131), central Arizona, southern New Mexico, the Black Hills in southwestern South Dakota (Kirk and Balsbaugh 1975: 23), and the Adirondack Mountains in northeastern New York (Notman 1928: 230) [see Ball and Nègre 1972: Fig. 53].

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, AZ, CO, ID, ME, MI, MN, MT, ND, NH, NM, NY, SD, UT, VT, WA, WI, WY

### *Calathus opaculus* LeConte, 1854

- Calathus opaculus* LeConte, 1854b: 37. Type locality: «middle, southern and western states» (original citation), restricted to «Lawrence [Douglas County], Kansas» by Lindroth (1966: 543). Lectotype (♀), designated by Ball and Nègre (1972: 487), in MCZ [# 5730].
- Calathus sonoricus* Casey, 1913: 156. Type locality: «Arizona» (original citation). Lectotype [as holotype] (♂), designated by Ball and Nègre (1972: 487), in USNM [# 47541]. Synonymy established by Lindroth (1966: 543).
- Calathus alutaceus* Casey, 1913: 157. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype [as holotype] (♂), designated by Ball and Nègre (1972: 488), in USNM [# 47537]. Synonymy established by Ball and Nègre (1972: 488).



*Calathus appalachius* Casey, 1913: 157. Type locality: «Asheville [Buncombe County], North Carolina» (original citation for the lectotype). Lectotype [as holotype] (♀), designated by Ball and Nègre (1972: 488), in USNM [# 47538]. Synonymy established by Ball and Nègre (1972: 488).

*Calathus obesulus* Casey, 1913: 157. Type locality: «M[oun]t Hope [Sedgwick County], Kansas» (original citation for the lectotype). Lectotype [as holotype], designated by Ball and Nègre (1972: 488), in USNM [# 47539]. Synonymy established by Ball and Nègre (1972: 488).

*Calathus ventricosus* Casey, 1920: 219. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). Lectotype [as holotype] (♀), designated by Ball and Nègre (1972: 488), in USNM [# 47542]. Synonymy established by Ball and Nègre (1972: 488).

**Distribution.** The range of this species extends from southern Quebec (Larochelle 1975: 69) to southeastern Utah, south to southeastern Arizona, southern Texas, and northern Florida [see Ball and Nègre 1972: Fig. 52]. The record from New Brunswick (see Majka et al. 2007: 11) is in error (Christopher G. Majka pers. comm. 2009).

**Records.** CAN: ON, QC USA: AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, TN, TX, UT, VA, VT, WI, WV, WY

### *Calathus peropacus* Casey, 1920

*Calathus peropacus* Casey, 1920: 219. Type locality: «Palmerlee [= Garcés, Cochise County], Arizona» (original citation). Lectotype (♀), designated by Ball and Nègre (1972: 492), in USNM [# 47540].

**Distribution.** This species is confined, as far as known, to mountains in southeastern Arizona (Ball and Nègre 1972: 505).

**Records.** USA: AZ

### *Calathus ruficollis grandicollis* Casey, 1920

*Calathus grandicollis* Casey, 1920: 215. Type locality: «Hydesville, Valley of Eel River, Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Ball and Nègre (1972: 468), in USNM [# 47558].

**Distribution.** The range of this subspecies extends from southwestern British Columbia, including Vancouver Island, south to Humboldt County in northern California [see Ball and Nègre 1972: Fig. 40].

**Records.** CAN: BC (VCI) USA: CA, OR, WA

### *Calathus ruficollis ignicollis* Casey, 1920

*Calathus ignicollis* Casey, 1920: 213. Type locality: «Mokelumne Hill, Calaveras Co[unty], California» (original citation). Lectotype [as holotype] (♀), designated by Ball and Nègre (1972: 468), in USNM [# 47556].





**Figure 39.** *Atranus pubescens* (Dejean). This species is found over eastern North America and the only other species in the genus, *A. ruficollis*, occurs in southern Europe and the Middle East. The only other carabid genus with a similar vicariant distribution is *Olisthopus* although one European species, *O. sturmii*, extends to the Far East. Most amphiatlantic vicariant carabid groups, such as *Pseudanophthalmus*-*Duvaliopsis*, are at least generically distinct.

**Distribution.** This subspecies occurs from eastern Washington and western Idaho south to central California [see Ball and Nègre 1972: Fig. 40].

**Records. USA:** CA, ID, OR, WA

### *Calathus ruficollis ruficollis* Dejean, 1828

*Calathus ruficollis* Dejean, 1828: 78. Type locality: «Californie» (original citation), restricted to «Los Angeles [Los Angeles County]» by Lindroth (1966: 545). One syntype in MHNP (Lindroth 1955b: 18).

*Calathus behrensii* Mannerheim, 1843: 195. Type locality: «California ad Ross [farming community about 75 miles north of San Francisco along the coast]» (original citation). Lectotype [as holotype] (♀), designated by Ball and Nègre (1972: 466), in ZMH. Synonymy established by Casey (1920: 216), confirmed by Ball and Nègre (1972: 466).

*Calathus quadricollis* LeConte, 1854b: 37. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♂), designated by Ball and Nègre (1972: 466), in MCZ [# 5731]. Synonymy established by Lindroth (1966: 546).

*Calathus obscurus* LeConte, 1854b: 37. Type locality: «southern part of California» (original citation), restricted to «San Diego [San Diego County]» by Ball and Nègre (1972: 466). Holotype [by monotypy] (♀) in MCZ [# 5732]. Synonymy established by Ball and Nègre (1972: 466).

*Calathus longulus* Casey, 1913: 158. Type locality: «Los Angeles Co[unty], California» (original citation). Lectotype [as holotype] (♀), designated by Ball and Nègre (1972: 466), in USNM [# 47552]. Synonymy established by Ball and Nègre (1972: 466).

*Calathus montereyanus* Casey, 1920: 213. Type locality: «Monterey [Monterey County], California» (original citation). Lectotype [as holotype] (♀), designated by Ball and Nègre (1972: 466), in USNM [# 47554]. Synonymy established by Ball and Nègre (1972: 466).

*Calathus tenuistriatus* Casey, 1920: 214. Type locality: «San Diego [San Diego County], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 47557]. Synonymy established by Ball and Nègre (1972: 468).

*Calathus minuens* Casey, 1920: 216. Type locality: «S[an]ta Clara Co[unty], California» (original citation). Lectotype (♂), designated by Ball and Nègre (1972: 468), in USNM [# 47551]. Synonymy established by Ball and Nègre (1972: 468).

*Calathus piceolus* Casey, 1920: 217. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♀), designated by Ball and Nègre (1972: 468), in USNM [# 47556]. Synonymy established by Ball and Nègre (1972: 468).

**Distribution.** This subspecies ranges from Mendocino County in California south to the northern parts of the Baja California Peninsula and southern Arizona (Ball and Nègre 1972: 482, Fig. 40); it also occurs on the Channel Islands. The record from “Nevada” (Ball and Nègre 1972: 482) is doubtful. The subspecies is adventive in Hawaii (Liebherr and Zimmerman 2000: 465).

**Records. USA:** AZ, CA (CHI) [NV] – Mexico

**Note.** According to Ball and Nègre (1972: 482), this form intergrades with the *ignicolis* form along the Great Central Valley of California.

### Subgenus *Acalathus* Semenov, 1889

*Acalathus* Semenov, 1889a: 365. Type species: *Acalathus semirufescens* Semenov, 1889 by monotypy. Etymology. Probably from the Greek prefix *a-* (with, sameness) and the generic name *Calathus* [*q.v.*], possibly alluding to the similarity of the adults with those of *Calathus* [masculine]. NOTE. This taxon was also described as new by Semenov (1889b: 691).

*Procalathus* Jedlička, 1953: 106. Type species: *Calathus fallax* Semenov, 1889 by original designation. Synonymy established by Lindroth (1966: 547). Etymology. From the Latin *pro-* (before, in front of) and the generic name *Calathus* [*q.v.*] [masculine].

**Diversity.** Eleven species in North America (one species) and the Chinese provinces of Kansu, Szechwan, and Tsinghai, and the Autonomous Region of Tibet (ten species).

**Taxonomic Note.** This taxon has been listed as a distinct genus in the subtribe Doli-china by Hovorka and Sciaky (2003: 529). However, Ruiz et al. (2009) concluded from molecular sequence analyses that the taxon is closely related to *Calathus* and should be ranked as a subgenus of *Calathus*.

### *Calathus advena* (LeConte, 1846)

*Agonum molle* Eschscholtz, 1823: 102 [secondary homonym of *Calathus mollis* (Marsham, 1802)]. Type locality: «Unalaschka [Alaska]» (original citation). Lectotype (♀), designated by Lindroth (1966: 548), in ZMH.

*Pristodactyla advena* LeConte, 1846b: 217. Type locality: «prope fines Aquilones [apparently along northeastern boundary of Maine, see LeConte (1854b: 38)]» (original citation). Two syntypes in MCZ [# 35336]. Synonymy established by Schaupp (1883c: 49), confirmed by Lindroth (1954b: 137).

*Anchomenus brunnescens* Mannerheim, 1852: 294. Type locality: «insula Atkha [= Atka Island, Aleutian Islands, Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1966: 548), in ZMH. Synonymy established by Lindroth (1954b: 138).

*Anchomenus brevisculus* Mannerheim, 1852: 294. Type locality: «insula Atkha [= Atka Island, Aleutian Islands, Alaska]» (original citation). Lectotype (♂), designated by Lindroth (1966: 548), in ZMH. Synonymy established by Lindroth (1954b: 138).

*Anchomenus lenis* Mannerheim, 1853: 140. Type locality: «insula Kadjak [Alaska]» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1966: 548), in ZMH. Synonymy established by Van Dyke (1924a: 11), confirmed by Lindroth (1955a: 114).

*Anchomenus dulcis* Mannerheim, 1853: 141. Type locality: «regionibus interioribus peninsulae Kenai [Alaska]» (original citation). Lectotype (♂), designated by Lin-

droth (1966: 548), in ZMH. Synonymy established by Harold (1868: 90), confirmed by Lindroth (1954b: 137).

*Pristodactyla binaria* Casey, 1920: 222. Type locality: «S[outh] Arkansas» (original citation), which is highly doubtful (Lindroth 1975: 125). Lectotype (♀), designated by Lindroth (1975: 125), in USNM [# 47567]. Synonymy established by Lindroth (1954b: 137).

*Pristodactyla scolopax* Casey, 1920: 223. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 125), in USNM [# 47568]. Synonymy established by Lindroth (1954b: 138).

**Distribution.** This species ranges in the east from eastern Newfoundland to Lake Superior, south to southwestern New York, and in the west from Kodiak Island in Alaska south to northern Oregon, east-central Nevada, and southern New Mexico along the Rocky Mountains, east to the Black Hills in southwestern South Dakota (Pennington County, CNC) [see Ball and Nègre 1972: Fig. 1]. The records from “California” (Lindroth 1955a: 114) and “Vermont” (Hamilton 1894a: 11) need confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC, LB, NB, NF, ON, QC, SK **USA:** AK, AZ, CO, ID, ME, MI, MN, MT, ND, NH, NM, NV, NY, OR, SD, UT, WA, WY [CA, VT]

### **Subtribe SYNUCHINA Lindroth, 1956**

Synuchi Lindroth, 1956b: 489. Type genus: *Synuchus* Gyllenhal, 1810.

**Diversity.** About 100 species (Lorenz 2005: 400–401) in North America and Mexico (three species) and the Palaearctic Region (about 95 species), arrayed in four genera: *Parabroscus* Lindroth (two species from Japan and Taiwan), *Nipponosynuchus* Morita (one Japanese species), *Synuchus* (about 80 species), and *Trephionus* Bates (14 Japanese species).

### **Genus SYNUCHUS Gyllenhal, 1810**

*Synuchus* Gyllenhal, 1810: 77. Type species: *Carabus nivalis* Panzer, 1796 (= *Carabus vivalis* Illiger, 1798) by monotypy. Etymology. Probably from the Greek *synochos* (join, continued) rather than from the Greek prefix *syn-* (together, with) and *onyx*, *-ychos* (claw) [masculine].

*Taphria* Dejean, 1821: 10. Type species: *Carabus vivalis* Illiger, 1798 by monotypy. Etymology. From the Greek *taphros* (ditch, trench, by extension stria, dimple) [feminine]. This name was proposed by Franco Andrea Bonelli and made available by Dejean.

*Pristodactyla* Dejean, 1828: 82. Type species: *Pristodactyla americana* Dejean, 1828 (= *Feronia impunctata* Say, 1823) by monotypy. Synonymy established by Lindroth (1955a: 115). Etymology (original). From the Greek *pristes* (sawyer) and *dactylos* (finger), alluding to the denticulate claws (“*crochets des tarses dentelés en-dessous*”) of the adult [feminine].

*Synochus* Agassiz, 1846: 359. Unjustified emendation of *Synuchus* Gyllenhal, 1810.

**Diversity.** About 80 species in the Nearctic (two species), Neotropical (one species from northwestern Mexico), and Palaearctic (77 species, of which one is Eurasian, nine are from the Himalayas, and the remaining from eastern Asia) Regions.

**Identification.** Lindroth (1966: 550-552) treated both North American species.

### *Synuchus dubius* (LeConte, 1854)

*Pristodactyla dubia* LeConte, 1854b: 38. Type locality: «New Mexico» (original citation), herein restricted to Cloudcroft, Otero County (UASM). Holotype [by monotypy] possibly in MCZ [# 5734]. NOTE. The specimen of *S. dubius* in the LeConte collection with the type label is also labeled “Col.” and so is not the holotype. Two other specimens in LeConte’s collection are labeled “N.M.” and one of them could be the holotype.

*Pristodactyla arizonica* Casey, 1913: 160. Type locality: «Arizona» (original citation). Lectotype (♂), designated by Lindroth (1975: 125), in USNM [# 47563]. Synonymy established by Lindroth (1954b: 137).

*Pristodactyla zuniana* Casey, 1913: 161. Type locality: «New Mexico» (original citation). Lectotype (♂), designated by Lindroth (1975: 125), in USNM [# 47565]. Synonymy established by Lindroth (1954b: 137).

*Pristodactyla neomexicana* Casey, 1920: 221. Type locality: «Cloudcroft [Otero County], New Mexico» (original citation). Lectotype (♂), designated by Lindroth (1975: 125), in USNM [# 47566]. Synonymy established by Lindroth (1954b: 137).

*Pristodactyla juabitica* Casey, 1924: 87. Type locality: «Trout Creek, Juab Co[unty], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 126), in USNM [# 47562]. Synonymy established by Lindroth (1954b: 138).

**Distribution.** This species is found in the southern part of the Rocky Mountains in western Utah (Casey 1924: 87, as *P. juabitica*), Colorado (Wickham 1902: 238; Lindroth 1956b: 523), New Mexico (LeConte 1854b: 38; Fall and Cockerell 1907: 159; Lindroth 1956b: 523), and Arizona (Wickham 1898: 300; Casey 1913: 160, as *P. arizonica*; UASM).

**Records. USA:** AZ, CO, NM, UT

### *Synuchus impunctatus* (Say, 1823)

*Feronia impunctata* Say, 1823a: 45. Type locality: «Tyngs[boro] [Middlesex County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 346), in MCZ [# 33023]. NOTE. «Germantown [Pennsylvania]» was the area originally cited by Say (1823a: 43).

*Pristodactyla americana* Dejean, 1828: 83. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 18). Synonymy established by LeConte (1846b: 217), confirmed by Lindroth (1955b: 18).



*Pristonychus americanus* LeConte, 1844: 52 [secondary homonym of *Pristonychus americanus* (Dejean, 1828)]. Type locality: «Georgia» (original citation). Syntype(s) location unknown. Synonymy established by Lindroth (1956b: 521, as *P. corvina*). NOTE. There is no specimen in LeConte's collection under the name *Calathus impunctatus* with an orange disc (= southern states which included Georgia). The specimen with the type label is labeled “[pink disc] / Type 5733 / [blank white square label] / *P. corvinus* Lec. Priston. amer. Lec. var. praec. [handwritten] / impunctatus 11 [handwritten].”

*Pristodactyla corvina* LeConte, 1846b: 217. Replacement name for *Pristodactyla americana* (LeConte, 1844).

*Pristodactyla impunctata convexa* Casey, 1913: 160. Type locality: «Lake Champlain, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 125), in USNM [# 47560]. Synonymy established by Lindroth (1954b: 137).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 115–116) to southwestern British Columbia (Lindroth 1966: 551), south to western Washington (Hatch 1953: 132), northern Idaho (Hatten et al. 2011: 325), eastern Kansas (Cook and Holt 2006: 2313), and northern Georgia (Fattig 1949: 32). The record from southwestern Colorado (Wickham 1902: 238) needs confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC, MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** CT, DC, DE, GA, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, ND, NE, NH, NJ, NY, OH, PA, RI, SD, VA, VT, WA, WI, WV [CO]

### Subtribe SPHODRINA Laporte, 1834

Sphodridae Laporte, 1834: 78. Type genus: *Sphodrus* Clairville, 1806.

Pristonychidae Gistel, 1848b: [2]. Type genus: *Pristonychus* Dejean, 1828.

**Diversity.** About 360 species (Lorenz 2005: 401–407), all but one (*Miquihuana rhadiniformis* Barr from Mexico) native to the Palaearctic Region. Two species are adventive in several regions of the world.

**Identification.** Casale (1988) revised all species then known.

### Genus LAEMOSTENUS Bonelli, 1810

*Laemostenus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus janthinus* Duftschmid, 1812 designated by Madge (1975: 583). Etymology. From the Greek *laimos* (throat, gullet, by extension neck) and *stenos* (narrow, tight) (see Bedel 1878: 250) [masculine].

**Diversity.** About 195 species (Lorenz 2005: 403–406) in Europe, northern Africa, western and central Palaearctic Asia, and the Himalayas arrayed in 12 subgenera. Two species are adventive in several parts of the world.

**Identification.** Lindroth (1966: 549–550) treated both species found in North America.

**Subgenus *Laemostenus* Bonelli, 1810**

*Laemostenus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus janthinus* Duftschmid, 1812 designated by Madge (1975: 583). NOTE. *Laemosthenes* is an incorrect subsequent spelling of *Laemostenus* Bonelli, introduced by Agassiz (1846: 199), not in prevailing usage.

*Ctenipus* Latreille, 1829: 400. Type species: *Carabus janthinus* Duftschmid, 1812 designated by Desmarest (1851: 136). Etymology. From the Greek *ctenos* (comb) and *pous* (foot) [masculine].

*Ctenopus* Agassiz, 1846: 107. Unjustified emendation of *Ctenipus* Latreille, 1829.

**Diversity.** Twenty species in Europe (eight species), northern Africa (four species), and Asia (13 species), one of them has been dispersed by trade to several continents and islands.

***Laemostenus complanatus* (Dejean, 1828)**

*Pristonychus complanatus* Dejean, 1828: 58. Type locality: «Portugal, Espagne, midi de la France, Italie, Sicile, Égypte, côte de Barbarie» (original citation), restricted to «Francia meridionale» by Casale (1988: 458). Lectotype (♂), designated by Casale (1988: 458), in MHNP.

**Distribution.** This species is now subcosmopolitan (Casale 1988: 460). It is adventive in North America and known from southern British Columbia, including Vancouver Island (Lindroth 1966: 550), to southwestern California, east across the Central Valley to the western foothills of the Sierra Nevada (David H. Kavanaugh pers. comm. 2008). The first inventoried specimen collected on this continent was found prior to 1874 since the species is reported by Crotch (1874: 12).

**Records.** CAN: BC (VCI) USA: CA, OR, WA – **Adventive**

**Subgenus *Pristonychus* Dejean, 1828**

*Pristonychus* Dejean, 1828: 43. Type species: *Carabus terricola* Herbst, 1784 designated by Westwood (1838: 2). Etymology (original). From the Greek *pristes* (saw) and *onychos* (claw), alluding to the denticulate claws (“*crochets des tarses dentelés en-dessous*”) of the adult [masculine].

*Eutrichomerus* Carret, 1907: 95, 99, 106. Type species: *Carabus terricola* Herbst, 1784 designated by Jeannel (1914: 237). Etymology. From the Greek *eu* (well), *trichos* (hair), and *meros* (femur), alluding to the presence of long setae on the profemur (“*fémurs antérieurs ... garnis de longs poils dressés et plus ou moins groupés sur la tranche postérieure de l’arête externe*”) of the adult [masculine].

**Diversity.** About 55 species in Europe, northern Africa, western Asia, and the Himalayas. One European species is adventive in North America and India (Casale 1988: 786-787).

***Laemostenus terricola terricola* (Herbst, 1784)**

*Carabus terricola* Herbst, 1784: 140. Type locality: «Berlin [Germany]» (original citation). Syntype(s) in ZMHB (Casale 1988: 781).

*Carabus inaequalis* Panzer, 1795: 60. Type locality: Germany (inferred from title of the book). Syntype(s) location unknown (possibly in ZMHB). Synonymy established, under the name *Sphodrus subcyaneus* (Illiger), by Sturm (1824: 152).

*Carabus subcyaneus* Illiger, 1801: 57. Type locality: Prussia, Germany (inferred from title of Illiger's 1798 book). Syntype(s) location unknown. Synonymy established by Schönherr (1806: 183). NOTE. This name was proposed for *Carabus terricola* Herbst, 1784 *sensu* Illiger (1798: 184).

*Harpalus episcopus* Drapiez, 1819: 130. Type locality: «Mons, en Hainaut [Belgium]» (original citation). One possible syntype in MHNP (see Casale 1988: 781). Synonymy established by Casale (1988: 781).

*Sphodrus reichenbachii* Schaufuss, 1861: 15. Type locality: «prov[incia] Alaba [= Álava], Hispan[ia] occ[identalis]» (original citation). Lectotype (♂), designated by Casale (1988: 782), in ZMHB. Synonymy established by Casale (1988: 782).

**Distribution.** This European subspecies is adventive in North America where it is known from Newfoundland (Lindroth 1966: 550; Larson and Langor 1982: 593) and the Maritimes (Lindroth 1966: 550) to the Saint Lawrence Estuary (Larochelle 1975: 98), from three specimens collected in 2005 and 2008 in Boston Harbor, Massachusetts (Davidson et al. 2011: 518), and from one specimen collected in 1980 in southeastern British Columbia (Bousquet 1987a: 125). The first inventoried specimen collected on this continent was found in Nova Scotia prior to 1894 (Bousquet 1992a: 507).

**Records.** FRA: PM CAN: BC, NB, NF, NS, PE, QC USA: MA – **Adventive**

**Note.** The subspecies *L. terricola punctatus* Dejean is restricted to eastern Europe.

**Tribe PLATYNINI Bonelli, 1810**

Platynii Bonelli, 1810: Tabula Synoptica. Type genus: *Platynus* Bonelli, 1810.

Anchomenii Bonelli, 1810: Tabula Synoptica. Type genus: *Anchomenus* Bonelli, 1810.

Sericodiadae Kirby, 1837: 14. Type genus: *Sericoda* Kirby, 1837.

Agonidae Kirby, 1837: 23. Type genus: *Agonum* Bonelli, 1810. NOTE. The Commission (ICZN 1996: 223) ruled that the stem of the genus *Agonum* is *Agonum-*, not *Agon-* as it should be, to remove homonymy with Agonidae Swainson, 1839 (Osteichthyes, Scorpaeniformes).

Colpodidas Chaudoir, 1872c: 285. Type genus: *Colpodes* Macleay, 1825.

Agelaeina Jacobson, 1907: 334. Type genus: *Agelaea* Gén , 1839.

**Diversity.** Worldwide, with about 2,670 species arrayed in 170 genera (Lorenz 2005: 407–437, excluding Enoicina and *Atranus*). The Northern Hemisphere has about 750 species (28% of the world fauna) and North America alone about 160 (6%).

**Genus OLISTHOPUS Dejean, 1828**

*Odontonyx* Stephens, 1827: 67. Type species: *Carabus rotundicollis* Marsham, 1802 (= *Carabus rotundatus* Paykull, 1790) designated by Westwood (1838: 2). Etymology (original, see page 96). From the Greek *odontos* (tooth) and *onyx* (claw), alluding to the denticulate claws (“claws denticulated”) of the adult [masculine]. NOTE. Lindroth (1966: 553) pointed out that *Carabus rotundicollis sensu* Stephens (1828a: 96), based on Stephens’ key and description as well as his collection, consisted of two species, *Olisthopus rotundicollis* Marsham (= *O. rotundatus* Paykull) and *Synuchus vivalis* Illiger. There is no provision in the Code to deal with such cases and therefore correct identification of the species is assumed (ICZN 1999: Article 70.1).

*Olisthopus* Dejean, 1828: 176. Type species: *Carabus rotundatus* Paykull, 1790 designated by Westwood (1838: 3). Etymology (original). From the Greek *olisthos* (slippery, escape easily) and *pous* (foot), alluding to the agility of the species known to Dejean to escape on feet (“*petits carabiques vifs et agiles*”) [masculine]. NOTE. This name has been in prevailing usage for several decades now. However, reversal of precedence (ICZN 1999: Article 23.9) cannot be applied in this case because *Odontonyx* has been used as a valid name after 1899 by several authors. A submission should be made to the Commission to preserve *Olisthopus* as the valid name for this taxon.

**Diversity.** Twenty-one species in temperate areas of the Nearctic (seven species) and Palaearctic (14 species, only one extending to eastern Asia) Regions.

**Identification.** Casey (1913: 169-171) published a key to all North American species except *O. micans* but the genus is in need of a taxonomic revision.

**[micans group]*****Olisthopus filicornis* Casey, 1913**

*Olisthopus filicornis* Casey, 1913: 171. Type locality: «Rhode Island» (original citation). One syntype in USNM [# 47575].

**Distribution.** This species has been recorded from Rhode Island (Casey 1913: 171) and from Richland County in South Carolina (Ciegler 2000: 106).

**Records. USA:** RI, SC

***Olisthopus micans* LeConte, 1846**

*Olisthopus micans* LeConte, 1846b: 230. Type locality: «Georgia» (original citation). Two syntypes in MCZ [# 5790].

**Distribution.** The range of this species extends from southern Quebec (Larochelle 1975: 96) to “Iowa” (Jaques and Redlinger 1946: 295), south to southern Louisiana (Calcasieu Parish, CNC) and northern Florida (Baker County, CMNH). The record from “Wisconsin” (Bousquet and Larochelle 1993: 248) needs confirmation.

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, LA, MA, MD, MI, MO, MS, NH, NJ, NY, OH, PA, RI, SC, VA, VT [WI]

[*parmatus* group]

***Olisthopus brevicornis* Casey, 1913**

*Olisthopus brevicornis* Casey, 1913: 171. Type locality: «Illinois» (original citation). One syntype in USNM [# 47573].

**Distribution.** This species is known only from the type series.

**Records.** USA: IL

***Olisthopus innuens* Casey, 1913**

*Olisthopus innuens* Casey, 1913: 170. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Holotype [by monotypy] (♂) in USNM [# 47572].

**Distribution.** This species is known only from the holotype.

**Records.** USA: RI

***Olisthopus iterans* Casey, 1913**

*Olisthopus parmatus iterans* Casey, 1913: 170. Type locality: «Indiana» (original citation). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47570].

**Distribution.** This species is known only from the original two specimens.

**Records.** USA: IN

**Note.** Lindroth (1966: 553) listed this form in synonymy with *O. parmatus* Say but Bousquet and Larochelle (1993: 18) treated it as a distinct species.

***Olisthopus parmatus* (Say, 1823)**

*Feronia parmata* Say, 1823a: 49. Type locality: «Wis[s]ahick[o]n Cr[ee]k [Philadelphia County], P[ennsylvani]a» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 348), in MCZ [# 33008].

*Olisthopus cinctus* Say, 1830b: (5) [3]. Type locality: «Pennsylvania» (original citation). Syntype(s) lost. Synonymy established by LeConte (1854b: 58).

*Olisthopus pictus* Casey, 1913: 169. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47571]. Synonymy established by Lindroth (1966: 553).

**Distribution.** This species ranges from “Nova Scotia” (Larochelle and Larivière 1990a: 30) to eastern Minnesota (Epstein and Kulman 1990: 215; Wickham 1896c: 134), south to northern Oklahoma (French et al. 2001: 229), Arkansas (Logan County, CNC), the Florida Panhandle (Leng 1915: 582), and southwestern Georgia (Fattig 1949: 35). The record from northern Colorado (Armin 1963: 158) needs confirmation.



**Records.** CAN: NB, NS, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, VA, VT, WI, WV [CO]

***Olisthopus pusio* Casey, 1913**

*Olisthopus pusio* Casey, 1913: 171. Type locality: «Alexandria [Rapides Parish], Louisiana» (original citation). Holotype [by monotypy] (♂) in USNM [# 47574].

**Distribution.** This species is known only from the holotype collected in central Louisiana.

**Records.** USA: LA

**Genus *ELLIPTOLEUS* Bates, 1882**

*Elliptoleus* Bates, 1882a: 97. Type species: *Anchomenus vixstriatus* Bates, 1878 designated by Casey (1920: 5). Etymology. Unknown [masculine].

**Diversity.** Eleven Mexican species, of which one extends into southern United States.

**Identification.** Liebherr (1991b) revised the species.

***Elliptoleus acutesculptus* Bates, 1882**

*Elliptoleus acutesculptus* Bates, 1882a: 98. Type locality: Refugio, Durango, Mexico (lectotype label). Lectotype (♀), designated by Liebherr (1991b: 95), in MHNP. NOTE. In the original description, the locality listed by Bates (1882a: 98) is “Mexico, near the city.” Liebherr (1991b: 95) pointed out that Bates probably made a mistake in listing this locality since no specimen of *E. acutesculptus* in Bates’ collection bears a Mexico City locality label.

**Distribution.** This species extends from east-central Arizona and southwestern Texas south to the state of San Luis Potosí in central Mexico [see Liebherr 1991b: Fig. 269]. Only two localities have been reported for the United States.

**Records.** USA: AZ, TX – Mexico

**Genus *SERICODA* Kirby, 1837**

*Sericoda* Kirby, 1837: 14. Type species: *Sericoda bembidioides* Kirby, 1837 by monotypy. Etymology. From the Greek *sericos* (silk), alluding to the silky appearance of adults (“black underneath, above black-bronze rather silky”) of *S. bembidioides* in the eyes of Kirby [feminine].

*Rhytiderus* Chaudoir, 1844: 470. Type species: *Dromius decempunctatus* Reiche, 1842 (= *Sericoda bembidioides* Kirby, 1837) by original designation. Etymology (original). From the Greek *rhytis* (wrinkle) and *dere* (neck, by extension pronotum), alluding to the irregular, granulate, transversely strigulate microsculpture on the pronotum, which Chaudoir believed were wrinkles (“*thorax ... disco toto transverse rugis irregularibus tecto*”), of the adult [masculine].

*Rhytidoderus* Agassiz, 1846: 327. Unjustified emendation of *Rhytiderus* Chaudoir, 1844. *Agonodromius* Reitter, 1908: 139 (as *Agnonodromius*), 239 (index). Type species: *Carabus quadripunctatus* DeGeer, 1774 designated by Jeannel (1942: 873). Synonymy established by Gray and Hatch (1941: 19). Etymology. From the generic names *Agonum* [*q.v.*] and *Dromius* [*q.v.*], alluding to the resemblance of these *Agonum* species to those of *Dromius* (“*Dromius-ähnlich*”) [masculine].

**Diversity.** Eight species in North America (four species, only one of them endemic), Middle America (two species, no endemism), the West Indies (one endemic Cuban species), South America (one species, no endemism), Asia (four species, three of them endemic), and Europe (two species, no endemism).

**Identification.** Liebherr (1991b) revised the species. One species, *S. balli* Schmidt, was subsequently described from Pakistan.

#### [**bogemannii group**]

##### ***Sericoda bembidioides* Kirby, 1837**

*Sericoda bembidioides* Kirby, 1837: 15. Type locality: northern parts of British America (inferred from title of the paper), restricted to «Edmonton, Al[ber]ta» by Lindroth (1966: 569). Holotype [by monotypy] (♀) in BMNH (Lindroth 1953b: 169).

*Dromius 10 punctatus* Reiche, 1842: 310. Type locality: «Santa-Fe de Bogota [Colombia]» (original citation). Syntype(s) in MHNP. Synonymy established by Horn (1886b: xii).

*Sericoda cicatricosa* Mannerheim, 1853: 144. Type locality: «sur les rives du fl[euve] Kwytych-Pack [= apparently Kwikpak, Yukon River Delta (Lindroth 1966: 569)] sur le continent Américain russe» (see Motschulsky 1864: 233). Three syntypes in ZMMU (Keleinikova 1976: 191). Synonymy established by Mannerheim (1853: 144). NOTE. Motschulsky (1864: 233) first described this species and the name has been attributed to him since. However, Mannerheim (1853: 144) first published the name as a junior synonym of *Anchomenus bembidioides* and therefore the name is available from its first publication as a synonym (ICZN 1999: Article 11.6.1). The fact that the name was previously listed, but not described, by Motschulsky (1850a: 11) in a list is irrelevant. Because no specimen(s) was cited with this name by Mannerheim (1853: 144), the type series consists of the specimens cited when the species was described (ICZN 1999: Article 72.4.3).

*Sericoda monticola* Casey, 1920: 94. Type locality: «Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 126), in USNM [# 47518]. Synonymy established by Lindroth (1966: 569).

*Sericoda colonica* Casey, 1920: 94. Type locality: «Colonia Garcia, Sierra Madre M[oun]t[ain]s, Chihuahua, Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 126), in USNM [# 47519]. Synonymy established by Lindroth (1966: 569).

**Distribution.** This species is widely distributed in the Western Hemisphere ranging from southeastern Manitoba to central Alaska, south to northern Oregon and through the Rocky Mountains, Transverse Volcanic, Central America, and the Andes to southern Ecuador, east in South America to western Venezuela [see Liebherr 1991b: Fig. 240].

**Records.** **CAN:** AB, BC (VCI), MB, NT, SK, YT **USA:** AK, AZ, CO, ID, KS, MT, NM, OR, WA – Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Panama, Venezuela

### *Sericoda bogemannii* (Gyllenhal, 1813)

*Harpalus bogemannii* Gyllenhal, 1813: 697. Type locality: «Smolandia [= Småland province, Sweden]» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1966: 567), in UZIU.

*Anchomenus strigicollis* Mannerheim, 1852: 294. Type locality: «ad fontes Kaknu [Kenai Peninsula, Alaska] in continenti Americis borealis» (original citation). Lectotype (♂), designated by Lindroth (1966: 567), in ZMH. Synonymy established by Hamilton (1889b: 97), confirmed by Lindroth (1954b: 138).

*Batenus costulatus* Motschulsky, 1865: 319. Type locality: «Sibérie orientale [Russia]» (original citation). At least one syntype in ZMMU (Schmidt and Liebherr 2009: 254). Synonymy established by Shilenkov (in Kryzhanovskij et al. 1995: 114).

*Sericoda invidiosa* Casey, 1920: 97. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47524]. Synonymy established by Lindroth (1954b: 139).

*Sericoda tacomae* Casey, 1920: 98. Type locality: «Washington State» (original citation). Holotype [by monotypy] (♀) in USNM [# 47523]. Synonymy established by Gray (1937: 311), confirmed by Lindroth (1954b: 139).

**Distribution.** This Holarctic species is found in the New World from west-central Alaska south to central California and to southern New Mexico along the Rocky Mountains. Disjunct populations are also known from Chiapas in Mexico and Guatemala [see Liebherr 1991b: Fig. 230]. In the Old World, the species is known from disjunct populations in Lapland, the Austrian Alps, and Burma [see Liebherr 1991b: Fig. 231].

**Records.** **CAN:** AB, BC (VCI), YT **USA:** AK, CA, CO, ID, MT, NM, OR, WA – Guatemala, Mexico – **Holarctic**

### *Sericoda obsoleta* (Say, 1823)

*Feronia obsoleta* Say, 1823a: 57. Type locality: «Bayf[ie]ld [Bayfield County], Wis[consin]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 348), in MCZ [# 33011].

*Agonum luctuosum* Dejean, 1828: 172. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 21). Synonymy established by Say (1830b: (5) [3]), confirmed by Lindroth (1966: 565).

*Platynus consimilis* LeConte, 1854b: 57 [secondary homonym of *Platynus consimilis* (Gyllenhal, 1810)]. Type locality: «Michipicoton [Ontario], Lake Superior» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5780]. Synonymy established by Lindroth (1966: 565).

*Platynus vicinus* Gemminger and Harold, 1868a: 377. Replacement name for *Platynus consimilis* LeConte, 1854.

*Sericoda insulina* Casey, 1920: 97. Type locality: «Victoria, Vancouver Island [British Columbia]» (original citation). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47522]. Synonymy established by Lindroth (1966: 566).

**Distribution.** This Nearctic species ranges from Newfoundland to Vancouver Island (Casey 1920: 97, as *S. insulina*), north to southern Northwest Territories, south to central Oregon, central Colorado (Wickham 1902: 239), eastern Texas, and coastal Georgia [see Liebherr 1991b: Fig. 229]. One specimen simply labeled from California is known (Liebherr 1991b: 74). There is also one specimen recorded from near Mexico City (Liebherr 1991b: 72) which in my opinion is probably mislabeled.

**Records.** CAN: AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, QC, SK USA: AL, AR, CO, CT, DC, GA, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NH, NJ, NY, OH, OR, PA, RI, SC, TN, TX, VA, VT, WA, WI, WV [CA]

#### [quadripunctata group]

##### *Sericoda quadripunctata* (DeGeer, 1774)

*Carabus 4-punctatus* DeGeer, 1774: 102. Type locality not stated; «Uppsala, Sweden» selected by Lindroth (1966: 568). Lectotype (♂), designated by Lindroth (1966: 568), in NRSS.

*Carabus foveolatus* Illiger, 1801: 61. Type locality: Prussia (inferred from title of the paper). Holotype [by monotypy] probably lost. Synonymy established by Gyllenhal (1810: 160).

*Anchomenus octocolus* Mannerheim, 1853: 144. Type locality: «ad rivulos fl[umen] Tschunuktnu peninsulae Kenai [Alaska]» (original citation). Holotype [by monotypy] probably in ZMMU. Synonymy established by LeConte (1879b: 57). NOTE. Regarding the type locality, see “Note” section for *Cryobius subcaudatus* Mannerheim.

*Platynus stigmatosus* LeConte, 1854b: 58. Type locality: «Lake Superior, Maine and New Hampshire» (original citation), restricted to «L[ake] Superior» by Lindroth (1966: 568). Three syntypes in MCZ [# 5785]. Synonymy established with doubt, under the name *S. octocola* (Mannerheim), by LeConte (1857c: 8), confirmed by Lindroth (1966: 568).

*Anchomenus ambiguus* Mäklin, 1855: 36. Type locality: «Ajan [Khabarovsk Kray, Russia]» (original citation). Syntype(s) location unknown (possibly in ZMH). Synonymy established by Jacobson (1907: 330).

**Distribution.** This Holarctic species ranges in North America from central Alaska to Newfoundland (Lindroth 1955a: 117), south to eastern North Carolina and west-

ern Tennessee along the Appalachian Mountains, to northern New Mexico along the Rocky Mountains, and to central Washington [see Liebherr 1991b: Fig. 221]. In the Palaearctic Region, the range of the species extends from Great Britain to the Kamchatka Peninsula, south to the Philippines Islands, the Himalayan Mountains, and Italy in Europe [see Liebherr 1991b: Fig. 222].

**Records.** **CAN:** AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, QC, SK, YT  
**USA:** AK, ID, IL, IN, MA, ME, MI, MN, MT, NC, NH, NJ, NM, NY, PA, SD, TN, VT, WA, WI – **Holarctic**

### Genus *TETRALEUCUS* Casey, 1920

*Tetraleucus* Casey, 1920: 88. Type species: *Anchomenus picticornis* Newman, 1844 by monotypy. Etymology. From the Greek *tetra* (four) and *leukos* (white), probably alluding to the fact that the antennomeres 8-11 of the adults are white (“the last four joints [of the antenna] being very abruptly of a creamy white”) [masculine].

**Diversity.** One eastern North American species in the temperate regions.

**Identification.** Liebherr (1991b) redescribed the species and illustrated some of its structural character states.

#### *Tetraleucus picticornis* (Newman, 1844)

*Anchomenus picticornis* Newman, 1844: 414. Type locality: «near S[ain]t John’s Bluff [Duval County], in east Florida» (original citation). Holotype [by monotypy] (♀) in BMNH (Lindroth 1966: 615).

**Distribution.** This species is known from scattered localities in eastern North America ranging from western Vermont to “Minnesota,” south to east-central Texas (Riley 2011), southern Louisiana and central Florida [see Liebherr 1991b: Fig. 187]. The record from Sainte-Rose (= Laval) in Quebec (Hausen 1891b: 159) needs confirmation.

**Records.** **CAN:** ON **USA:** AL, AR, DC, FL, IA, IL, IN, KY, LA, MD, MN, MS, NC, NY, OH, PA, SC, TX, VA, VT, WI, WV [QC]

### Genus *ANCHOMENUS* Bonelli, 1810

*Anchomenus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus prasinus* Thunberg, 1784 (= *Carabus dorsalis* Pontoppidan, 1763) designated by Westwood (1838: 3). Etymology. From the Greek *anchomenos* (strangled), possibly alluding to the cordate pronotum (“*th[orax] obcordatus*,” character of the stripe *Anchomenii* of Bonelli) of the adult [masculine].

**Diversity.** Fourteen species in the Nearctic (three species) and Palaearctic (ten species) Regions and one species (*A. capensis* Liebherr) endemic to Baja California. These species are arrayed in two subgenera: *Anchodemus* Motschulsky (three Palaearctic species) and *Anchomenus s.str.* (11 species).



**Identification.** Liebherr (1991b) revised the species except for three Palaearctic species of the subgenus *Anchomenus s.str.*

### **Subgenus *Anchomenus* Bonelli, 1810**

*Anchomenus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus prasinus* Thunberg, 1784 (= *Carabus dorsalis* Pontoppidan, 1763) designated by Westwood (1838: 3).

*Ectenes* Billberg, 1820: 29. Type species: *Carabus prasinus* Thunberg, 1784 (= *Carabus dorsalis* Pontoppidan, 1763) designated by Bousquet (2002b: 19).

*Clibanarius* des Gozis, 1882: 295 [junior homonym of *Clibanarius* Dana, 1852]. Type species: *Carabus dorsalis* Pontoppidan, 1763 by original designation. Etymology. From the Latin *clibanarius* (cuirassier) [masculine].

*Chlaeniomimus* Semenov, 1889b: 687. Type species: *Chlaenius gracilicollis* Jakowleff, 1887 (= *Atranus virescens* Motschulsky, 1864) by original designation. Synonymy established by Liebherr (1991b: 33). Etymology. From the generic name *Chlaenius* [*q.v.*] and the Latin *mimus* (actor), probably alluding to the resemblance of the adults in the eyes of Semenov to those of some *Chlaenius* [masculine].

*Idiochroma* Bedel, 1902: 216. Replacement name for *Clibanarius* des Gozis, 1882. Etymology. From the Greek *idios* (personal, individual) and *chroma* (color) [neuter].

*Pseudanchus* Casey, 1920: 45. Type species: *Platynus funebris* LeConte, 1854 designated by Lindroth (1966: 632). Synonymy established by Liebherr (1991b: 33). Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Anchus* [*q.v.*] [masculine].

*Nipponachus* Habu, 1978: 36. Type species: *Anchomenus leucopus* Bates, 1873 by original designation. Synonymy established by Liebherr (1991b: 33). Etymology. From the English *nippon* (a Japanese name for Japan) and the generic name *Anchus* [*q.v.*] [masculine].

**Diversity.** Eleven species in North America (three endemic species), Baja California (one endemic species), Asia (seven species, four of them endemic), Europe (three species), and northern Africa (one species).

### ***Anchomenus aeneolus* (LeConte, 1854)**

*Platynus aeneolus* LeConte, 1854b: 45. Type locality: «Oregon» (original citation), herein restricted to Hilgard Junction State Park, Union County (see Liebherr 1991b: 52). Holotype [by monotypy] (♀) in MCZ [# 5755].

*Agonum bjorkmanae* Gray and Hatch, 1941: 16. Type locality: «Upper Deschutes River, Thurston Co[unty], Wash[ington]» (original citation). Holotype (♀) in USNM. Synonymy established by Hatch (1953: 136). NOTE. Hatch (1953: 136) pointed out that the holotype is a composite specimen, the forebody being of *A. aeneolus* LeConte, the hindbody of *A. subsericeum* LeConte.

**Distribution.** This taxon is found from the Rocky Mountains in southwestern Alberta to south-central British Columbia, south to central Oregon and south-central Idaho [see Liebherr 1991b: Fig. 200].

**Records.** CAN: AB, BC USA: ID, MT, OR, WA

*Anchomenus funebris* (LeConte, 1854)

*Anchomenus micans* Ménétriés, 1843: 57 [primary homonym of *Anchomenus micans* Nicolai, 1822]. Type locality: «Californie» (original citation). One syntype in ZMH (collection Mannerheim) (Silfverberg 1987: 20).

*Platynus funebris* LeConte, 1854b: 45. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♀), designated by Liebherr (1991b: 53), in MCZ [# 5757]. Synonymy established by LeConte (1879b: 47), confirmed by Liebherr (1991b: 53).

*Scaphiodactylus opacus* Motschulsky, 1859a: 160. Type locality: «California» (lectotype label). Lectotype (probably ♀), designated by Bousquet (1997b: 335), in ZMMU. Synonymy established by LeConte (1863b: 7), confirmed by Bousquet (1997b: 335).

*Anchomenus morbillosus* Casey, 1920: 48. Type locality: «Redwood Creek, Humboldt Co[unty], California» (original citation). Lectotype (♀), designated by Liebherr (1991a: 117), in USNM [# 47419]. Synonymy established by Liebherr (1991a: 117).

*Anchomenus nevadensis* Casey, 1920: 48. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♀), designated by Liebherr (1991a: 117), in USNM [# 47420]. Synonymy established by Liebherr (1991a: 117).

*Anchomenus concurrens* Casey, 1920: 49. Type locality: «S[an]ta Rosa [Sonoma County], California» (original citation for the lectotype). Lectotype (♀), designated by Liebherr (1991a: 116), in USNM [# 47421]. Synonymy established by Hatch (1953: 136), confirmed by Liebherr (1991a: 117).

*Anchomenus opacellus* Casey, 1920: 50. Type locality: «S[an]ta Rosa [Sonoma County], California» (original citation). Lectotype (♀), designated by Liebherr (1991a: 117), in USNM [# 47422]. Synonymy established by Liebherr (1991a: 117).

*Anchomenus renoanus* Casey, 1920: 51. Type locality: «Reno [Washoe County], Nevada» (original citation). Lectotype (♂), designated by Liebherr (1991a: 117), in USNM [# 47425]. Synonymy established by Liebherr (1991a: 117).

*Anchomenus parvus* Casey, 1920: 51. Type locality: «Reno [Washoe County], Nevada» (original citation). Holotype [by monotypy] (♀) in USNM [# 47424]. Synonymy established by Liebherr (1991a: 117).

*Agonum funebre* var. *micantulum* Csiki, 1931: 861. Replacement name for *Agonum funebre* var. *micans* (Ménétriés, 1843).

**Distribution.** This western species ranges from central Oregon to Baja California Norte, including west-central Nevada [see Liebherr 1991b: Fig. 200].

**Records.** USA: CA (CHI), NV, OR – Mexico

***Anchomenus quadratus* (LeConte, 1854)**

*Platynus quadratus* LeConte, 1854b: 50. Type locality: «Oregon» (original citation), herein restricted to Dilley, Washington County (see Casey 1920: 52, as *A. dilleyanus*). Holotype [by monotypy] (♀) in MCZ [# 5756].

*Anchomenus cornicula* Casey, 1920: 51. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation for the lectotype). Lectotype (♂), designated by Liebherr (1991a: 116), in USNM [# 47423]. Synonymy established by Liebherr (1991a: 116).

*Anchomenus metuens* Casey, 1920: 52. Type locality: «Newport [Lincoln County], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47426]. Synonymy established by Hatch (1953: 137), confirmed by Lindroth (1966: 617).

*Anchomenus dilleyanus* Casey, 1920: 52. Type locality: «Dilley [Washington County], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47427]. Synonymy established by Hatch (1953: 137), confirmed by Lindroth (1966: 617).

**Distribution.** This western species is found from west-central British Columbia south to northern California [see Liebherr 1991b: Fig. 187].

**Records.** CAN: BC USA: CA, OR, WA

**Genus *RHADINE* LeConte, 1846**

*Rhadine* LeConte, 1846b: 218. Type species: *Rhadine larvalis* LeConte, 1846 by monotypy. Etymology. From the Greek *rhadinós* (slender), probably alluding to the slenderness of adults (“*corpus gracillimum*”) of the sole species LeConte had before him [feminine].

*Comstockia* Van Dyke, 1919a: 179. Type species: *Comstockia subterranea* Van Dyke, 1919 by original designation. Synonymy established implicitly by Jeannel (1931: 407), explicitly by Barr and Lawrence (1960: 138). Etymology. The generic name honors John Henry Comstock [1849-1931], professor of entomology at Cornell University. Comstock established the Department of Entomology at Cornell, the first such department in the United States.

*Spelaeorhadine* Bolívar y Pieltain, 1944: 27. Type species: *Spelaeorhadine araizai* Bolívar y Pieltain, 1944 by original designation. Synonymy established implicitly by Bolívar y Pieltain and Hendrichs (1964: 6). Etymology. From the Greek *spelaión* (cave, cavern) and the generic name *Rhadine* [*q.v.*], alluding to the place where the adults live [feminine].

**Diversity.** Forty-nine species in North America (40 species) and Mexico (11 species) arrayed in six species groups.

**Identification.** Barr (1960b) revised the cavernicolous species and provided a key for their identification, but several new species have been described since. Barr (1974b)

published a key to the species groups and a revision of the species of the *subterranea* group. Five new species in this group have been described subsequently by Reddell and Cokendolpher (2001, 2004) and Reddell and Dupérré (2009). Barr (1982) also revised the Mexican species of *Rhadine*. A taxonomic revision of the other five species groups is needed.

[**dissecta group**]

***Rhadine anthicoides* Casey, 1913**

*Rhadine anthicoides* Casey, 1913: 167. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). One syntype in USNM [# 35021].

**Distribution.** This species is known only from the type series collected in northwestern New Mexico.

**Records. USA:** NM

***Rhadine balesi* (Gray, 1937)**

*Agonum balesi* Gray, 1937: 310. Type locality: «Pasco [Franklin County], Wash[ington]» (as cited by Gray and Hatch 1941: 27). Holotype (♂) in USNM.

**Distribution.** This species is known from a few localities in southeastern Oregon (Harney County, James R. LaBonte pers. comm. 1992), southeastern Washington, and southern Idaho (Hatch 1953: 146; Stafford et al. 1986: 288). The record from northern Colorado (Armin 1963: 147) needs confirmation.

**Records. USA:** ID, OR, WA [CO]

***Rhadine constricta* Casey, 1913**

*Rhadine constricta* Casey, 1913: 165. Type locality: «San Francisco M[oun]t[ain]s [Greenlee County], Arizona» (original citation). One syntype in USNM [# 35014].

**Distribution.** This species is known only from the type series collected in southeastern Arizona.

**Records. USA:** AZ

***Rhadine dissecta* (LeConte, 1863)**

*Platynus dissectus* LeConte, 1863c: 8. Type locality: «Nebraska; Texas» (original citation). Two syntypes in MCZ [# 5737].

**Distribution.** This species is known from “Nebraska” (LeConte 1863c: 8) to southwestern Colorado (LeConte 1879b: 54; Wickham 1902: 238), south to northern Arizona (Coconino County, CMNH; Snow 1906b: 162), the Sacramento Mountains in south-central New Mexico (Fall and Cockerell 1907: 159), and “Texas” (LeConte 1863c: 8).

**Records. USA:** AZ, CO, NE, NM, TX



***Rhadine lindrothi* Barr, 1965**

*Rhadine lindrothi* Barr, 1965b: 140. Type locality: «Medicine Hat, Alberta» (original citation). Holotype (♂) in MCZ.

**Distribution.** This species is found from southern Saskatchewan and southern Alberta (Lindroth 1966: 647) south to Utah (Barr 1965b: 141), northeastern Colorado (Bell 1971: 52), and South Dakota (Kirk and Balsbaugh 1975: 25). The record from “Nebraska” (Bousquet and Laroche 1993: 251) needs confirmation.

**Records.** CAN: AB, SK USA: CO, ID, ND, SD, UT, WY [NE]

***Rhadine longipes* Casey, 1913**

*Rhadine longipes* Casey, 1913: 167. Type locality: «Las Vegas [San Miguel County], New Mexico» (original citation). One syntype in USNM [# 35022].

**Distribution.** This species is known only from the type locality in northeastern New Mexico.

**Records.** USA: NM

***Rhadine rossi* Van Dyke, 1949**

*Rhadine rossi* Van Dyke, 1949a: 51. Type locality: «near Somerset [Bexar County], Texas» (original citation for the holotype). Holotype (♂) in CAS [# 6011]. Etymology. The specific name was proposed for Edward Shearman Ross [1915-], curator of insects at the California Academy of Sciences. Ross was at one time a specialist on Histeridae and later became interested in the taxonomy, biology, and evolution of Embioptera.

**Distribution.** This species is known from many specimens collected in south-central Texas.

**Records.** USA: TX

***Rhadine rubra* (Barr, 1960)**

*Agonum rubrum* Barr, 1960b: 49. Type locality: «Big Mouth Cave, 3 mi[les] N[orth] of Shamrock on left bank Red River, Wheeler Co[unty], Texas» (original citation). Holotype (♂) in USNM [# 75389].

**Distribution.** This species is known from a few specimens collected in southeastern Colorado and northwestern Texas (Barr 1960b: 50).

**Records.** USA: CO, TX

***Rhadine testacea* Casey, 1920**

*Rhadine testacea* Casey, 1920: 12. Type locality: «Cripple Creek [Teller County], Colorado» (original citation). One syntype in USNM [# 35015].



**Distribution.** This species is known only from the syntype collected in central Colorado.

**Records. USA:** CO

[**jejuna group**]

***Rhadine jejuna* (LeConte, 1878)**

*Platynus jejunus* LeConte, 1878a: 449. Type locality: «mountains of California, Oregon, Nevada, and Idaho» (original citation). Three syntypes in MCZ [# 5738].

*Rhadine gracilenta* Casey, 1913: 166. Type locality: «California» (original citation).

One syntype in USNM [# 35019]. **New synonymy.**

*Rhadine plumasensis* Casey, 1920: 12. Type locality: «Plumas Co[unty], California» (original citation). One syntype in USNM [# 35016]. **New synonymy.**

*Rhadine pugetana* Casey, 1920: 13. Type locality: «Wawawai [Whitman County], Washington» (original citation). One syntype in USNM [# 35017]. Synonymy established by Gray (1937: 310).

*Rhadine tenuipes* Casey, 1920: 13. Type locality: «California» (original citation). One syntype in USNM [# 35018]. **New synonymy.**

**Distribution.** This species ranges from eastern Washington to southwestern Wyoming (Parmenter and MacMahon 1984: 26), south to northern Arizona (Wickham 1896a: 157) and the Sierra Nevada in California (Casey 1913: 166). The records from Colorado (Cockerell 1893: 72; Wickham 1902: 238) need confirmation.

**Records. USA:** AZ, CA, ID, NV, OR, WA, WY [CO]

**Note.** A preliminary study of the type specimens of *R. gracilenta* Casey, *R. plumasensis* Casey, and *R. tenuipes* Casey did not show any significant external differences from members of *R. jejuna* (LeConte).

***Rhadine lanei* (Gray, 1937)**

*Agonum lanei* Gray, 1937: 310. Type locality: «Wilma [Whitman County], Wash[ington]» (as cited by Gray and Hatch 1941: 27). Holotype (♂) in USNM.

**Distribution.** This species is known only from the type locality in southeastern Washington (Hatch 1953: 146).

**Records. USA:** WA

[**larvalis group**]

***Rhadine caudata* (LeConte, 1863)**

*Platynus caudatus* LeConte, 1863c: 7. Type locality: «western states» (original citation), herein restricted to Cumberland Caverns, Warren County, Tennessee (see Barr 1960b: 47). Holotype [by monotypy] (♂) in MCZ [# 5736].

**Distribution.** This species ranges from southwestern Pennsylvania (Hamilton 1895: 350, 379; Ehrman 1900: 499) to southeastern Wisconsin (Rauterberg 1885: 14), south to northern Alabama (Jeannel 1949b: 95; Barr 1960b: 47) and northern Georgia (Fattig

1949: 32). The record from southwestern Colorado (Wickham 1902: 238) must be in error; that from “Arkansas” (Bousquet and Larochelle 1993: 250) needs confirmation.

**Records. USA:** AL, DC, GA, IL, IN, KY, MD, NC, OH, PA, TN, VA, WI, WV [AR]

### ***Rhadine larvalis* LeConte, 1846**

*Rhadine larvalis* LeConte, 1846b: 219. Type locality: «in vicinia urbis S[ain]t Louis» (original citation). One syntype in MCZ [# 5735].

*Agonum jonesi* Barr, 1960b: 48. Type locality: «Turk’s Cave, near Brooklyn, Conecuh Co[unty], Alabama» (original citation). Holotype (♂) in ALM. Synonymy established by Barr (1982a: 178).

**Distribution.** This species is found from the Florida Panhandle (Choate and Rogers 1976: 364) to central Arkansas (Barr 1982a: 178), north to east-central Missouri (LeConte 1846b: 219). The records from northern Colorado (Wickham 1902: 238), northern Arizona (Wickham 1896a: 157), southern Montana (Hatch 1933a: 9), and southwestern Pennsylvania (Ehrman 1900: 500) are probably in error.

**Records. USA:** AL, AR, FL, IL, MO, MS, TN

### ***Rhadine ozarkensis* Sanderson and Miller, 1941**

*Rhadine ozarkensis* Sanderson and Miller, 1941: 39. Type locality: «Fincher’s Cave, Washington Co[unty], Arkansas» (original citation). Holotype (♂) in INHS (Webb 1980: 78).

**Distribution.** This species is known only from the original specimens collected in Fincher’s Cave, near Fayetteville, Arkansas (Barr 1960b: 49).

**Records. USA:** AR

### **[nivalis group]**

#### ***Rhadine nivalis* (Horn, 1881)**

*Platynus nivalis* G.H. Horn [in LeConte and Horn], 1881: 74. Type locality: «Santa Fe canon (7,000 feet), New Mexico» (original citation). Holotype [by monotypy] (♀) in MCZ [# 34453].

**Distribution.** This species has been recorded from several localities in New Mexico (Fall and Cockerell 1907: 159; Casey 1913: 163).

**Records. USA:** NM

#### ***Rhadine sublustris* Casey, 1913**

*Rhadine sublustris* Casey, 1913: 164. Type locality: «San Francisco M[oun]t[ain]s [Greenlee County], Arizona» (original citation). One syntype in USNM [# 35013].

**Distribution.** This species is known from Greenlee (Casey 1913: 164) and Coconino Counties (CMNH) in southeastern and northern Arizona.

**Records. USA:** AZ

***Rhadine umbra* Casey, 1913**

*Rhadine umbra* Casey, 1913: 163. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). One syntype in USNM [# 35012].

**Distribution.** This species is known only from the type series collected in northwestern New Mexico.

**Records. USA:** NM

[**perlevis group**]

***Rhadine albamontana* Dajoz, 1998**

*Rhadine albamontana* Dajoz, 1998: 90. Type locality: «White Mountains, Mono County, Californie» (original citation). Holotype in Dajoz's collection (Paris, France).

**Distribution.** This species is known only from the original specimens collected in the White Mountains, eastern California.

**Records. USA:** CA

***Rhadine babcocki* (Barr, 1960)**

*Agonum babcocki* Barr, 1960b: 52. Type locality: «Mayfield's Cave, Sutton Co[unty], Texas» (original citation). Holotype (♂) in USNM [# 75388]. Etymology. The specific name was proposed in honor of Orville Gorman Babcock [1885-1973] who collected some of the paratypes. Babcock was an entomologist who worked with the USDA on animal insect parasites.

**Distribution.** This species is known from a number of caves in Sutton, Edwards, and Pecos Counties, western Texas (Barr 1960b: 52).

**Records. USA:** TX

**Note.** This taxon has been considered a subspecies of *R. araizi* by Bolívar y Pieltain and Hendricks (1964: 6) but treated as a distinct species by Barr (1982a: 183-184).

***Rhadine howdeni* (Barr and Lawrence, 1960)**

*Agonum howdeni* Barr and Lawrence, 1960: 143. Type locality: «Wilson's Cave, 20 miles southwest of Hunt, Kerr County, Texas» (original citation). Holotype (♂) in CNC [# 7117]. Etymology. The specific name was proposed for Henry Fuller Howden [1925-], one of the leading taxonomists on the Scarabaeoidea.

**Distribution.** This species is known from a number of caves in Kerr, Edwards, Uvalde, and Bexar Counties, southern Texas (Barr and Lawrence 1960: 143; Reddell and Cockendolpher, 2004: 157).

**Records. USA:** TX

***Rhadine longiceps* Van Dyke, 1949**

*Rhadine longiceps* Van Dyke, 1949a: 52. Type locality: «10 miles west of Alpine [Brewster County], Texas» (original citation). Holotype (♀) in CAS [# 6013].

**Distribution.** This species is known only from the type locality in western Texas.

**Records. USA:** TX

***Rhadine longicollis* Benedict, 1927**

*Rhadine longicollis* Benedict, 1927: 44. Type locality: «Bat Cave [Eddy County, New Mexico]» (original citation). Holotype (♂) in SMEK [# 1079] (Byers and Karren 1968: 3).

**Distribution.** This species is known from numerous caves in Eddy County, southeastern New Mexico, and Culberson County, western Texas (Cokendolpher and Polyak 2004: 192).

**Records. USA:** NM, TX

***Rhadine myrmecodes* (Horn, 1892)**

*Platynus myrmecodes* G.H. Horn, 1892c: 42. Type locality: «Arizona» (original citation). Holotype [by monotypy] (♀) in MCZ [# 34497].

**Distribution.** This species has been recorded from southwestern Utah (Tanner 1928: 270), west-central (Bechtel et al. 1983: 474) and southern (Tanner and Tanner 1974: 218) Nevada, “Arizona” (Horn 1892c: 42), and New Mexico as far south as the Sierra Blanca Range (Fall and Cockerell 1907: 159).

**Records. USA:** AZ, NM, NV, UT

***Rhadine perlevis* Casey, 1913**

*Rhadine perlevis* Casey, 1913: 168. Type locality: «Colonia Garcia, Sierra Madre M[oun]t[ain]s, Chihuahua, Mexico» (original citation). One syntype in USNM [# 35023].

**Distribution.** This species is known from southern Arizona and western Chihuahua in northern Mexico (Barr 1982a: 182).

**Records. USA:** AZ – Mexico

[subterranea group]

***Rhadine austinica* Barr, 1974**

*Rhadine austinica* Barr, 1974b: 11. Type locality: «Bandit Cave, in the Rollingwood subdivision on the south side of Austin, Travis County, Texas» (original citation). Holotype (♂) in AMNH [# 1301].

**Distribution.** This species is found in several caves in central Travis County, Texas (Barr 1974b: 12).

**Records. USA:** TX



***Rhadine bullis* Reddell and Cokendolpher, 2004**

*Rhadine bullis* Reddell and Cokendolpher, 2004: 154. Type locality: «Stahl Cave, Camp Bullis, Bexar County, Texas» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from several caves on Camp Bullis, a U.S. Army installation in Bexar and Comal Counties, south-central Texas (Reddell and Cokendolpher, 2004: 154-155).

**Records. USA:** TX

***Rhadine exilis* (Barr and Lawrence, 1960)**

*Agonum exile* Barr and Lawrence, 1960: 141. Type locality: «Marnock Cave [= John Wagner Ranch Cave No. 3], 1 mile north of Helotes, Bexar County, Texas» (original citation). Holotype (♂) in CAS [# 8154].

**Distribution.** This species is known only from caves near Helotes and Camp Bullis in Bexar County, south-central Texas (Barr 1974b: 16; Reddell and Cokendolpher, 2004: 156).

**Records. USA:** TX

**Note.** This species has been listed as endangered by the U.S. Fish and Wildlife Service in December 2000.

***Rhadine grubbsi* Reddell and Dupérré, 2009**

*Rhadine grubbsi* Reddell and Dupérré, 2009: 111. Type locality: «Lime Kiln Quarry Cave, Hays County, Texas» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from three caves in or near San Marcos, Hays County, in south-central Texas (Reddell and Dupérré 2009: 112).

**Records. USA:** TX

***Rhadine infernalis ewersi* (Barr, 1960)**

*Agonum infernale ewersi* Barr, 1960b: 55. Type locality: «Headquarters Cave, Camp Bullis, Bexar Co[unty], Texas» (original citation). Holotype (♂) in CMC (Vulinec and Davis 1984: 233).

**Distribution.** This subspecies is known from three caves in southern Bexar County, south-central Texas (Reddell and Cokendolpher, 2004: 157).

**Records. USA:** TX

***Rhadine infernalis infernalis* (Barr and Lawrence, 1960)**

*Agonum infernale* Barr and Lawrence, 1960: 139. Type locality: «Madla Cave, 3 miles north of Helotes, Bexar County, Texas» (original citation). Holotype (♂) in CAS [# 8155].

**Distribution.** This subspecies is known from a few small caves, near Helotes, in the highlands north of San Antonio, southern Texas (Barr 1974b: 23).



**Records. USA: TX**

**Note.** A series of eight specimens collected at Bat Cave in Government Canyon, Bexar County, Texas, are reported as hybrids *infernalis* x *ewersi* by Barr (1974b: 24). The species *R. infernalis* has been listed as endangered by the U.S. Fish and Wildlife Service in December 2000.

***Rhadine insolita* Barr, 1974**

*Rhadine insolita* Barr, 1974b: 20. Type locality: «Fischer Cave, near Fischers Store, Comal County, Texas» (original citation). Holotype (♂) in AMNH [# 1307].

**Distribution.** This species is known only from the type-locality cave in south-central Texas.

**Records. USA: TX*****Rhadine ivyi* Reddell and Cokendolpher, 2004**

*Rhadine ivyi* Reddell and Cokendolpher, 2004: 159. Type locality: «Vera Cruz Shaft, Camp Bullis, Bexar County, Texas» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known only from the type-locality cave in south-central Texas (Reddell and Cokendolpher, 2004: 161).

**Records. USA: TX*****Rhadine koepkei koepkei* (Barr, 1960)**

*Agonum koepkei* Barr, 1960b: 56. Type locality: «Schneider's Ranch Cave, 14 mi[les] N[orth]E[ast] of Boerne, Kendall Co[unty], Texas» (original citation). Holotype (♂) in CAS [# 8156].

**Distribution.** This subspecies is known from two caves in south-central Texas (Barr 1974b: 24).

**Records. USA: TX*****Rhadine koepkei privata* Barr, 1974**

*Rhadine koepkei privata* Barr, 1974b: 25. Type locality: «Skunk-X Water Cave, near Boerne, Kendall County, Texas» (original citation). Holotype (♂) in AMNH [# 1311].

**Distribution.** This subspecies is known from a few caves in south-central Texas (Barr 1974b: 25).

**Records. USA: TX*****Rhadine noctivaga* Barr, 1974**

*Rhadine noctivaga* Barr, 1974b: 10. Type locality: «Cobb Cavern, 12 miles north of Georgetown, Williamson County, Texas» (original citation). Holotype (♀) in AMNH [# 1300].

**Distribution.** This species is known only from Cobb Cavern and Cricket Cave in northern Williamson County, central Texas (Barr 1974b: 11).

**Records. USA:** TX

***Rhadine persephone* Barr, 1974**

*Rhadine persephone* Barr, 1974b: 17. Type locality: «Tooth Cave, 15 miles northwest of Austin on the Kretschmarr Ranch, Travis County, Texas» (original citation). Holotype (♂) in AMNH [# 1305].

**Distribution.** This species has been collected in caves in northern Travis and southern Williamson Counties, central Texas (Reddell and Cokendolpher 2001: 110).

**Records. USA:** TX

**Note.** This species, also known under the vernacular name “Tooth Cave Ground Beetle,” is listed as an endangered species by the World Wildlife Fund.

***Rhadine reyesi* Reddell and Cokendolpher, 2001**

*Rhadine reyesi* Reddell and Cokendolpher, 2001: 110. Type locality: «Tippit Cave, Fort Hood, Coryell County, Texas» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from a number of caves on the Fort Hood Military Reservation in Bell and Coryell Counties, central Texas (Reddell and Cokendolpher 2001: 110).

**Records. USA:** TX

***Rhadine russelli* Barr, 1974**

*Rhadine russelli* Barr, 1974b: 9. Type locality: «Lunsford Cave, 7 miles west of Leander on the George Lunsford Ranch, Travis County, Texas» (original citation). Holotype (♂) in AMNH [# 1299].

**Distribution.** This species is known only from the type-locality cave on the Jollyville plateau in central Texas.

**Records. USA:** TX

***Rhadine specum crinicollis* Barr, 1974**

*Rhadine specum crinicollis* Barr, 1974b: 15. Type locality: «Kappelmans Salamander Cave, 4 miles east of Bulverde, Comal County, Texas» (original citation). Holotype (♂) in AMNH [# 1303].

**Distribution.** This subspecies has been found yet only in two caves along Cibolo Creek in southern Texas (Barr 1974b: 16).

**Records. USA:** TX

***Rhadine specum gentilis* Barr, 1974**

*Rhadine specum gentilis* Barr, 1974b: 14. Type locality: «Little Gem Cave, on the R.A. Mittman Ranch 4 miles west of New Braunfels, Comal County, Texas» (original citation). Holotype (♂) in AMNH [# 1302].

**Distribution.** This subspecies is known only from two caves in south-central Texas (Barr 1974b: 15).

**Records. USA:** TX

***Rhadine specum specum* (Barr, 1960)**

*Agonum specum* Barr, 1960b: 58. Type locality: «Cave-Without-A-Name, Kendall Co[unty], Texas» (original citation). Holotype (♂) in CAS [# 8157]. NOTE. Barr (1960b) did not give the etymology of the specific name but it certainly derives from the Latin noun *specus*, *-us* (cave). Barr believed the word could be used as an adjective since he described later (Barr 1974b: 14) a *Rhadine specum gentilis*. However, the word is a noun (Theil 1883: 297) and the species should have been named *Agonum specus* (nominative singular and genitive singular) or *A. specuum* (genitive plural). I consider that Barr's name is not a Latin or latinized word; as such it does not need to agree in gender with the generic name with which it is combined (ICZN 1999: Article 31.2.3). Therefore, *Rhadine specum*, not *R. specum*, is the correct spelling for this name.

**Distribution.** This subspecies is known from a few caves in Kendall and Comal Counties, southern Texas (Barr 1974b: 13; Reddell and Cokendolpher, 2004: 158).

**Records. USA:** TX

***Rhadine sprousei* Reddell and Cokendolpher, 2004**

*Rhadine sprousei* Reddell and Cokendolpher, 2004: 158. Type locality: «Cannonball Cave, Camp Bullis, Bexar County, Texas» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known yet only from the type-locality cave in south-central Texas (Reddell and Cokendolpher, 2004: 159).

**Records. USA:** TX

***Rhadine subterranea mitchelli* Barr, 1974**

*Rhadine subterranea mitchelli* Barr, 1974b: 7. Type locality: «Steam Cave, 2 miles south of Georgetown, Williamson County, Texas» (original citation). Holotype (♂) in AMNH [# 1298].

**Distribution.** This subspecies is known from several caves in central Texas (Barr 1974b: 8).

**Records. USA:** TX

***Rhadine subterranea subterranea* (Van Dyke, 1919)**

*Comstockia subterranea* Van Dyke, 1919a: 182. Type locality: «a cave near Austin, Texas» (original citation); according to Barr (1974b: 7), the holotype is from Sam Bass (= McNeil Quarry) Cave, near McNeil, Williamson County. Holotype (♀) in CUIC [# 259].

**Distribution.** This subspecies is known from several caves in southern Williamson and northern Travis Counties, central Texas (Barr 1974b: 7).

**Records. USA:** TX

***Rhadine tenebrosa mckenziei* Barr, 1974**

*Rhadine tenebrosa mckenziei* Barr, 1974b: 19. Type locality: «Skeleton Cave, 5 miles north of Leakey on the Orell Ranch, Real County, Texas» (original citation). Holotype (♂) in AMNH [# 1306].

**Distribution.** This subspecies is found in a few caves in Real and Uvalde Counties, southwestern Texas (Barr 1974b: 20).

**Records. USA:** TX

***Rhadine tenebrosa tenebrosa* (Barr, 1960)**

*Agonum tenebrosum* Barr, 1960b: 57. Type locality: «Wilson's Cave, 25 mi[les] S[outh] W[est] of Hunt, Kerr Co[unty], Texas» (original citation). Holotype (♂) in CNC [# 7118].

**Distribution.** This subspecies is known from a few caves in Kerr, Real, and Bandera Counties, southwestern Texas (Barr 1974b: 19).

**Records. USA:** TX

[**incertae sedis**]

***Rhadine pertenuis* Casey, 1920**

*Rhadine pertenuis* Casey, 1920: 14. Type locality: «Esmeralda Co[unty], Nevada» (original citation). One syntype in USNM [# 35020].

**Distribution.** This species is known for sure only from the type locality in southwestern Nevada. The record from “California” (Bousquet and Laroche 1993: 251) needs confirmation.

**Records. USA:** NV [CA]

### Genus *MEXISPHODRUS* Barr, 1965

*Mexisphodrus* Barr, 1965c: 65. Type species: *Mexisphodrus veraecrucis* Barr, 1965 by original designation. Etymology. From the English adjective *mexican* (of Mexico) and the generic name *Sphodrus*, alluding to the country where these *Sphodrus*-like species live [masculine].

**Diversity.** Eleven species in Texas (one species) and Mexico (ten species).

**Identification.** Barr (1982a) revised the species and provided a key for their identification.

**Taxonomic Note.** Valentine (1987) believed this genus is closely related to the genera *Bryanites* Valentine of Western Samoa and *Prospodrus* Britton of New Zealand. He proposed the family-group name Prospodrini to include the three genera.

### *Mexisphodrus valverdensis* Barr, 1982

*Mexisphodrus valverdensis* Barr, 1982a: 177. Type locality: «Ladder Cave, 25 km N[orth]W[est] Del Rio, Val Verde Co[unty], Texas» (original citation). Holotype (♂) in AMNH.

**Distribution.** This species is known from two nearby caves in southwestern Texas.

**Records. USA:** TX

**Note.** This species belongs to the *boneti* species group which includes only the polymorphic *M. boneti* (Bolívar y Pieltain and Hendrichs) from Nuevo León and *M. valverdensis* Barr.

### Genus *TANYSTOMA* Motschulsky, 1845

*Tanystoma* Motschulsky, 1845b: 341. Type species: *Anchomenus striatus* Dejean, 1828 by original designation. Etymology. From the Greek *tanyo* (long) and *stoma* (mouth) [neuter].

*Tanystola* Motschulsky, 1850a: 69. Unnecessary replacement name for *Tanystoma* Motschulsky, 1845.

*Leucagonum* Casey, 1920: 99. Type species: *Agonum maculicolle* Dejean, 1828 designated by Bousquet and Larochelle (1993: 252). Synonymy established by Liebherr (1985: 1184). Etymology. From the Greek *leucos* (white) and the generic name *Agonum* [*q.v.*], probably alluding to the color (“color pale flavo-testaceous”) of the adults [neuter].

**Diversity.** Five species in western North America (four species) and the Baja California Peninsula and Guadalupe Island in Mexico (two species, one of them endemic).

**Identification.** Liebherr (1985) revised the species. Subsequently he described a new species, the endemic Baja Californian *T. diabolicum*, and provided a key to all species (Liebherr 1989).



**Taxonomic Note.** According to Liebherr (1989: 184), the genus *Rhadine* is the sister-group of *Tanystoma*.

***Tanystoma cuyama* Liebherr, 1985**

*Tanystoma cuyama* Liebherr, 1985: 1194. Type locality: «L[a]k[e] Cachuma (800'), 18 mi[les] S[outh]E[ast] Hwy. 101, Santa Barbara Co[unty], Ca[lifornia]» (original citation). Holotype (♂) in CUIC [# 5860].

**Distribution.** This species ranges through the Coast Ranges from central California south to the Mexican border [see Liebherr 1985: Fig. 27].

**Records. USA:** CA

***Tanystoma maculicolle* (Dejean, 1828)**

*Agonum maculicolle* Dejean, 1828: 175. Type locality: «Californie» (original citation), restricted to «Santa Barbara [Santa Barbara County]» by Liebherr (1985: 1194). Lectotype (♂), designated by Liebherr (1985: 1194), in MHNP.

*Agonum maculicolle guadalupense* Casey, 1920: 100. Type locality: «Guadalupe Island, [Baja] California» (original citation). Lectotype (♂), designated by Liebherr (1991a: 117), in USNM [# 47471]. Synonymy established by Liebherr (1985: 1190).

*Agonum angustior* Casey, 1920: 101. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Liebherr (1991a: 116), in USNM [# 47472]. Synonymy established by Liebherr (1985: 1190).

**Distribution.** This species, also known under the vernacular name “tule beetle,” ranges from southwestern Oregon south through California, including the Channel Islands, to Baja California Norte and Guadalupe Island [see Liebherr 1985: Fig. 25]. The species is apparently adventive and possibly established at Seattle, Washington (Liebherr 1985: 1194). The record from “Utah” (Bousquet and Laroche 1993: 252) is likely in error.

**Records. USA:** CA (CHI), OR, WA – Mexico

***Tanystoma striatum* (Dejean, 1828)**

*Anchomenus striatus* Dejean, 1828: 132. Type locality: «Californie» (original citation), restricted to San Bruno M[oun]t[ai]n, San Mateo Co[unty]» by Liebherr (1985: 1198). Lectotype (♂), designated by Liebherr (1985: 1198), in MHNP.

**Distribution.** This species occurs along the Coast Ranges of California from Siskiyou County to Santa Cruz and Alameda Counties and in the Sierra Nevada between Tulare and Shasta Counties [see Liebherr 1985: Fig. 27].

**Records. USA:** CA

***Tanystoma sulcatum* (Dejean, 1828)**

*Anchomenus sulcatus* Dejean, 1828: 131. Type locality: «Californie» (original citation), herein restricted to Hayfork, Trinity County (see Liebherr 1985: 1202). Lectotype (♀), designated by Liebherr (1985: 1200), in MHNP. NOTE. Liebherr (1985: 1200) selected «Coos Bay, Oregon» as type locality of *T. sulcatum* but it should be rejected since Dejean (1828: 131) specified that his specimen(s) came from California.

*Agonum charactum* Hatch, 1951: 117. Type locality: «Marshfield [= Coos Bay], Coos Co[unty], Ore[gon]» (original citation). Holotype (♂) in USNM. Synonymy established by Liebherr (1985: 1200).

**Distribution.** This species ranges from northwestern Oregon to northern California [see Liebherr 1985: Fig. 27]. An old specimen labeled from western Washington is known.

**Records. USA:** CA, OR [WA]

**Genus *PARANCHUS* Lindroth, 1974**

*Paranchus* Lindroth, 1974: 81. Type species: *Carabus albipes* Fabricius, 1794 by original designation. Etymology. From the Greek *para* (near, next to) and the generic name *Anchus* [*q.v.*] [masculine].

**Diversity.** Two species endemic to the Canary Islands and one European species, *P. albipes*, which is adventive in northeastern North America.

**Identification.** The North American species is covered in Lindroth's (1966: 630-631, as *Agonum albipes*) monograph.

***Paranchus albipes* (Fabricius, 1794)**

*Carabus oblongus* Fabricius, 1792: 140 [primary homonym of *Carabus oblongus* Fabricius, 1792]. Type locality: «Germania» (original citation). Syntype(s) location unknown. NOTE. There is one specimen under the name *Carabus pallipes* Fabricius in ZMUC (Zim-sen 1964: 55) but, according to Lindroth (1966: 630), the specimen is not a syntype.

*Carabus albipes* Fabricius, 1794a: 468. Replacement name for *Carabus oblongus* Fabricius, 1792.

*Carabus pavidus* Panzer, 1799: no 7. Type locality: «Dresdae [Germany]» (original citation). Syntype(s) location unknown (possibly in ZMHB). Synonymy established with doubt by Illiger (1801: 54).

*Carabus pallipes* Fabricius, 1801: 187 [primary homonym of *Carabus pallipes* Fabricius, 1787]. Replacement name for *Carabus oblongus* Fabricius, 1792.

*Carabus circulatus* Marsham, 1802: 450. Type locality «fluvium Usk prope Crickhowell et prope Ealing [Great Britain]» (original citation). Syntype(s) location unknown. Synonymy established by Schönherr (1806: 190).

*Carabus sordidus* Marsham, 1802: 457. Type locality: Great Britain (inferred from title of the book). Two syntypes in BMNH (collection Stephens). Synonymy established implicitly by Stephens (1828a: 82). NOTE. Stephens (1828a: 82) listed

this taxon as a valid species but also said “I do not think them [the two specimens of *sordidus* from Marsham’s collection in his hands] sufficiently distinct from the preceding [*Anchomenus albipes* Illiger].”

*Platynus clemens* LeConte, 1863c: 8. Type locality: «Nova Scotia» (original citation). Two syntypes in MCZ [# 5758]. Synonymy established by Lindroth (1954b: 138).

**Distribution.** This Palaearctic species is adventive in North America where it is known from southern Newfoundland, Nova Scotia, New Brunswick, and Maine (Lindroth 1966: 631). The first inventoried specimen collected on this continent was found in Newfoundland before 1835. The Canadian Museum of Nature in Gatineau holds color drawings made by Philip Henry Gosse executed prior to 1834 of insects from Newfoundland and one drawing represents this species; the plates are bound together under the title *Entomologia Terrae Novae - P.H. Gosse - 1833*.

**Records.** CAN: NB, NF, NS (CBI) USA: ME – **Adventive**

**Note.** *Carabus ruficornis* Goeze, 1777 is often listed as a synonym of this species (e.g., Lindroth 1966: 630; Bousquet 2003c: 462). However, Goeze (1777: 663) did not propose a new species under such name since he referred to *Carabus ruficornis* DeGeer, 1774 which is considered a doubtful synonym of *Amara aulica* (Panzer, 1796) following Schönherr (1806: 181). Goeze (1777: 663) apparently misidentified DeGeer’s *Carabus ruficornis*.

### Genus *OXYPSELAPHUS* Chaudoir, 1843

*Oxypselaphus* Chaudoir, 1843a: 415. Type species: *Oxypselaphus pallidulus* Chaudoir, 1843 (= *Carabus obscurus* Herbst, 1784) by monotypy. Etymology (original). From the Greek *oxys* (acute, sharp) and *pselaphos* (palpus), alluding to the acuminate last maxillary palpomere (“*palpi maxillares ... 4o acuminato*”) of the adult [masculine].  
*Anchus* LeConte, 1854b: 38. Type species: *Anchus pusillus* LeConte, 1854 by monotypy. Etymology. From the Greek *ancho* (strangle), probably alluding to the basally narrow pronotum (“thorax ... cordate, almost turned into a pedicel at the base”) of the adult [masculine].

**Diversity.** Four species, two endemic to northern Africa, one to Europe and western Asia, and one to North America.

**Identification.** The North American species is covered in Lindroth’s (1966: 633-634, as *Agonum puncticeps*) monograph.

**Taxonomic Note.** Jeanne (1988: 77-78) pointed out the morphological differences between the type species of *Oxypselaphus* and *Anchus* and suggested that the two should be treated as generically distinct.

### *Oxypselaphus pusillus* (LeConte, 1854)

*Anchus pusillus* LeConte, 1854b: 39. Type locality: «Massachusetts; Illinois» (original citation), restricted to «Mass[achusetts]» by Lindroth (1966: 633). Three syntypes in MCZ [# 5759].

*Anchus puncticeps* Casey, 1920: 2. Type locality: «Ontario» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47452]. Synonymy established by Lindroth (1966: 633).

**Distribution.** This species ranges from Cape Breton Island (Bousquet 1987a: 126) to the Okanagan river in south-central British Columbia (Lindroth 1966: 634), south to western Oregon (Hatch 1953: 138), northeastern Kansas (Popenoe 1878: 78), and northwestern South Carolina (Anderson County, CNC). The record from “Georgia” (Bousquet and Larochelle 1993: 253) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NS (CBI), ON, PE, QC, SK USA: CT, IA, ID, IL, IN, KS, MA, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SC, SD, VA, VT, WA, WI [GA]

### Genus *AGONUM* Bonelli, 1810

*Agonum* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus marginatus* Linnaeus, 1758 designated by Curtis (1827: plate 183). Etymology. Uncertain, possibly from the Greek *a* (without) and *gonia* (angle), alluding to the rounded posterior angles of the pronotum (“*th[orax] ... angulis baseos rotundatis*”) of the adult or from the Greek *agonos* (barren), or from the Greek *agon*, -os (contest, struggle) [neuter].

*Amolyntus* Gistel, 1848a: viii. Unnecessary replacement name for *Agonum* Bonelli, 1810.

*Agonothorax* Motschulsky, 1850a: 67. Unnecessary replacement name for *Agonum* Bonelli, 1810.

**Diversity.** About 130 species (Liebherr and Schmidt 2004: 202–203) in the Nearctic (72 species, one adventive), Neotropical (15 species in Middle America, all but two shared with North America), Palaearctic (63 species, of which seven are Holarctic), and Afrotropical (three endemic species) Regions. The species are arrayed in four subgenera, following Liebherr and Schmidt (2004): *Europhilus*, *Platynomicrus*, *Agonum s.str.*, and *Olisares*, all represented in North America. All other subgenera of *Agonum* listed in Lorenz (2005: 411–412) have been excluded by Liebherr and Schmidt (2004: 152) as most of them “are most likely evolutionary affiliates of the highly diverse and taxonomically confused *Platynus*-“*Colpodes*” group of genera.” About 50 species are left unplaced in Lorenz (2005: 412) and some of them may belong to *Agonum*.

**Identification.** Liebherr (1994) published a key to all species found in the Western Hemisphere as well as a review of the Middle American species. Lindroth (1966, 1969a) covered all North American species except *A. anthracinum* Dejean, *A. cyanopsis* Bates, *A. elongatulum* Dejean, *A. extimum* Liebherr, *A. muiri* Liebherr, *A. pacificum* Casey, and *A. parextimum* Liebherr.

### Subgenus *Platynomicrus* Casey, 1920

*Platynomicrus* Casey, 1920: 90. Type species: *Agonum nigriceps* LeConte, 1846 by original designation. Etymology. From the generic name *Platynus* [*q.v.*] and the Greek *micros* (small) [masculine].



**Diversity.** Two species in North America, one of them is Holarctic.

***Agonum ferruginosum* (Dejean, 1828)**

*Anchomenus ferruginosus* Dejean, 1828: 128. Type locality: «Californie» (original citation). One syntype in MHNP (Lindroth 1955b: 20), one specimen [labeled “type”] in MCZ (collection LeConte) (Lindroth 1966: 588).

*Platynus erasus* LeConte, 1879b: 52. Type locality: «Vancouver Island [British Columbia]» (original citation). Two syntypes [2 originally cited] in MCZ [# 5754]. Synonymy established by Lindroth (1966: 588).

*Anchomenus wadei* Casey, 1920: 62. Type locality: «Wilbur [Lincoln County], Washington» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47442]. Synonymy established, under the name *A. erasum* (LeConte), by Gray (1937: 313), confirmed by Lindroth (1966: 588).

*Anchomenus marcidus* Casey, 1920: 65. Type locality: «Ouray [Ouray County], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47447]. Synonymy established by Lindroth (1966: 588).

**Distribution.** The range of this species extends from Saskatchewan to Vancouver Island (Lindroth 1966: 589), north to southeastern Alaska (Lindroth 1966: 589), south to southeastern California (San Bernardino County, CNC; Casey 1920: 65) and southwestern Colorado (Casey 1920: 65, as *Anchomenus marcidus*).

**Records.** CAN: AB, BC (QCI, VCI), SK USA: AK, CA, CO, ID, MT, NV, OR, UT, WA, WY

***Agonum nigriceps* LeConte, 1846**

*Agonum nigriceps* LeConte, 1846b: 229. Type locality: «Lacum Superiorem» (original citation), herein restricted to Eagle Harbor, Keweenaw County, Michigan (see LeConte 1854b: 54). One syntype in MCZ [# 5789].

*Platynomicrus fragilissimus* Casey, 1920: 92. Type locality: «Toronto [Ontario]» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47517]. Synonymy established by Lindroth (1954b: 139).

**Distribution.** This Holarctic species is known from the Kamchatka Peninsula (Lindroth 1966: 584) and from Alaska (Lindroth 1966: 584) to Newfoundland (Lindroth 1955a: 129), south to northern New Hampshire (Coos County, Donald S. Chandler pers. comm. 2008), southeastern Michigan (Oakland County, UMAA), “Iowa” (Lindroth 1966: 584), east-central South Dakota (Brookings County, MCZ), east-central Colorado (Kiowa County, Foster F. Purrington pers. comm. 2010), “Idaho” (Lindroth 1966: 584), and northern Washington (Okanogan County, UASM). The record from “Pennsylvania” (Bousquet and Larochelle 1993: 255) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NF, NT, ON, PE, QC, SK, YT USA: AK, CO, IA, ID, IL, ME, MI, MN, MT, ND, NH, NY, SD, WA, WI, WY [PA] – **Holarctic**



### Subgenus *Europhilus* Chaudoir, 1859

*Europhilus* Chaudoir, 1859: 124. Type species: *Anchomenus micans* Nicolai, 1822 designated by Motschulsky (1865: 317). Etymology. Probably from the Greek *euros* (mold, decay), rather than *euros* (east wind), and *philos* (beloved) [masculine].

**Diversity.** Twenty-nine species in the Nearctic (16 species) and Palaearctic (17 species, six of them endemic to eastern Asia) Regions. Four species are Holarctic.

#### [*limbatum* group]

### *Agonum limbatum* Motschulsky, 1845

*Agonum limbatum* Motschulsky, 1845a: 21. Type locality: «Californie» (original citation), herein restricted to San Francisco, San Francisco County (see LeConte 1851: 178, as *Platynus variolatus*). Lectotype, designated by Bousquet and Laroche (1993: 11), in ZMMU.

*Platynus variolatus* LeConte, 1851: 178. Type locality: «San Francisco [San Francisco County, California]» (original citation). Three syntypes in MCZ [# 69]. Synonymy established by Motschulsky (1855b: 79, as *P. variolaris*), confirmed by Bousquet and Laroche (1993: 11).

*Sericoda variolata coronadina* Casey, 1920: 96. Type locality: «San Diego [San Diego County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47521]. Synonymy established by Lindroth (1966: 589).

*Sericoda shastanica* Casey, 1920: 96. Type locality: «Siskiyou Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47520]. Synonymy established by Lindroth (1966: 589).

**Distribution.** This species ranges along the west coast from southern British Columbia, including Vancouver Island (Lindroth 1966: 589, as *A. variolatum*), to southern California (Fall 1901a: 46, as *A. variolatum*).

**Records.** CAN: BC (VCI) USA: CA (CHI), OR, WA

#### [*sordens* group]

### *Agonum anchomenoides* Randall, 1838

*Agonum anchomenoides* Randall, 1838a: 2. Type locality: «Augusta [Kennebec County, Maine]» (original citation). Syntype(s) lost.

*Agonum lanellum* Gray, 1937: 311. «Type locality: Orient [Ferry County], Washington» (original citation). Holotype (♂) in USNM. Synonymy established by Hatch (1953: 144), confirmed by Lindroth (1966: 589).

**Distribution.** This species ranges from western Newfoundland (Lindroth 1955a: 125) to eastern Alaska (Lindroth 1966: 590), south to northeastern Washington (Gray 1937: 310, as *A. lanellum*), western Montana (Russell 1968: 63), east-central South Dakota (Kirk and Balsbaugh 1975: 24), and southern Pennsylvania (Hamilton 1895: 322;

Allegheny, Lancaster, and Westmoreland Counties, Robert L. Davidson pers. comm. 2008). The records from “Wyoming,” “Colorado,” “Iowa,” “Nebraska,” and “Kansas” (Bousquet and Larochelle 1993: 253) are probably in error.

**Records.** **CAN:** AB, BC, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT **USA:** AK, CT, IL, IN, MA, ME, MI, MN, MT, ND, NH, NJ, NY, OH, PA, SD, VT, WA, WI

### *Agonum canadense* Goulet, 1969

*Agonum elongatulum* Haldeman, 1843b: 300 [secondary homonym of *Agonum elongatulum* (Dejean, 1828)]. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). One possible syntype, a ♂ labeled “[pink disc] / elongatulum Hald. [handwritten] / picipennis 4 [handwritten],” in MCZ (Lindroth 1966: 581).

*Agonum canadense* Goulet, 1969: 279. Type locality: «Bala, N[orth]W[est] Gravenhurst, Ontario» (original citation). Holotype (♂) in CNC [# 11574]. **New synonymy.** NOTE. The specimen probably belonging to *A. elongatulum* Haldeman in LeConte’s collection is conspecific with specimens of *A. canadense* Goulet. Goulet’s name is retained as valid since Haldeman’s name is a junior homonym of *A. elongatulum* (Dejean).

**Distribution.** This species is found from Cape Breton Island (Bousquet 1987d: 106) to southern Manitoba (Goulet 1969: 280), south to east-central South Dakota (Larsen and Purrington 2010: 570), northern Illinois (Goulet 1969: 280), and northern West Virginia (Tucker and Preston Counties, CMNH). The record from “Nebraska” (Bousquet and Larochelle 1993: 253) needs confirmation.

**Records.** **CAN:** MB, NB, NS (CBI), ON, PE, QC **USA:** CT, IL, IN, MA, ME, MI, NH, NJ, NY, PA, SD, VT, WI, WV [NE]

### *Agonum consimile* (Gyllenhal, 1810)

*Harpalus consimilis* Gyllenhal, 1810: 161. Type locality: «Lapponia [Sweden]» (original citation), restricted to «Abisko, Torne Lappmark» by Lindroth (1966: 572). Lectotype (♂), designated by Lindroth (1966: 572), in UZIU.

*Anchomenus fragilis* Mannerheim, 1853: 142. Type locality: «insula Sitkha [= Baranof Island, Alaska]» (original citation). One syntype in MHNP (Lindroth 1966: 572). Synonymy established by Lindroth (1955a: 126).

*Batenus borealis* Motschulsky, 1865: 319. Type locality: «nord de la Sibérie orientale» (original citation). Two syntypes in ZMMU (Keleinskova 1976: 189). Synonymy established by Shilenkov (in Liebherr 1991b: 78).

*Agonum invalidum* Casey, 1924: 84. Type locality: «Edmonton, Alberta» (original citation). Holotype [by monotypy] (♂) in USNM [# 47493]. Synonymy established by Lindroth (1953b: 171).

**Distribution.** A Holarctic species occurring in the Palaearctic Region from Norway to the Far East (Bousquet 2003c: 452) and in North America from Alaska (Lindroth 1966: 573) to Newfoundland (Lindroth 1955a: 126), south to Cape Breton Island (Lindroth 1954c: 307), Vancouver Island (Lindroth 1966: 573), and northern Wash-

ington (Glesne et al. 2000: 89). Fossil remnants, dated between 14,000 and 15,400 years B.P., have been unearthed in central Iowa (Schwert 1992: 78).

**Records.** FRA: PM CAN: AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, QC, YT USA: AK, WA – **Holarctic**

### *Agonum darlingtoni* Lindroth, 1954

*Agonum darlingtoni* Lindroth, 1954b: 159. Type locality: «Lexington [Middlesex County], Mass[achusetts]» (holotype label). Holotype (♂) in MCZ [# 29072]. Etymology. The specific name honors Philip Jackson Darlington, Jr. [1904-1983], field naturalist, biogeographer, and systematist, specialist of the family Carabidae. Darlington was curator of entomology at the Museum of Comparative Zoology. NOTE. Although Lindroth's description is very short, I believe he met the requirements of availability for a species-group name published after 1930 (ICZN 1999: Article 13.1). Lindroth (1955c: 12) redescribed the species in length.

**Distribution.** This species is restricted to a small area from Nova Scotia to the Ontario Peninsula (Lindroth 1966: 583), south to central Pennsylvania (Clinton County, CMNH) and New Jersey (Lindroth 1966: 583).

**Records.** CAN: NB, NS, ON, QC USA: CT, MA, ME, NH, NJ, NY, PA, RI, VT

### *Agonum exaratum* (Mannerheim, 1853)

*Anchomenus exaratus* Mannerheim, 1853: 143. Type locality: «ora orientali insulae Kadjak [Alaska]» (original citation). Lectotype (♀), designated by Lindroth (1966: 573), in ZMH.

*Batenus aeneolus* Motschulsky, 1865: 320. Type locality: «Kadiak [Alaska]» (original citation). Lectotype (♀), designated by Bousquet and Laroche (1993: 12), in ZMMU. Synonymy established by Bousquet and Laroche (1993: 12).

*Platynus aldanicus* Poppius, 1906a: 36. Type locality: «Aldan-Mündung, Lena-Ufern [Yakutia, Siberia, Russia]» (original citation). Holotype (♀) in ZMH. Synonymy established by Lindroth (1954b: 139).

**Distribution.** A Holarctic species ranging from the Kola Peninsula to eastern Siberia and in North America from Alaska to the Hudson Bay in Nunavut and northern Manitoba (Lindroth 1966: 574). Fossil remnants, dated between 14,000 and 20,700 years B.P., have been unearthed in east-central Iowa and central Illinois (Schwert 1992: 78).

**Records.** CAN: BC, MB, NT, NU, YT USA: AK – **Holarctic**

### *Agonum galvestonicum* (Casey, 1920)

*Europhilus galvestonicus* Casey, 1920: 126. Type locality: «Galveston [Galveston County], Texas» (original citation). Holotype [by monotypy] (♂) in USNM [# 47532].

**Distribution.** This rarely collected species is known from Pennsylvania (Carbon, Chester and Greene Counties, Robert L. Davidson pers. comm. 2012), southernmost

Ontario (Lindroth 1966: 583) and southern Michigan (Ingham County, CMNH) south to southeastern Texas (Casey 1920: 126) and eastern South Carolina (Kirk 1969: 12; Ciegler 2000: 112).

**Records.** CAN: ON USA: MI, MO, MS, OH, PA, SC, TN, TX, VA, WV

***Agonum gratiosum* (Mannerheim, 1853)**

*Platynus ruficornis* LeConte, 1850: 205. Type locality: Lake Superior (inferred from title of the paper), herein restricted to Marquette, Marquette County, Michigan (see Hubbard and Schwarz 1878: 628). Three syntypes in MCZ [# 5784]. Note. This name has been considered a junior secondary homonym of *Agonum ruficorne* (Goeze, 1777). As stated before (see “Note” section for *Paranchus albipes* (Fabricius)), Goeze’s name is based on a misidentification and has no nomenclatural status. Therefore, *Platynus ruficornis* LeConte is not a homonym and should be used as the valid name for this taxon. However, the name *Agonum gratiosum* is well established for this common species since the 1960s and I believe it should be preserved. The case should be submitted to the Commission for a ruling. Reversal of precedence (ICZN 1999: 23.9) cannot be used here since LeConte’s name has been used as valid after 1899 (e.g., Blatchley 1910: 135).

*Anchomenus gratiosus* Mannerheim, 1853: 142. Type locality: «insula Kadjak [Alaska]» (original citation). Lectotype (♀), designated by Lindroth (1955c: 7), in ZMH. Synonymy established by LeConte (1879b: 58), confirmed by Lindroth (1954b: 139).

*Europhilus symmetricus* Casey, 1920: 129. Type locality: «Devil’s Lake [Ramsey County], N[orth] Dakota» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 126), in USNM [# 47528]. Synonymy established by Hatch (1953: 145), confirmed by Lindroth (1954b: 140).

*Europhilus properans* Casey, 1920: 129. Type locality: «Durham [Strafford County], New Hampshire» (original citation). Lectotype (♀), designated by Lindroth (1975: 126), in USNM [# 47530]. Synonymy established by Lindroth (1954b: 140).

*Europhilus antiquus* Notman, 1922b: 102. Type locality: «Lyme [New London County], C[onnecticu]t» (original citation). Holotype (♂) in USNM [# 26591]. Synonymy established by Lindroth (1954b: 140).

*Europhilus carri* Casey, 1924: 85. Type locality: «Edmonton [Alberta]» (original citation). Lectotype (♂), designated by Lindroth (1966: 577), in USNM [# 47529]. Synonymy established with doubt by Lindroth (1955c: 7), confirmed by Lindroth (1966: 577). Etymology. The specific name was proposed in honor of Frederick Stephens Carr [1881-1934], teacher and inspector in the educational system in Alberta and amateur coleopterist. His collection, which consisted at the time of his death of about 6,500 North American species, was deposited at the University of Alberta.

**Distribution.** This widely distributed species ranges from western Newfoundland (Lindroth 1955a: 128) to Kodiak Island, north to the Anderson River delta in northern Northwest Territories (Lindroth 1966: 578), south to the Sierra Nevada in Califor-

nia (El Dorado County, CAS), San Miguel County in New Mexico (Fall and Cockerell 1907: 159, as *Platynus ruficornis*), northeastern Kansas (Popenoe 1878: 78, as *Platynus ruficornis*), northern Illinois (Lake County, CNC), and northern West Virginia (Tucker and Randolph Counties, CMNH). The species is also known from the Far East (Bousquet 2003c: 453).

**Records.** **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, CA, CO, CT, IA, IL, IN, KS, MA, ME, MI, MN, MT, ND, NE, NH, NJ, NM, NY, OH, OR, PA, RI, SD, UT, VT, WA, WI, WV, WY – **Holarctic**

### *Agonum lutulentum* (LeConte, 1854)

*Platynus lutulentus* LeConte, 1854b: 54. Type locality: «Maine and Lake Superior» (original citation), restricted to «Nipigon, Ont[ario]» by Lindroth (1966: 580). Three syntypes in MCZ [# 5788].

*Europhilus lutulentus elegantulus* Casey, 1920: 127. Type locality: «New Jersey» (original citation). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47525]. Synonymy established by Casey (1924: 85), confirmed by Lindroth (1966: 580).

*Europhilus lutulentus adustus* Casey, 1920: 127. Type locality: «Indiana» (original citation). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47526]. Synonymy established by Lindroth (1954b: 140).

*Europhilus atriceps* Casey, 1920: 128. Type locality: «Massachusetts» (original citation). Lectotype (♀), designated by Lindroth (1975: 126), in USNM [# 47527]. Synonymy established by Lindroth (1955c: 9).

**Distribution.** The range of this species extends from Cape Breton Island (Lindroth 1954c: 307) to Vancouver Island (Lindroth 1966: 581), north to southern Northwest Territories (Bousquet 1987a: 125), south to eastern Washington (Hatch 1953: 145), central Kansas (Trego and Scott Counties, CNC, CMNH), and northwestern Maryland (Garrett County, CMNH).

**Records.** **CAN:** AB, BC (VCI), MB, NB, NS (CBI), NT, ON, PE, QC, SK **USA:** CT, DC, DE, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NJ, NY, OH, PA, RI, SD, VT, WA, WI, WV

### *Agonum palustre* Goulet, 1969

*Agonum palustre* Goulet, 1969: 280. Type locality: «Amberley, S[outh] Kincardine, Ontario» (original citation). Holotype (♂) in CNC [# 11575].

**Distribution.** This species is found from southwestern New Brunswick (Webster and Bousquet 2008: 22) to Minnesota (Epstein and Kulman 1990: 214; Sherburne County, CNC), south to southwestern Nebraska (Lincoln County, Foster F. Purrington pers. comm. 2010) and along the Appalachian Mountains to central Alabama (Lee County, CNC).



**Records.** CAN: NB, ON, QC USA: AL, CT, IA, IL, IN, KY, MA, MD, ME, MI, MN, NC, NE, NH, NJ, NY, OH, PA, RI, TN, VA, VT, WI, WV

***Agonum picicornoides* Lindroth, 1966**

*Agonum picicornoides* Lindroth, 1966: 574. Type locality: «Nipigon, L[ake] Sup[er]ior, Ont[ario]» (original citation). Holotype (♂) in CNC [# 9228].

**Distribution.** This species ranges from the Nova Scotia Peninsula to south-central British Columbia, north to northern Alberta and Anticosti Island in Quebec, south to southeastern Wisconsin (Messer 2010: 42), the Saginaw Bay area in northern Michigan, and southern Vermont (Lindroth 1966: 574). Fossil remnants, dated about 10,800 years B.P., have been unearthed in central North Dakota (Ashworth and Schwert 1992: 260).

**Records.** CAN: AB, BC, MB, NB, NS, ON, PE, QC, SK USA: ME, MI, NH, VT, WI

***Agonum retractum* LeConte, 1846**

*Agonum retractum* LeConte, 1846b: 228. Type locality: «Lacum Superiorem» (original citation), restricted to «Nipigon, Ont[ario]» by Lindroth (1966: 576). Syntype(s) in MCZ [# 5786].

*Europhilus dilutipennis* Motschulsky, 1865: 322. Type locality: «nouveau Mexique [= New Mexico]» (original citation), which is probably incorrect. One syntype in ZMMU (Lindroth 1969a: 1119). Synonymy established by Lindroth (1969a: 1119).

*Europhilus collusor* Casey, 1920: 129. Type locality: «Montana» (original citation). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47531]. Synonymy established by Lindroth (1954b: 140).

*Europhilus facilis* Casey, 1920: 130. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♀), designated by Lindroth (1975: 126), in USNM [# 47533]. Synonymy established by Lindroth (1954b: 140).

*Europhilus serenus* Casey, 1920: 131. Type locality: «Bayfield [Bayfield County, Wisconsin], Lake Superior» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47534]. Synonymy established by Lindroth (1954b: 140).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 127) to western British Columbia (Lindroth 1966: 576), north to southern Northwest Territories (CNC), south to “Montana” (Casey 1920: 129, as *Europhilus collusor*), South Dakota (Kirk and Balsbaugh 1975: 25), central West Virginia (Pocahontas County, CMNH), and northern Virginia (Madison and Rappahannock Counties, CNC). The record from New Mexico (type locality of *A. dilutipenne* Motschulsky) is probably in error; those from “Illinois” and “Indiana” (Bousquet and Larochelle 1993: 254) need confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK **USA:** CT, MA, MD, ME, MI, MN, MT, NH, NY, PA, RI, SD, VA, VT, WI, WV [IL, IN]

### *Agonum simile* Kirby, 1837

*Agonum simile* Kirby, 1837: 27. Type locality: northern parts of British America (inferred from title of the book), restricted to «Pikwitonei, Manit[oba]» by Lindroth (1966: 571). Two syntypes in BMNH (Lindroth 1953b: 171).

**Distribution.** This rarely collected species is known from scattered localities from north-central Manitoba to the Gulf Coast of Alaska (Lindroth 1966: 571).

**Records.** **CAN:** AB, BC, MB, SK, YT **USA:** AK

### *Agonum sordens* Kirby, 1837

*Agonum sordens* Kirby, 1837: 25. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1966: 575). One syntype [2 originally cited] in BMNH (Lindroth 1953b: 170).

*Platynus picicornis* LeConte, 1860: 319. Type locality: «Jasper House [= Jasper, Alberta]» (original citation). One syntype in MCZ [# 5783]. Synonymy established by Hatch (1953: 144) and Lindroth (1953b: 170).

*Anchomenus ineptus* Casey, 1920: 63. Type locality: «Coeur d’Alene [Kootenai County], Idaho» (original citation). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47441]. Synonymy established by Lindroth (1966: 575).

*Europhilus frosti* Casey, 1924: 86. Type locality: «Eastbrook [Hancock County], Maine» (original citation). Lectotype (♂), designated by Lindroth (1975: 126), in USNM [# 47535]. Synonymy established by Lindroth (1954b: 140).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 127) to central Alaska (Lindroth 1966: 576), south to “Oregon” (Hatch 1953: 144), southern Colorado (Wickham 1902: 239; LeConte 1879d: 500), northern Illinois (Lake County, CNC), and Maryland (Erwin 1981b: 154). The records from “Iowa” (Jaques and Redlinger 1946: 295), northeastern Kansas (Popenoe 1878: 78), and “North Carolina” (Bousquet and Larochelle 1993: 254) need confirmation.

**Records.** **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, CO, ID, IL, MA, MD, ME, MI, MN, MT, ND, NH, NJ, NY, OR, PA, SD, UT, VT, WA, WI, WV [IA, KS, NC]

### *Agonum superioris* Lindroth, 1966

*Agonum superioris* Lindroth, 1966: 578. Type locality: «Nipigon, W[estern] Ont[ario]» (original citation). Holotype (♂) in CNC [# 9229].

**Distribution.** This species ranges from New Brunswick (Bousquet 1987a: 125) to the Rocky Mountains in Alberta and eastern Alaska (Lindroth 1966: 579), south to northwestern Wisconsin (Messer 2010: 42), Beaver Islands, Lake Michigan, in northern Michigan (Dunn 1987: 11), and New England (Lindroth 1966: 579).

**Records.** CAN: AB, MB, NB, NT, ON, PE, QC, SK, YT USA: AK, ME, MI, NH, VT, WI

### *Agonum thoreyi* Dejean, 1828

*Agonum affine* Stephens, 1828a [1 March]: 94 [potential *nomen oblitum*]. Type locality: «near London» (original citation). Holotype [by monotypy] probably in BMNH (collection Stephens, see Dawson 1854: 94). NOTE. This taxon was first placed in synonymy with *Anchomenus pelidnus* (Herbst) *sensu* Paykull (1798: 134) (= *Agonum thoreyi thoreyi* (Dejean, 1828)), by Dawson (1854: 93).

*Agonum thoreyi* Dejean, 1828 [29 November]: 165 [potential *nomen protectum*]. Type locality: «environs de Hambourg, nord de l'Allemagne» (original citation). Syntype(s) in MHNP.

*Anchomenus melanocephalus* Dejean, 1828 [29 November]: 118. Type locality: «Espagne [= Spain]» (original citation). Syntype(s) probably in MHNP. Synonymy established by Bedel (1900b: 248).

*Agonum puellum* Dejean, 1828 [29 November]: 166. Type locality: «environs de Berlin [Germany]» (original citation). Syntype(s) probably in MHNP. Synonymy established, under the name *Anchomenus pelidnus* (Herbst) *sensu* Paykull (1798: 134) (= *Agonum thoreyi thoreyi* (Dejean, 1828)), by Schiødte (1841: 254).

*Agonum lenum* Dejean, 1828 [29 November]: 166 [*nomen dubium*]. Type locality: «Amérique septentrionale» (original citation). Syntype(s) presumably lost (Lindroth 1955b: 21). Synonymy established by Lindroth (1954b: 138), subsequently considered a *nomen dubium* by the same author (Lindroth 1955b: 21).

*Agonum longicolle* Lacordaire [in Boisduval and Lacordaire], 1835: 215. Type locality: «Bondy [northeastern suburbs of Paris, France]» (original citation). Syntype(s) location unknown. Synonymy established, under the name *Anchomenus pelidnus* (Herbst) *sensu* Paykull (1798: 134) (= *Agonum thoreyi thoreyi* (Dejean, 1828)), by Erichson (1837: 117).

*Agonum picipenne* Kirby, 1837: 24. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation). Three syntypes in BMNH (Lindroth 1953b: 170). Synonymy established, under the name *A. lenum* Dejean, by Melsheimer (1853: 17), confirmed by Lindroth (1953b: 170).

*Agonum lehmanni* Chaudoir, 1837b: 25. Type locality: «Livonie [currently in Latvia and Estonia]» (original citation). Syntype(s) probably in MHNP. Synonymy established, under the name *Anchomenus pelidnus* (Herbst) *sensu* Paykull (1798: 134) (= *Agonum thoreyi thoreyi* (Dejean, 1828)), by Chaudoir (1850b: 107).

*Agonum convexiusculum* Chaudoir, 1843b: 765. Type locality: «Smyrne [= Izmir, Turkey]» (original citation). One syntype in MHNP (Schmidt and Liebherr 2009: 250). Synonymy established by Schmidt and Liebherr (2009: 250).

*Agonum longulum* Motschulsky, 1844: 133. Type locality: «fl[euve] Ichim [Russia]» (lectotype label). Lectotype (♂), designated by Schmidt and Liebherr (2009: 250), in ZMMU. Synonymy established, under the name *Anchomenus puellus* (Dejean), by Chaudoir (1850b: 108).

*Platynus gemellus* LeConte, 1879b: 54. Type locality: «Vancouver Island [British Columbia]» (original citation). Two syntypes [2 originally cited] in MCZ [# 5787]. Synonymy established by Hatch (1953: 145) and Lindroth (1953b: 170).

**Distribution.** A Holarctic species widely distributed in the Palearctic Region from Ireland to the Far East, south to Spain and Italy (Bousquet 2003c: 453). In North America, the taxon ranges from Alaska (Lindroth 1966: 580) to Newfoundland (Lindroth 1955a: 129), south to the District of Columbia (Ulke 1902: 7, as *Platynus picipennis*), central Kansas (Trego County, CNC), east-central Colorado (Kiowa County, Foster F. Purrington pers. comm. 2010), and “California” (Lindroth 1955a: 129).

**Records.** **CAN:** AB, BC (VCI), MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT  
**USA:** AK, CA, CO, CT, DC, IA, ID, IL, IN, KS, MA, ME, MI, MN, MT, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SD, VT, WA, WI – **Holarctic**

### Subgenus *Agonum* Bonelli, 1810

*Agonum* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus marginatus* Linnaeus, 1758 designated by Curtis (1827: plate 183).

*Megalonychus* Chaudoir, 1843a: 418. Type species: *Megalonychus madagascariensis* Chaudoir, 1843 by monotypy. Synonymy established by Liebherr and Schmidt (2004: 202). Etymology (original). From the Greek prefix *megalo-* (large) and *onychos* (claws), alluding to the size of the last tarsomeres (“*tarsi sublineares; articulis ... ultimo longissimo*”) of the adult [masculine].

*Agonocyrrhes* Motschulsky, 1865: 317. Type species: *Agonocyrrhes orbicollis* Motschulsky, 1865 (= *Agonum sinense* Csiki, 1931) by original designation. Synonymy established by Liebherr and Schmidt (2004: 202).

*Agonopsis* Semenov, 1889a: 359 [junior homonym of *Agonopsis* Gill, 1861]. Type species: *Anchomenus humerosus* Semenov, 1889 by monotypy. Synonymy established by Liebherr and Schmidt (2004: 202). Etymology. From the generic name *Agonum* [*q.v.*] and the Greek suffix *-opsis* (having the appearance of) [feminine].

*Platynopsis* Lutshnik, 1915d: 186. Type species: *Agonum semenowi* Lutshnik, 1915 (= *Agonum rugicolle* Chaudoir, 1846) by original designation. Synonymy established by Schmidt and Liebherr (2009: 228). Etymology. From the generic name *Platynus* [*q.v.*] and the Greek suffix *-opsis* (having the appearance of) [feminine].

*Paragonum* Casey, 1920: 123. Type species: *Feronia placida* Say, 1823 designated by Lindroth (1966: 613). Synonymy established by Ball (1960b: 133). Etymology. From the Greek *para* (near) and the generic name *Agonum* [*q.v.*] [neuter].

*Nagonium* Habu, 1956c: 166. Type species: *Agonum kitanoi* Habu, 1956 by original designation. Synonymy established by Liebherr and Schmidt (2004: 202).

*Liebherrius* Shilenkov [in Kryzhanovskij et al.], 1995: 115. Type species: *Anchomenus bicolor* Dejean, 1828 by original designation. Synonymy established by Liebherr and Schmidt (2004: 202).

*Agonops* Bousquet, 2002b: 5. Replacement name for *Agonopsis* Semenov, 1889. Etymology. From the generic name *Agonum* [*q.v.*] and the Greek suffix *-ops* (having the appearance of) [masculine].

**Diversity.** Twenty-nine species in the Nearctic (four species, of which one extends into southern Mexico and one is adventive), Palaearctic (24 species, of which one is Holarctic), and Afrotropical (three species in eastern Africa including Madagascar) Regions.

#### [bicolor group]

##### *Agonum bicolor* (Dejean, 1828)

*Anchomenus bicolor* Dejean, 1828: 126. Type locality: «Kamtschatka [Russia]» (original citation). Three syntypes in MHNP (Lindroth 1955b: 20) and ZMHB (Schmidt 1995: 162).

*Agonum alpinum* Motschulsky, 1844: 139. Type locality: «sommités des Alpes du Hamar-Daban [Irkutsk Oblast, Russia]» (original citation). Lectotype (♀), designated by Schmidt (1995: 162), in ZMMU. Synonymy established by Schmidt (1995: 162).

*Agonum sibiricum* Gebler, 1847: 330. Type locality: «Alpe des kusnezkschen Gebirges [= south Kuznetskiy Alatau, Siberia, Russia]» (original citation). Holotype [by monotypy] location unknown. Synonymy established doubtfully with *Agonum alpinum* Motschulsky by Chaudoir (1850b: 105).

*Platynus marginellus* LeConte, 1860: 315. Type locality: «Fort Simpson [Northwest Territories]» (original citation). Syntype(s) in MCZ [# 5752]. Synonymy established by LeConte (1863b: 7), confirmed by Lindroth (1966: 585).

*Agonum jemelianovi* Lafer, 1992: 612. Type locality: «r. Samarga, ust'e r. Odui, Primorsk[iy] Kr[ay] [Russia]» (original citation). Holotype location unknown. Synonymy established by Schmidt (1995: 162).

**Distribution.** A Holarctic species ranging in the Palaearctic Region across Siberia up to the Ob River (Lindroth 1966: 586), south to Kazakhstan and Mongolia (Bousquet 2003c: 454). In North America, the species ranges from Alaska and northern British Columbia to northeastern Alberta (Lindroth 1966: 586). The records from Colorado (Wickham 1902: 238) and New Mexico (Fall and Cockerell 1907: 159) probably refer to *A. piceolum*.

**Records.** CAN: AB, BC, NT, YT USA: AK – Holarctic



***Agonum piceolum* (LeConte, 1879)**

*Platynus piceolus* LeConte, 1879b: 52. Type locality: «Oregon and British Columbia» (original citation), restricted to «Oregon» by Lindroth (1966: 587). Two syntypes [3 originally cited] in MCZ [# 5753].

*Anchomenus tritus* Casey, 1920: 63. Type locality: «Bayfield [Bayfield County], Wisc[onsin]» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47443]. Synonymy established by Lindroth (1966: 587).

*Anchomenus tritus fractus* Casey, 1920: 63. Type locality: «Provo [Utah County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47444]. Synonymy established by Lindroth (1966: 587).

*Anchomenus lascivus* Casey, 1920: 66. Type locality: «Stikine River, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47446]. Synonymy established by Hatch (1953: 138), confirmed by Lindroth (1966: 587).

*Anchomenus frigidulus* Casey, 1920: 66. Type locality: «Stikine River, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47445]. Synonymy established by Lindroth (1966: 587).

*Anchomenus dissensus* Casey, 1920: 67. Type locality: «Priest River [Bonner County], Idaho» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47448]. Synonymy established by Hatch (1953: 138), confirmed by Lindroth (1975: 127).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 125) to Vancouver Island (Lindroth 1966: 588), north to southern Yukon Territory (Hyland River, UASM), south to west-central California (Lindroth 1966: 587), southwestern Arizona (Maricopa County, UASM), New Mexico (Fall and Cockerell 1907: 159; UASM), and mountains of New England (Lindroth 1966: 587). The record from “Connecticut” (Bousquet and Larochelle 1993: 255) was based on a misidentified specimen of *A. extensicolle* (Krinsky and Oliver 2001: 5); that from “Massachusetts” (Bousquet and Larochelle 1993: 255) needs confirmation.

**Records.** CAN: AB, BC (VCI), MB, NB, NF, ON, QC, SK, YT USA: AZ, CA, CO, ID, ME, MI, MT, NH, NM, NV, OR, UT, WA, WI, WY [MA]

**[muelleri group]*****Agonum muelleri* (Herbst, 1784)**

*Carabus VI-punctatus* O.F. Müller, 1776: 78 [primary homonym of *Carabus sexpunctatus* Linnaeus, 1758]. Type locality: Denmark and Norway (inferred from title of the book). Syntype(s) lost.

*Carabus mülleri* Herbst, 1784: 139. Replacement name for *Carabus sexpunctatus* Müller, 1776. Etymology. The specific name was proposed in honor of Otto Friedrich Müller [1730-1784], a Danish naturalist, theologian, linguist, and trumpet player.

Following his marriage in 1773, Müller became financially independent and devoted himself exclusively to science.

*Carabus parumpunctatus* Fabricius, 1792: 157. Type locality: «Germania» (original citation). Two syntypes in ZMUC (Zimsen 1964: 57). Synonymy established by Illiger (1798: 195).

*Platynus hardyi* LeConte, 1879b: 53. Type locality: «Newfoundland» (original citation). Three syntypes [3 originally cited] in MCZ [# 28696]. Synonymy established by Hatch (1953: 141), confirmed by Lindroth (1954b: 138).

*Platynus hornii* Hausen, 1890: 235. Type locality: «S[ain]te-Rose [= Laval] and Ile Perrot, P[rovince of] Q[uebec]» (original citation). Syntypes presumably lost. **New synonymy.** NOTE. Lindroth (1966: 629) listed this name as synonym of *Agonum decorum* (Say, 1823) on the basis of an “authentic ♂,” labeled “Montreal. Hausen” in the CNC. Unfortunately the specimen could not be located. However, there is serious doubt that the specimen was really a syntype. Hausen (1890: 236) stated that “on being shown a specimen, Dr. Horn declared he doubted the American origin of this species.” It would have been surprising that Horn did not recognize *Agonum decorum*. On the other hand, *Agonum muelleri* was little known in North America, being first noticed by LeConte in 1879 when he described it under the name *Platynus hardyi*. The description is poor but seems to fit better *A. muelleri* than *A. decorum*, particularly the size (0.375 in = 9.5 mm).

**Distribution.** This Palaearctic species is adventive in North America where it is known from west-central Alberta (Emerald Lake, Gerald J. Hilchie pers. comm. 2009) and southern British Columbia, including Vancouver Island (Lindroth 1966: 593), to northwestern California (Humboldt County, James R. LaBonte pers. comm. 1992) in the west and from Newfoundland (Lindroth 1955a: 121) to northeastern Minnesota (Kamal J.K. Gandhi pers. comm. 2008), south to northeastern Iowa (Larsen and Purrington 2010: 570) and northeastern West Virginia (Tucker County, CMNH) in the east. The first inventoried specimen collected in the east was found in Newfoundland around 1840 (Lindroth 1955a: 122) and in the west in 1933 (Lindroth 1966: 593; Leech 1935: 122, as *Platynus hardyi*). The species is also adventive in Hawaii (Liebherr et al. 2009: 98).

**Records.** FRA: PM CAN: AB, BC (VCI), NB, NF, NS (CBI), ON, PE, QC USA: CA, CT, IA, MA, ME, MI, MN, NH, NY, OH, OR, PA, RI, VA, VT, WA, WI, WV – **Adventive**

### *Agonum placidum* (Say, 1823)

*Feronia placida* Say, 1823a: 43. Type locality: «Dorchester [Suffolk County], Mass[achusetts]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 348), in MCZ [# 33012].

*Agonum morosum* Dejean, 1828: 145. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 21). Synonymy established by LeConte (1854b: 55), confirmed by Lindroth (1966: 613).

*Agonum alcyoneum* Chaudoir, 1837b: 24. Type locality: «Mexique» (original citation), restricted to «Amecameca, Mexico state» by Liebherr (1991a: 119). Lectotype (♂), designated by Liebherr (1991a: 119), in MHNP. Synonymy established by Liebherr (1991a: 119).

*Anchomenus transpunctatus* Bates, 1878a: 593. Type locality: «near the capital, Mexico» (original citation). Syntype(s) probably in BMNH. Synonymy established by Bates (1882a: 94).

*Agonum placidum amplior* Casey, 1920: 124. Type locality: «Boulder Co[unty], Colorado» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 128), in USNM [# 47491]. Synonymy established by Lindroth (1966: 613).

*Agonum placidum aztecanum* Casey, 1920: 124. Type locality: «Amecameca [México], Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 128), in USNM [# 47492]. Synonymy established by Lindroth (1966: 613).

*Agonum placidum citatum* Casey, 1920: 124. Type locality: «New Hampshire» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47494]. Synonymy established by Lindroth (1966: 613).

*Agonum rhodeanum* Casey, 1924: 84. Type locality: «Rhode Island» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47490]. Synonymy established by Lindroth (1966: 613).

**Distribution.** This widely distributed species ranges from Newfoundland (Lindroth 1955a: 120; Larson and Langor 1982: 594) to western British Columbia (Lindroth 1966: 614), south to Inyo County in California, the Sierra de Miahuatlán in Oaxaca (Liebherr 1994: 32), and northern Georgia (Fattig 1949: 34).

**Records.** **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), ON, PE, QC, SK **USA:** AR, AZ, CA, CO, CT, DC, DE, GA, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OR, PA, RI, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY – Mexico

### Subgenus *Olisares* Motschulsky, 1865

*Olisares* Motschulsky, 1865: 326. Type species: *Olisares flavolimbatus* Motschulsky, 1865 (= *Carabus pallipes* Fabricius, 1792) designated by Liebherr (1991a: 120). Etymology. Probably an arbitrary combination of letters [masculine].

*Taphranchus* Casey, 1920: 52. Type species: *Agonum excavatum* Dejean, 1828 designated by Lindroth (1966: 623). Synonymy established by Liebherr and Schmidt (2004: 203). Etymology. From the Greek *taphros* (ditch, trench, by extension stria) and the generic name *Anchus* [*q.v.*] [masculine].

*Stictanchus* Casey, 1920: 54. Type species: *Feronia extensicollis* Say, 1823 designated by Lindroth (1966: 625). Synonymy established by Liebherr and Schmidt (2004: 203). Etymology. From the Greek *stictos* (punctured) and the generic name *Anchus* [*q.v.*] [masculine].

*Deratanchus* Casey, 1920: 70. Type species: *Platynus quadrimaculatus* Horn, 1885 by monotypy. Synonymy established by Liebherr and Schmidt (2004: 202).

*Circinalia* Casey, 1920: 72. Type species: *Feronia punctiformis* Say, 1823 by original designation. Synonymy established by Liebherr and Schmidt (2004: 203).

*Circinalidia* Casey, 1920: 78. Type species: *Agonum aeruginosum* Dejean, 1828 designated by Bousquet and Laroche (1993: 258). Synonymy established by Liebherr and Schmidt (2004: 203).

*Micragonum* Casey, 1920: 80. Type species: *Feronia nutans* Say, 1823 by original designation. Synonymy established by Liebherr and Schmidt (2004: 203). Etymology. From the Greek *micros* (small, little) and the generic name *Agonum* [*q.v.*] [neuter].

*Stereagonum* Casey, 1920: 80. Type species: *Agonum ferreum* Haldeman, 1843 designated by Lindroth (1966: 624). Synonymy established by Liebherr and Schmidt (2004: 203). Etymology. From the Greek *stereos* (solid, firm, hard) and the generic name *Agonum* [*q.v.*] [neuter].

*Melanagonum* Casey, 1920: 111. Type species: *Agonum melanarium* Dejean, 1828 designated by Lindroth (1966: 598). Synonymy established by Liebherr and Schmidt (2004: 202). Etymology. From the Greek *melanos* (black) and the generic name *Agonum* [*q.v.*] [neuter].

*Punctagonum* Gray, 1937: 311. Type species: *Platynus belleri* Hatch, 1933 by monotypy. Synonymy established by Liebherr and Schmidt (2004: 203). Etymology. From the Latin *punctum* (small hole, by extension puncture) and the generic name *Agonum* [*q.v.*] [neuter].

**Diversity.** Seventy-two species in the Nearctic (50 species), Neotropical (14 species in Middle America but only two endemic), and Palearctic (21 species, one Holarctic) Regions.

### [albicrus group]

#### *Agonum albicrus* Dejean, 1828

*Agonum albicrus* Dejean, 1828: 158. Type locality: «Amérique septentrionale» (original citation), restricted to «M[ount] Vernon, Alab[ama]» by Lindroth (1966: 615). One syntype in MHNP (Lindroth 1955b: 21).

**Distribution.** The range of this species extends from southeastern New Hampshire (Rockingham County, Ross T. Bell pers. comm. 2008) to eastern Kansas (Douglas County, Robert L. Davidson pers. comm. 2009), including southernmost Ontario (Lindroth 1966: 615), south to eastern Oklahoma (Latimer County, UASM), northwestern Louisiana (Bossier Parish, CMNH) and the Florida Panhandle (Jackson County, CNC). The record from “Iowa” (Bousquet and Laroche 1993: 255) needs confirmation.

**Records.** CAN: ON USA: AL, AR, CT, FL, GA, IL, IN, KS, LA, MA, MD, MS, NC, NH, NJ, OH, OK, PA, RI, SC, TN, VA [IA]

## [cupripenne group]

***Agonum belleri* (Hatch, 1933)**

*Platynus belleri* Hatch, 1933c: 120. Type locality: «Chase Lake, Snohomish County, Washington» (original citation). Holotype (♂) in USNM. Etymology. The specific name was proposed for Samuel Beller who did a Master Thesis, under the direction of Melville H. Hatch, on the Chrysomelidae of Washington at the University of Washington in 1931.

**Distribution.** This species is known from a few localities in the Pacific Northwest from the Queen Charlotte Islands (Kavanaugh 1992: 74) to northwestern Oregon (Clackamas County, James R. LaBonte pers. comm. 1992).

**Records.** CAN: BC (QCI) USA: OR, WA

***Agonum cupreum* Dejean, 1831**

*Agonum cupreum* Dejean, 1831: 735. Type locality: «Amérique septentrionale» (original citation), restricted to «Duluth [Saint Louis County], Minnes[ota]» by Lindroth (1966: 596). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 21).

*Agonum seminitidum* Kirby, 1837: 26. Type locality: «Lat. 54° [= along North Saskatchewan River]» (original citation), restricted to «Edmonton, Al[ber]ta» by Lindroth (1966: 596). Three syntypes in BMNH (Lindroth 1953b: 170). Synonymy established by LeConte (1870: 396), confirmed by Lindroth (1953b: 170).

*Agonum chalceum* LeConte, 1846b: 224. Type locality: «Lacum Superiorem» (original citation); cited from «Sault Ste Marie, Michigan» by LeConte (1854b: 55). Three syntypes in MCZ [# 5777]. Synonymy established with doubt by LeConte (1863b: 7), confirmed by LeConte (1869b: 248) and Lindroth (1966: 596).

*Platynus protractus* LeConte, 1854b: 55. Type locality: «Lake Superior and Sandy Lake, Minnesota» (original citation). Four syntypes in MCZ [# 5778]. Synonymy established by LeConte (1879b: 57), confirmed by Lindroth (1966: 596).

*Platynus crassicollis* LeConte, 1860: 319. Type locality: «Jasper House [= Jasper, Alberta], Rocky Mountains» (original citation). One syntype in MCZ [# 5779]. Synonymy established by Henshaw (1882: 209), confirmed by Lindroth (1966: 596).

*Agonum longulum* Casey, 1920: 107. Type locality: «[Fort] Douglas [Salt Lake County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47463]. Synonymy established by Lindroth (1966: 596).

*Agonum parallelum* Casey, 1920: 108. Type locality: «Magnolia, Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47464]. Synonymy established by Lindroth (1966: 596).

*Agonum marquetteense* Casey, 1920: 108. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47465]. Synonymy established by Lindroth (1966: 596).

*Agonum seminitidum borealinum* Casey, 1920: 109. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47467]. Synonymy established by Lindroth (1966: 596).



*Agonum ovalicauda* Casey, 1920: 109. Type locality: «Magnolia, Boulder Co[unty], Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47468]. Synonymy established by Lindroth (1966: 596).

*Agonum esuriale* Casey, 1920: 109. Type locality: «Colorado» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47470]. Synonymy established by Lindroth (1966: 596).

*Agonum cupreolucens* Casey, 1924: 83. Type locality: «Winnipeg [Manitoba]» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47466]. Synonymy established by Lindroth (1966: 596).

*Agonum uintanum* Casey, 1924: 83. Type locality: «Mammoth (10000 ft.) [Juab County], Parowan M[oun]t[ain]s, Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47469]. Synonymy established by Liebherr (1991a: 118).

**Distribution.** This species ranges from central Prince Edward Island (CNC) and New Brunswick (Kouchibouguac National Park, CNC) to central Alaska (Lindroth 1966: 598), south at least to east-central California (Mono County, CAS), southeastern Arizona (Dajoz 2007: 21; UASM), northeastern New Mexico (San Miguel County, UASM), South Dakota including the Black Hills (Kirk and Balsbaugh 1975: 25), and northern Michigan (Dunn 1985a: 8; Casey 1920: 108, as *A. marquetteense*). The record from “Kansas” (Horn 1872c: 385, as *Platynus chalceus*) needs confirmation.

**Records.** CAN: AB, BC, MB, NB, NT, ON, PE, QC, SK, YT USA: AK, AZ, CA, CO, ID, MI, MN, MT, ND, NM, NV, OR, SD, UT, WA, WI, WY [KS]

**Note.** Lindroth (1966: 597) treated *A. uintanum* Casey as a subspecies of *A. cupreum* Dejean.

### *Agonum cupripenne* (Say, 1823)

*Feronia cupripenne* Say, 1823a: 50. Type locality: «Fall River [Bristol County], Mass[achusetts]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 347), in MCZ [# 33014]. NOTE. Lindroth and Freitag (1969: 347) reported that the neotype was from “W[est] Roxbury [Suffolk County], Mass[achusetts]” but the label on the specimen indicates that it was collected at Fall River, Massachusetts.

*Agonum nitidulum* Dejean, 1828: 143. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 20). Synonymy established by LeConte (1869b: 248), confirmed by Lindroth (1955b: 20).

*Agonum gemmeum* Casey, 1920: 103. Type locality: «Kansas» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47457]. Synonymy established by Lindroth (1966: 591).

*Agonum tahoense* Casey, 1920: 106. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype (♀), designated by Liebherr (1991a: 118), in USNM [# 47460]. Synonymy established by Liebherr (1991a: 118).



**Figure 40.** *Cymindis platicollis* (Say). This *Cymindis* is a typical element of the temperate forest of eastern North America. Unlike most carabids inhabiting the temperate and boreal regions, this species lives above the surface of the ground in trees and is usually collected by beating branches. An arboreal way of life is a common feature among tropical carabids.

**Distribution.** The range of this species extends from Cape Breton Island (Lindroth 1954c: 305) to Vancouver Island (LeConte 1869c: 370), north to west-central Northwest Territories (Bousquet 1987a: 125), south to the Sierra Nevada in California (Casey, 1920: 106, as *A. tahoense*; Dajoz 2007: 16), southeastern Arizona (Greenlee County, UASM), New Mexico (Wickham 1896c: 133; Fall and Cockerell 1907: 159; Cibola County, CMNH), “Kansas” (Lindroth 1966: 591), Tennessee (Sevier County, CNC), and northern Georgia (Fattig 1949: 34). The record from “Louisiana” (Bousquet and Laroche 1993: 256) needs confirmation.

**Records.** CAN: AB, BC (VCI), MB, NB, NS (CBI), NT, ON, PE, QC, SK USA: AZ, CA, CO, CT, DC, DE, GA, IA, ID, IL, IN, KS, MA, ME, MD, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SD, TN, VA, VT, WA, WI, WV, WY [LA]

### *Agonum deplanatum* Ménéttriés, 1843

*Agonum deplanatum* Ménéttriés, 1843: 57. Type locality: «Californie» (original citation), herein restricted to Berkeley, Alameda County (see Casey 1924: 82, as *Anchomenus amplicollis*). Lectotype (♀), designated by Lindroth (1966: 598), in ZMH.

*Platynus fallianus* Leng, 1919b: 203. Unnecessary replacement name for *Platynus deplanatus* (Ménéttriés, 1843).

*Anchomenus amplicollis* Casey, 1924: 82. Type locality: «Berkeley [Alameda County], California» (original citation). Lectotype (♂), designated by Liebherr (1991a: 116), in USNM [# 47436]. Synonymy established by Liebherr (1991a: 116).

**Distribution.** This species is known from southwestern Oregon (Jackson County, CNC) to southern California (Fall 1901a: 46), including the Sierra Nevada (Papp 1978: 163). The record from “Idaho” (Horn 1872c: 385) is probably in error.

**Records.** USA: CA, OR

**Note.** *Agonum fallianum* Leng has been retained as the valid name for this taxon by most authors since 1919 on the account that *Agonum deplanatum* Ménéttriés was a junior homonym of *Agonum deplanatum* (Chaudoir). Leng (1919b: 203) believed the date of publication for Ménéttriés’ name was 1844 and Chaudoir’s name 1843. However, both names were published in 1843. Ménéttriés’ publication was issued on 29 July 1843 as indicated on page 64 of the journal and Chaudoir’s publication was issued after 7 October 1843, the date of permission for publication as indicated on the recto of the title page. The reversal of precedence (ICZN 1999: Article 23.9) cannot be applied in this case because *Agonum deplanatum* Ménéttriés has been used as a valid name after 1899 (e.g., Csiki 1931: 841).

### *Agonum fossiger* Dejean, 1828

*Agonum fossiger* Dejean, 1828: 160. Type locality: «Californie» (original citation), herein restricted to Redwood Creek, Humboldt County (see Casey 1920: 121, as *A. tumidulum*). Holotype [by monotypy] in MHNP (Lindroth 1955b: 21). NOTE. Because Dejean (1828: 160) used the spelling *fossiger* in combination with the genus name *Agonum*, he obviously regarded the specific name as a noun in apposi-

tion, not as an adjective. In such case, the noun need not agree in gender with the generic name with which it is combined (ICZN 1999: Articles 31.2.1 and 34.2.1).

*Agonum fossiger*, not *A. fossigerum*, is the correct spelling for this species.

*Agonum famelicum* Ménériés, 1843: 58. Type locality: «Californie» (original citation). Lectotype (♀), designated by Lindroth (1966: 596), in ZMH. Synonymy established by LeConte (1863b: 7), confirmed by Lindroth (1966: 596).

*Agonothorax robustus* Motschulsky, 1859a: 158. Type locality: California (inferred from title of the paper). Two syntypes in ZMMU (Keleinikova 1976: 214) and one in MCZ (collection LeConte) (Lindroth 1966: 596). Synonymy established by LeConte (1863b: 7), confirmed by Lindroth (1966: 596).

*Platynus foveiceps* Notman, 1919b: 233. Type locality: «Franktown [Washoe County], Nevada» (original citation). Holotype [by monotypy] (♀) in USNM. Synonymy established by Liebherr (1991a: 121).

*Agonum brevisculum* Casey, 1920: 119. Type locality: «Lake Tahoe [Placer County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47485]. Synonymy established by Lindroth (1966: 596).

*Agonum pertinax* Casey, 1920: 119. Type locality: «Reno [Washoe County], Nevada» (original citation). Holotype [by monotypy] (♂) in USNM [# 47479]. Synonymy established by Lindroth (1966: 596).

*Agonum atromicans* Casey, 1920: 120. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 47484]. Synonymy established by Lindroth (1966: 596).

*Agonum vegetum* Casey, 1920: 121. Type locality: «S[an]ta Cruz [Santa Cruz County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47487]. Synonymy established by Lindroth (1966: 596).

*Agonum columbicum* Casey, 1920: 121. Type locality: «The Dalles [Wasco County], Oregon» (original citation). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47488]. Synonymy established by Hatch (1953: 143), confirmed by Lindroth (1966: 596).

*Agonum tumidulum* Casey, 1920: 121. Type locality: «Redwood Creek, Humboldt Co[unty], California» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47489]. Synonymy established by Lindroth (1966: 596).

**Distribution.** This species is found west of the Rocky Mountains from “Washington” (Hatch 1953: 143) and western Idaho (Nez Perce County, CNC) to southern California (Fall 1901a: 46). The record from Baja California (Horn 1894: 309) needs confirmation since the species is not listed in Liebherr’s (1994) review of the Mexican *Agonum*; those from southwestern British Columbia (Hatch 1953: 143) and Colorado (LeConte 1858a: 28) are probably in error.

**Records. USA:** CA, ID, NV, OR, WA

***Agonum muiri* Liebherr, 1984**

*Agonum muiri* Liebherr, 1984b: 374. Type locality: «M[oun]t Lyell (11,000 ft.) [Madera County], Cal[ifornia]» (original citation). Holotype (♂) in CAS [# 15255]. Etymology. The specific name was proposed in honor of John Muir [1838-1914], naturalist, author, and conservationist. Born in Scotland, Muir came to United States as a boy and in 1868 settled in California where his activism helped save several wilderness areas. The Sierra Club, which he founded, is now one of the most important conservation organizations in the United States.

**Distribution.** This species is endemic to the Sierra Nevada [see Liebherr 1984b: Fig. 6], ranging from Lassen County to Tulare County.

**Records. USA:** CA

***Agonum pacificum* Casey, 1920**

*Agonum pacificum* Casey, 1920: 102. Type locality: «California» (original citation), restricted to «Julian, San Diego Co[unty]» by Liebherr (1984b: 381). Lectotype (♂), designated by Liebherr (1984b: 381), in USNM [# 47461].

**Distribution.** This species ranges from west-central California south through the Coast Ranges to Baja California Norte [see Liebherr 1984b: Fig. 6].

**Records. USA:** CA – Mexico

***Agonum quinquepunctatum* Motschulsky, 1844**

*Agonum 5-punctatum* Motschulsky, 1844: 137. Type locality: «Koul [Lake Baikal district, Siberia, Russia] au dela du Baïcal» (original citation). Lectotype (♂), designated by Lindroth (1966: 594), in ZMH.

*Platynus perforatus* LeConte, 1863c: 9. Type locality: «Methy [Portage] [= Portage La Loche, northern Saskatchewan], Hudson's Bay Territory» (original citation). Two syntypes in MCZ [# 5776]. Synonymy established by Lindroth (1966: 594). NOTE. Concerning the type locality, see "Note" under *Pelophila rudis*.

**Distribution.** This Holarctic species is found in eastern Siberia (Bousquet 2003c: 451) and in North America from Alaska (Lindroth 1966: 595) to Labrador (Goose Bay, CNC). The record from "Newfoundland" (Bousquet and Laroche 1993: 258) refers to Labrador. Fossil remnants of this species, dated between about 14,000 and 18,100 years B.P., have been unearthed in central and southeastern Iowa (Baker et al. 1986: 96; Schwert 1992: 78).

**Records. CAN:** AB, BC, LB, MB, NT, ON, QC, SK, YT **USA:** AK – **Holarctic**

***Agonum suturale* Say, 1830**

*Agonum suturale* Say, 1830b: (4) [3]. Type locality: «6.8 km N[orth] Tlaxco, Tlaxcala, Mexico» (neotype label). Neotype (♂), designated by Liebherr (1994: 34), in MCZ [# 35413]. NOTE. «Mexico» was the area originally cited by Say (1830b: (4) [3]).



- Platynus subsericeus* LeConte, 1863c: 8. Type locality: «Kansas» (original citation). Lectotype [as type] (♀), designated by Lindroth (1966: 592), in CMNH (collection Ulke). Synonymy established by Liebherr (in Ball and Shpeley 1992a: 49).
- Agonum viridissimum* Casey, 1920: 103. Type locality: «Stockton [Tooele County], Utah» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 127), in USNM [# 47456]. Synonymy established, under the name *A. subsericeum* (LeConte), by Hatch (1953: 141), confirmed by Lindroth (1966: 591).
- Agonum suffusum* Casey, 1920: 104. Type locality: «Agassiz, British Columbia» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47453]. Synonymy established, under the name *A. subsericeum* (LeConte), by Hatch (1953: 141), confirmed by Lindroth (1966: 591).
- Agonum suffusum latiusculum* Casey, 1920: 104. Type locality: «California» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47454]. Synonymy established, under the name *A. subsericeum* (LeConte), by Lindroth (1966: 591).
- Agonum suffusum uteanum* Casey, 1920: 104. Type locality: «Ogden [Weber County], Utah» (original citation). Lectotype (♀), designated by Lindroth (1975: 127), in USNM [# 47455]. Synonymy established, under the name *A. subsericeum* (LeConte), by Lindroth (1966: 591).
- Agonum sierranum* Casey, 1920: 105. Type locality: «Truckee [Nevada County], California» (original citation). Lectotype (♀), designated by Liebherr (1991a: 118), in USNM [# 47458]. Synonymy established by Liebherr (1991a: 118).
- Agonum sierranum sequoiarum* Casey, 1920: 105. Type locality: «Redwood Creek, Humboldt Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 47459]. Synonymy established by Liebherr (1991a: 118).
- Agonum sybariticum* Casey, 1920: 107. Type locality: «California (southern)» (original citation), restricted to «Lake Henshaw, San Diego Co[unty]» by Liebherr (1991a: 118). Lectotype (♀), designated by Liebherr (1991a: 118), in USNM [# 47462]. Synonymy established by Liebherr (1991a: 118).

**Distribution.** The range of this species extends from southern Saskatchewan to Vancouver Island (Lindroth 1966: 592, as *A. subsericeum*), south to southern California (Casey 1920: 107, as *A. sybariticum*) and Tlaxcala in Mexico (Liebherr 1994: 34).

**Records.** CAN: AB, BC (VCI), SK USA: AZ, CA, CO, ID, KS, MT, NM, NV, OR, UT, WA, WY – Mexico

#### [cyclifer group]

#### *Agonum anthracinum* Dejean, 1831

- Agonum anthracinum* Dejean, 1831: 739. Type locality: «Mexique» (original citation), herein restricted to Durango, Durango (see Liebherr 1994: 24). Holotype [by monotypy, designated lectotype by Liebherr (1994: 23)] (♂) in MHNP (Liebherr 1994: 23).

**Distribution.** This species ranges from southeastern Arizona to the Isthmus of Tehuantepec [see Liebherr 1994: Fig. 29].

**Records. USA:** AZ – Mexico

### *Agonum cyclifer* (Bates, 1884)

*Anchomenus cyclifer* Bates, 1884: 281. Type locality: «near the city, Mexico» (original citation). One syntype in MHNP (Liebherr 1994: 22). NOTE. This species-group name may be either a noun in apposition or an adjective in the masculine gender (ICZN 1999: Example for Article 31.2.2). It was treated as an adjective (e.g., *A. cycliferum*) by Csiki (1931: 847), Blackwelder (1944: 41) and Liebherr (1991a: 120) and as a noun in apposition (e.g., *A. cyclifer*) by Bousquet and Laroche (1993: 256), Liebherr (1994: 13) and Lorenz (2005: 410). When the evidence of usage is not decisive as in this case, the name is to be treated as a noun in apposition (Article 31.2.2).

*Platynus arizonensis* G.H. Horn, 1892c: 42. Type locality: «Camp Grant [Pinal County], Arizona» (original citation). Lectotype (♂), designated by Liebherr (1991a: 120), in MCZ [# 34498]. Synonymy established by Liebherr (1991a: 120). NOTE. The type locality probably refers to the “old” Camp Grant located in eastern Pinal County near Winkelman, where Horn collected while serving as a surgeon with the California Volunteers, rather than the “new” Camp Grant located in Graham County. The “old” Camp Grant was in operation from 1859 to 1872 and the scene of the infamous Camp Grant Massacre of 1871.

**Distribution.** The range of this species extends from southeastern Arizona to the Rio Grande drainage in south-central Texas, north to southeastern Colorado (Michels et al. 2008; Las Animas County, Robert L. Davidson pers. comm. 2008), south to the Federal District of Mexico [see Liebherr 1994: Fig. 28].

**Records. USA:** AZ, CO, NM, TX – Mexico

### [errans group]

### *Agonum errans* (Say, 1823)

*Feronia errans* Say, 1823b: 147. Type locality: «Buena Vista [Chaffee County], Col[orado]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 347), in MCZ [# 33016].

*Agonum erythropum* Kirby, 1837: 28 [secondary homonym of *Agonum erythropum* (Dejean, 1828)]. Type locality: «Canada» (original citation). One syntype in BMNH (Lindroth 1953b: 171). Synonymy established by LeConte (1879b: 56), confirmed by Lindroth (1953b: 171).

*Platynus subcordatus* LeConte, 1850: 205. Replacement name for *Platynus erythropus* (Kirby, 1837). NOTE. Although not explicitly indicated, I believe LeConte (1850: 205) proposed *P. subcordatus* as a replacement name for *P. erythropus* (Kirby) but that he forgot to add the parallels (||) after Kirby's name as usual; he did so subsequently (LeConte 1854b: 52). Lindroth (1966: 616) made the same assumption.

Because LeConte's name was proposed as a replacement name, the specimen labeled as type [# 5760] of *P. subcordatus* in MCZ has no status (see ICZN 1999: Article 72.7).

**Distribution.** This species ranges from the Saguenay River in Quebec (Larochelle 1975: 35) to southeastern British Columbia (Lindroth 1966: 616), south to “Oregon” (Hatch 1953: 143), New Mexico (LeConte 1879b: 56; UASM), “Texas” (LeConte 1858a: 28, as *P. subcordatus*), and southeastern South Carolina (Ciegler 2000: 111).

**Records.** **CAN:** AB, BC, MB, ON, QC, SK **USA:** AL, AR, CO, GA, IA, ID, IN, KS, MA, MI, MN, MS, MT, NC, ND, NE, NH, NM, NY, OR, PA, SC, SD, TX, UT, VA, VT, WA, WI, WY

### *Agonum ferreum* Haldeman, 1843

*Agonum ferreum* Haldeman, 1843b: 299. Type locality: southeastern Pennsylvania (Haldeman 1843a: 295). One possible syntype, a ♀ labeled “[pink disc] / *P. ferreus* (Hald.) Lec. *A. ocreatum* Hald. [handwritten],” in MCZ (collection LeConte).

*Agonum ocreatum* Haldeman, 1843b: 299. Type locality: «Alleghany M[oun]t[ain]s» (original citation). Syntype(s) presumably lost. Synonymy established by LeConte (1854b: 51).

*Micragonum quadrulum* Casey, 1920: 81. Type locality: «Illinois» (original citation). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47506]. Synonymy established by Lindroth (1966: 624).

*Micragonum solidulum* Casey, 1920: 82. Type locality: «Highland Park [Lake County], northern Illinois» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47505]. Synonymy established by Lindroth (1966: 624).

**Distribution.** This species ranges from western New Hampshire (Grafton County, Ross T. Bell pers. comm. 2008) to eastern Oklahoma (Foster F. Purrington pers. comm. 2012), including southernmost Ontario (Lindroth 1966: 624), south to eastern Mississippi (Noxubee County, CMNH), southern Alabama (Löding 1945: 19), and central South Carolina (Ciegler 2000: 112). The record from northern Wisconsin along Lake Superior (Wickham 1896c: 134) is likely in error.

**Records.** **CAN:** ON **USA:** AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, MA, MD, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, VA, VT, WV

### *Agonum sulcipenne* (Horn, 1881)

*Platynus sulcipennis* G.H. Horn [in LeConte and Horn], 1881: 75. Type locality: «Florida» (original citation). Syntype(s) in MCZ [# 34474].

**Distribution.** This species is known from a few localities along the Coastal Plain from southern Georgia (Fattig 1949: 33) and the Florida Panhandle (Peck and Thomas

1998: 23) west to northeastern Mississippi (Snodgrass and Cross 1983: 13), north along the Mississippi Basin to southern Illinois (Gallatin, Alexander, and Jackson Counties, CMNH, CNC). The record from “North Carolina” (Bousquet and Laroche 1993: 260) needs confirmation.

**Records. USA:** AL, FL, GA, IL, MS, TN [NC]

[**excavatum group**]

***Agonum excavatum* Dejean, 1828**

*Agonum excavatum* Dejean, 1828: 169. Type locality: «Amérique septentrionale» (original citation), restricted to «Dorchester [Suffolk County], Mass[achusetts]» by Lindroth (1966: 623). One syntype in MHNP (Lindroth 1955b: 20).

*Anchomenus ontarionis* Casey, 1920: 54. Type locality: «Toronto, Ontario» (original citation). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47428]. Synonymy established by Lindroth (1966: 623).

*Anchomenus trinarius* Casey, 1920: 54. Type locality: «probably Indiana» (original citation). Holotype [by monotypy] (♂) in USNM [# 47429]. Synonymy established by Lindroth (1966: 623).

**Distribution.** This species ranges from New Brunswick (Lindroth 1966: 623) to southern Wisconsin (Messer 2010: 42), south to eastern Oklahoma (Latimer County, UASM), west-central Arkansas (Logan County, CNC), northern Georgia (Fattig 1949: 34), and eastern South Carolina (Ciegler 2000: 111). The records from “Minnesota” and “Louisiana” (Bousquet and Laroche 1993: 256) need confirmation.

**Records. USA:** NB, ON, QC **USA:** AL, AR, CT, DC, DE, GA, IA, IL, IN, KY, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, VA, VT, WI, WV [LA, MN]

[**extensicolle group**]

***Agonum cyanopis* (Bates, 1882)**

*Anchomenus cyanopis* Bates, 1882a: 94. Type locality: «Guanajuato, Mexico» (original citation for the lectotype). Lectotype (♂), designated by Liebherr (1982: 153), in BMNH. NOTE. The specific name probably derives from the Latin adjective *cyanus*, -a, -um (dark blue) and the Latin noun *ops*, -*opis* (riches, wealth) and refers to the dark blue coloration of the adult. The ending of the name remains unchanged whether the name is combined with a masculine generic name such as *Anchomenus* or a neutral generic name such as *Agonum*. The spelling *Agonum cyanope*, used by modern authors since the 1980s, is incorrect.

**Distribution.** This species is found from eastern Arizona and western New Mexico south through the Sierra Madre Occidental to the Mexican states of Guerrero, Puebla, and Vera Cruz [see Liebherr 1986: Fig. 37].

**Records. USA:** AZ, NM – Mexico

***Agonum decorum* (Say, 1823)**

- Feronia decora* Say, 1823a: 53. Type locality: «Arlington [Middlesex County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33017].
- Anchomenus thoracicus* Dejean, 1828: 114. Type locality: «Amérique septentrionale» (original citation), restricted to «Utah» by Lindroth (1966: 629). Holotype [by monotypy] in MHNP (Lindroth 1955b: 19). Synonymy established by LeConte (1846b: 223), confirmed by Liebherr (1986: 124).
- Anchomenus californicus* Dejean, 1828: 127. Type locality: «Californie» (original citation). One syntype in MHNP (Lindroth 1955b: 20). Synonymy established by Liebherr (1986: 124).
- Anchomenus obscurus* LeConte, 1846b: 223. Type locality: «Lacum Onondaga [Onondaga County, New York]» (original citation). Six syntypes in MCZ [# 5749]. Synonymy established by LeConte (1854b: 46), confirmed by Lindroth (1966: 629).
- Platynus simplex* LeConte, 1854b: 46. Type locality: «Colorado River, California» (original citation). Four syntypes in MCZ [# 5748]. Synonymy established by Liebherr (1986: 124).
- Anchomenus charmis* Bates, 1884: 280. Type locality: «near the city, Mexico» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Liebherr (1986: 124).
- Platynus testaceonotus* Hausen, 1891b: 162. Type locality: «S[ain]te-Rose [= Laval], P[rovince of] Q[uebec]» (original citation). Holotype [by monotypy] presumably lost. Synonymy established by Lindroth (1966: 629).
- Anchomenus solutus* Casey, 1920: 60. Type locality: «Reno [Washoe County], Nevada» (original citation). Holotype [by monotypy] (♀) in USNM [# 47437]. Synonymy established by Liebherr (1986: 125).
- Anchomenus impictus* Casey, 1920: 60. Type locality: «San Joaquin Co[unty], California» (original citation). Lectotype (♂), designated by Liebherr (1991a: 117), in USNM [# 47438]. Synonymy established by Liebherr (1986: 125).
- Anchomenus irruptus* Casey, 1920: 60. Type locality: «Priest River [Bonner County], Idaho» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47439]. Synonymy established, under the name *A. californicum* (Dejean), by Hatch (1953: 137), confirmed by Lindroth (1966: 628).
- Anchomenus vinnulus* Casey, 1920: 61. Type locality: «Battle M[oun]t[ain]s, Nevada» (original citation). Lectotype (♂), designated by Liebherr (1991a: 118), in USNM [# 47440]. Synonymy established by Liebherr (1986: 125).
- Anchomenus luxatus* Casey, 1920: 67. Type locality: «Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47449]. Synonymy established, under the name *A. thoracicum* (Dejean), by Lindroth (1955b: 19).
- Anchomenus decorus arenarius* Casey, 1920: 68. Type locality: «Galveston [Galveston County], Texas» (original citation). Holotype [by monotypy] (♂) in USNM [# 47450]. Synonymy established by Lindroth (1966: 629).



*Anchomenus tepidus* Casey, 1920: 68. Type locality: «Tucson [Pima County], Arizona» (original citation). Holotype [by monotypy] (♀) in USNM [# 47451]. Synonymy established by Lindroth (1966: 629).

*Anchomenus uteanus* Casey, 1924: 81. Type locality: «Callao [Juab County], Utah» (original citation). Lectotype (♂), designated by Liebherr (1991a: 118), in USNM [# 47433]. Synonymy established by Liebherr (1986: 125).

*Agonum extensicolle cubanum* Darlington, 1934: 97. Type locality: «Soledad (near Cienfuegos), Cuba» (original citation). Holotype (♂) in MCZ [#19517]. Synonymy established by Liebherr (1986: 125).

**Distribution.** This widely distributed species ranges from southern Quebec to Vancouver Island, south to Baja California Norte, the Isthmus of Tehuantepec, and central Florida; also present on several islands of the West Indies [see Liebherr 1986: Figs 51-54].

**Records.** CAN: BC (VCI), MB, ON, QC, SK USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WY – Cayman Islands, Cuba, Hispaniola, Jamaica, Mexico

### *Agonum elongatulum* (Dejean, 1828)

*Anchomenus elongatulus* Dejean, 1828: 112. Type locality: «Amérique septentrionale» (original citation), restricted to «Winter Park [Orange County], Flor[ida]» by Lindroth (1966: 627). Two syntypes in MHNP (Lindroth 1955b: 19).

*Platynus floridanus* LeConte, 1878b: 374. Type locality: «[Fort] Capron and Lake Harney [Florida]» (original citation). Six syntypes in MCZ [# 5750]. Synonymy established by Lindroth (1955b: 19), confirmed by Liebherr (1986: 137).

*Anchomenus gravidulus* Casey, 1920: 59. Type locality: «Indian River Haulover, Florida» (original citation). Lectotype (♀), designated by Liebherr (1991a: 117), in USNM [# 47435]. Synonymy established by Liebherr (1986: 137).

*Anchomenus collisus* Casey, 1920: 59. Type locality: «Marion Co[unty], Florida» (original citation). Lectotype (♂), designated by Liebherr (1991a: 116), in USNM [# 47434]. Synonymy established by Liebherr (1986: 137).

**Distribution.** This species is found only in southern Georgia, throughout Florida including the Keys, and on Bimini [see Liebherr 1986: Fig. 58].

**Records.** USA: FL, GA – Bahamas

**Note.** Liebherr (1986: 140) reported the presence of a series of putative hybrids *elongatulum* x *decorum* from Ocracoke Island, North Carolina.

### *Agonum extensicolle* (Say, 1823)

*Feronia extensicollis* Say, 1823a: 54. Type locality: «Rumney [Grafton County], N[ew] H[ampshire]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 346), in MCZ [# 33018].

*Anchomenus obscuratus* Chaudoir, 1843b: 763. Type locality: «Etats unis de l'Amérique septentrionale» (original citation). Syntype(s) in MHNP. Synonymy established by LeConte (1859c: 32).

*Anchomenus le contei* LeConte, 1844: 53. Type locality: North America (inferred from title of the paper). Syntype(s) in MCZ. Synonymy established by Melsheimer (1853: 16). NOTE. LeConte (1844: 53) did not specify the origin of his specimen(s) but most of the other species described in the same paper came from Georgia. There is one specimen in LeConte's collection with an orange disc, labeled “*extensicollis* 2,” that could be a syntype.

*Anchomenus viridis* LeConte, 1846b: 222. Type locality: «Indiana ad flumen Ohio» (original citation). One syntype in MCZ [# 5747]. Synonymy established by LeConte (1859c: 32), confirmed by Lindroth (1966: 625).

*Anchomenus cyanescens* Motschulsky, 1859a: 159. Type locality: California (inferred from title of the paper). One syntype in ZMMU (Keleinikova 1976: 194). Synonymy established by LeConte (1879b: 55). NOTE. This name was listed as “*Anchomenus cyaneus*” by Motschulsky (1869: 21).

*Anchomenus gaudens* Casey, 1920: 55. Type locality: «Lake Champlain, New York» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47430]. Synonymy established by Lindroth (1966: 625).

*Anchomenus gaudens clientulus* Casey, 1920: 55. Type locality: «Rutherford [Bergen County], New Jersey» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47431]. Synonymy established by Lindroth (1966: 625).

*Anchomenus vigilans* Casey, 1920: 56. Type locality: «Asheville [Buncombe County], North Carolina» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47432]. Synonymy established by Lindroth (1966: 625).

**Distribution.** This species ranges from Cape Breton Island (Bousquet 1987d: 106) to northwestern Montana, including southern Manitoba and southern Saskatchewan (Ronald R. Hooper pers. comm. 2007), south to south-central Arizona, Jalisco in Mexico, and northern Florida [see Liebherr 1986: Fig. 46].

**Records.** CAN: MB, NB, NS (CBI), ON, QC, SK USA: AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY – Mexico

### *Agonum extimum* Liebherr, 1986

*Agonum extimum* Liebherr, 1986: 100. Type locality: «31.2 km E[ast] San Pedro (900 m), Coahuila, Mexico» (original citation). Holotype (♀) in CAS [# 15040].

**Distribution.** This species ranges from southern Arizona to southeastern Texas, south to southern Coahuila in Mexico [see Liebherr 1986: Fig. 41].

**Records.** USA: AZ, NM, TX – Mexico

***Agonum parextimum* Liebherr, 1986**

*Agonum parextimum* Liebherr, 1986: 103. Type locality: «Los Mochis, Sinaloa, Mexico» (original citation). Holotype (♀) in CAS [# 15041].

**Distribution.** This species ranges from south-central Arizona south to the Mexican states of Sonora and southern Sinaloa along the Gulf of California Coast [see Liebherr 1986: Fig. 41].

**Records. USA:** AZ – Mexico

***Agonum texanum* (LeConte, 1878)**

*Platynus texanus* LeConte, 1878b: 374. Type locality: «Texas» (original citation), restricted to «Clifton, Bosque Co[unty]» by Lindroth (1966: 629). Six syntypes in MCZ [# 5751].

*Anchomenus megillus* Bates, 1891a: 252. Type locality: «Villa Lerdo, in Durango» (original citation). Lectotype (♂), designated by Liebherr (1982: 153), in BMNH. Synonymy established by Liebherr (1986: 107).

**Distribution.** This taxon ranges from central Kansas south to Chiapas in Mexico, west to central Arizona [see Liebherr 1986: Fig. 43].

**Records. USA:** AZ, KS, NM, OK, TX – Mexico

**[melanarium group]*****Agonum affine* Kirby, 1837**

*Agonum affine* Kirby, 1837: 27 [primary homonym of *Agonum affine* Stephens, 1828]. Type locality: northern parts of British America (inferred from title of the book), restricted to «Edmonton, Al[ber]ta» by Lindroth (1966: 603). Holotype [by monotypy] (♂) in BMNH (Lindroth 1953b: 171). NOTE. *Agonum affine* Kirby, 1837 is a primary homonym of *Agonum affine* Stephens, 1828 (a junior synonym of *A. thoreyi thoreyi* Dejean, 1828). Although *Agonum affine* Stephens has not been used as a valid name after 1899, I am unable to meet the condition of Article 23.9.1.2 of the ICZN (1999) in order to qualify *Agonum affine* Stephens of *nomen oblitum* and *Agonum affine* Kirby of *nomen protectum*. Nevertheless, I believe that the name *A. affine* Kirby should be maintained for this species until the case is submitted to the International Commission on Zoological Nomenclature.

*Platynus carbo* LeConte, 1850: 205. Type locality: Lake Superior (inferred from title of the paper), cited from the «northern shore of Lake Superior» by LeConte (1854b: 49). Holotype [by monotypy] (♀) in MCZ [# 5767]. Synonymy established by Lindroth (1953b: 171).

*Agonothorax planipennis* Motschulsky, 1850a: 68 [*nomen dubium*]. Type locality: «Sitka [Alaska]» (original citation). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976). Synonymy established with doubt by Bousquet and Laroche (1993: 11). NOTE. This name was listed as “*Agonothorax flavipennis*” by Motschulsky (1869: 21). Horn (in Wickham 1902: 239) stated that

this name “is probably a variety of *P[latynus] fossiger* Dej.” If this is correct, then the type locality reported by Motschulsky is in error.

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 123, as *A. carbo*) to central Alaska (Lindroth 1966: 605), south to southern Oregon (Westcott et al. 2006: 6), the Sangre de Cristo Mountains in New Mexico (Fall and Cockerell 1907: 159), northern Indiana (Blatchley 1910: 130; Wolcott and Montgomery 1933: 127), southwestern Pennsylvania (Westmoreland County, William L. Krinsky pers. comm. 2012) and the District of Columbia (Ulke 1902: 7, as *Platynus carbo*).

**Records.** **FRA:** PM **CAN:** AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, CO, CT, DC, IA, ID, IL, IN, MA, ME, MI, MN, MT, NH, NJ, NM, NY, OH, OR, PA, RI, VT, WA, WI, WY

### *Agonum brevicolle* Dejean, 1828

*Agonum brevicolle* Dejean, 1828: 159. Type locality: «Californie» (original citation), herein restricted to San Francisco, San Francisco County (see LeConte 1854b: 49, as *P. frater*). Holotype [by monotypy] in MHNP (Lindroth 1955b: 20).

*Platynus frater* LeConte, 1854b: 49. Type locality: «San Francisco and San Diego, California» (original citation), restricted to «San Francisco [San Francisco County]» by Lindroth (1966: 608). Three syntypes in MCZ [# 5769]. Synonymy established by LeConte (1869b: 248), confirmed by Lindroth (1966: 608).

**Distribution.** This western species ranges from western British Columbia (Lindroth 1966: 609), as far north as the Skeena river area and Queen Charlotte Islands (Kavanaugh 1992: 75), south to southern California (Fall 1901a: 46, as *Platynus frater*), including eastern Nevada (Liebherr 1986: 130).

**Records.** **CAN:** BC (QCI, VCI) **USA:** CA, NV, OR, WA

### *Agonum collare* (Say, 1830)

*Anchomenus collaris* Say, 1830b: (4) [3]. Type locality: «Woodbury [Gloucester County], N[ew] J[ersey]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 347), in MCZ [# 33015]. NOTE. «Indiana» was the area originally cited by Say (1830b: (4)[3]).

**Distribution.** This species ranges from Rhode Island (Sikes 2003: 8; CMNH) to northeastern Illinois (Cook County, CMNH), south to eastern Texas along the Gulf Coast (Snow 1906a: 141) and central Florida (Brevard and Highlands Counties, CNC). The records from “Wisconsin” and “Pennsylvania” (Bousquet and Larochelle 1993: 258) need confirmation.

**Records.** **USA:** AL, CT, FL, GA, IL, IN, KY, LA, MD, MI, MS, NC, NJ, NY, OH, PA, RI, SC, VA, TX [PA, WI]

***Agonum corvus* (LeConte, 1860)**

*Platynus corvus* LeConte, 1860: 319. Type locality: «Black Hills [South Dakota]; Saskatchewan» (original citation), restricted to «Black Hills» by Lindroth (1966: 603). One syntype in MCZ [# 5768].

*Agonum hyslopi* Casey, 1920: 113. Type locality: «Wilbur [Lincoln County], Washington» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47477]. Synonymy established by Lindroth (1966: 603). Etymology. The specific name was proposed for James Augustus Hyslop [1884-1953], entomologist for the Bureau of Entomology in Washington DC. Hyslop worked mainly on elaterids.

*Agonum debiliceps* Casey, 1920: 118. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation). Holotype [by monotypy] (♀) in USNM [# 47481]. Synonymy established by Lindroth (1966: 603).

**Distribution.** This species ranges from the Saint Lawrence Valley in southern Quebec (Larochelle 1975: 33) to the Fraser Valley in British Columbia (Lindroth 1966: 603), south to northern California (Siskiyou County, CNC), east-central California (Mono County, Foster F. Purrington pers. comm. 2012), northern Arizona (Coconino and Apache Counties, CNC), southern Colorado (Alamosa County, CNC), and southern Nebraska (Chase County, Foster F. Purrington pers. comm. 2010). The record from “Michigan” (Bousquet and Larochelle 1993: 256) needs confirmation.

**Records.** CAN: AB, BC, MB, ON, QC, SK USA: AZ, CA, CO, ID, MN, MT, ND, NE, OR, SD, UT, VT, WA, WV, WY [MI]

***Agonum deceptivum* (LeConte, 1879)**

*Platynus deceptivus* LeConte, 1879b: 53. Type locality: «Nova Scotia and Lake Superior» (original citation), restricted to «Nova Scotia» by Lindroth (1966: 611). Syntype(s) in MCZ [# 5771].

**Distribution.** This rarely collected species is found along the provinces and states bordering the Atlantic Coast from Cape Breton Island (Lindroth 1966: 611) to Connecticut (New London County, William L. Krinsky pers. comm. 2008).

**Records.** CAN: NS (CBI) USA: CT, MA, ME, NH

***Agonum fidele* Casey, 1920**

*Platynus laevis* LeConte, 1854b: 48 [secondary homonym of *Agonum laeve* (Gyllenhal, 1827)]. Type locality: «middle and western states» (original citation). Syntype(s) in MCZ [# 5763].

*Platynus molestus* LeConte, 1863b: 7 [secondary homonym of *Agonum molestum* Motschulsky, 1844]. Replacement name for *Platynus laevis* LeConte, 1854.

*Agonum fidele* Casey, 1920: 116. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♂), designated by Lindroth (1975:



128), in USNM [# 47480]. Synonymy established by Hatch (1953: 142), confirmed by Lindroth (1954b: 139).

*Agonum subinflatum* Casey, 1920: 117. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47478]. Synonymy established by Lindroth (1954b: 140).

**Distribution.** This species ranges from Cape Breton Island (Lindroth 1954c: 306) to western Wisconsin (Kleintjes et al. 2003: 81; Messer 2010: 42), south to northeastern Mississippi (Snodgrass and Cross 1983: 13) and west-central South Carolina (Ciegler 2000: 112). The record from “Prince Edward Island” (Bousquet and Larochelle 1993: 256) is based on misidentified small specimens of *A. melanarium* Dejean (CNC).

**Records.** CAN: NB, NS (CBI), ON, QC USA: CT, DC, IA, IL, KY, MA, MD, ME, MI, MS, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV

### *Agonum harrisii* LeConte, 1846

*Agonum harrisii* LeConte, 1846b: 225. Type locality: «Massachusetts» (original citation). One syntype in MCZ [# 5766]. Etymology. The specific name honors Thaddeus William Harris [1795-1856], American entomologist and botanist. Harris first made his living as a physician but soon became librarian at Harvard University. He also taught natural history at Harvard but never achieved full-time professorship. Harris is best known for his work on economic entomology and is often viewed as the founder of applied entomology in the United States.

*Agonum mordax* Casey, 1920: 113. Type locality: «Beaver Dam [Dodge County], Wisconsin» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47474]. Synonymy established by Lindroth (1966: 609).

*Agonum aethiops* Casey, 1920: 116. Type locality: «probably British America» (original citation). Holotype [by monotypy] (♀) in USNM [# 47475]. Synonymy established by Lindroth (1966: 609).

**Distribution.** This species ranges from Cape Breton Island (Lindroth 1954c: 306) to Vancouver Island (Lindroth 1966: 609), south to “Oregon” (CAS), north-central Idaho (Idaho County, CNC), southeastern Wyoming (Lavigne 1977: 43), southern Minnesota (Hennepin County, CNC), northeastern Illinois (Purrington et al. 2002: 200), and southeastern Virginia (Surry County, CMNH). The record from “Nebraska” (Bousquet and Larochelle 1993: 257) is probably in error.

**Records.** CAN: AB, BC (VCI), MB, NB, NS (CBI), ON, PE, QC, SK USA: CT, ID, IL, IN, MA, ME, MI, MN, MT, NH, NJ, NY, OH, OR, PA, RI, VA, VT, WA, WI, WV, WY

### *Agonum imitans* (Notman, 1919)

*Platynus imitans* Notman, 1919b: 232. Type locality: «North America» (original citation). Holotype [by monotypy] (♂) in USNM [# 104255].

**Distribution.** This species is known only from the holotype which has no locality or state label (see Liebherr 1991a: 121-122).

**Records.** None.

### *Agonum melanarium* Dejean, 1828

*Feronia scutellaris* Say, 1823b: 146 [*nomen dubium*]. Type locality not stated. Syntype(s) lost. NOTE. LeConte (1879b: 56) remarked that this species was based on “a distorted specimen [of *A. melanarium*], the name is therefore rejected.”

*Agonum melanarium* Dejean, 1828: 152. Type locality: «Amérique septentrionale» (original citation), restricted to «Arlington [Middlesex County], Mass[achusetts]» by Lindroth (1966: 599). One syntype in MHNP (Lindroth 1955b: 20). Synonymy established by LeConte (1879b: 56).

*Agonum maurum* Haldeman, 1843b: 300. Type locality: southeastern Pennsylvania (Haldeman 1843a: 297). One possible syntype, a ♂ labeled “[pink disc] / *P. melanarius* (Dej.) Lec. *A. maurum* Hald. *Fer. scutellaris* Say [handwritten],” in MCZ (collection LeConte). Synonymy established by LeConte (1846b: 225).

*Agonum nitidum* T.W. Harris [in Scudder], 1869: 230 [*nomen dubium*]. Type locality not stated. Syntype(s) lost. Synonymy established with doubt by Bousquet and Larochelle (1993: 12).

*Agonum politulum* T.W. Harris [in Scudder], 1869: 230. Type locality not stated. Syntype(s) lost. Synonymy established by LeConte (in Scudder 1869: 230).

*Agonum militare* Casey, 1920: 114. Type locality: «West Point [Orange County], New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 128), in USNM [# 47473]. Synonymy established by Lindroth (1966: 600).

**Distribution.** The range of this species extends from Cape Breton Island (Lindroth 1954c: 306) to southwestern British Columbia (Lindroth 1966: 600), south to northwestern California (Trinity County, CNC), northern Colorado (Haubold 1951: 705; Armin 1963: 150), west-central Kansas (Trego County, CNC), and North Carolina (Haywood County, CNC).

**Records.** CAN: AB, BC, MB, NB, NS (CBI), ON, PE, QC, SK USA: CA, CO, CT, DC, DE, IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MT, NC, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SD, UT, VA, VT, WA, WI, WV, WY

### *Agonum metallescens* (LeConte, 1854)

*Platynus metallescens* LeConte, 1854b: 48. Type locality: «Sault S[ain]te Marie, and northern shore of Lake Superior» (original citation), restricted to «Sault S[ain]te Marie, Ont[ario]» by Lindroth (1966: 605). Syntype(s) in MCZ [# 5770].

*Agonum lacustre* Casey, 1920: 114. Unnecessary replacement name for *Agonum metallescens* (LeConte, 1854).

*Agonum terracense* Casey, 1924: 85. Type locality: «Terrace, British Columbia» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47476]. Synonymy established by Lindroth (1954b: 139).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 122) to the Queen Charlotte Islands (Kavanaugh 1992: 74), north to southern Northwest Territories (Bousquet 1987a: 125), south to northern Idaho (Peter W. Messer pers. comm. 2008), northwestern Montana (Glacier County, CNC), northern Wisconsin (Wickham 1896c: 133; Casey 1920: 114, as *A. lacustre*), the upper peninsula of Michigan along Lake Superior (Casey 1920: 114, as *A. lacustre*), and New Jersey (Smith 1890: 85; Smith 1910: 208).

**Records.** **FRA:** PM **CAN:** AB, BC (QCI, VCI), MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK **USA:** ID, MA, ME, MI, MN, MT, ND, NH, NJ, NY, VT, WI

### *Agonum moerens* Dejean, 1828

*Agonum moerens* Dejean, 1828: 152. Type locality: «Amérique septentrionale» (original citation), restricted to «Elkhart [Elkhart County], Indiana» by Lindroth (1966: 610). One syntype in MHNP (Lindroth 1955b: 20).

**Distribution.** This species is known from western Maine (Franklin, Kennebec, and York Counties, Ross T. Bell pers. comm. 2008), southwestern Quebec, the Ontario Peninsula, and southern Manitoba (Lindroth 1966: 611) south to southern Louisiana (Assumption and East Baton Rouge Parishes, LSAM) and northern Florida (Alachua County, CNC).

**Records.** **CAN:** MB, ON, QC **USA:** AL, AR, CT, DC, FL, GA, IA, IL, IN, LA, MA, MD, ME, MI, MN, MS, NC, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI

### *Agonum mutatum* (Gemminger and Harold, 1868)

*Platynus atratus* LeConte, 1850: 205 [secondary homonym of *Platynus atratus* (Duftschmid, 1812)]. Type locality: Lake Superior (inferred from title of the paper), cited from the «northern shore of Lake Superior» by LeConte (1854b: 49), herein restricted to Marquette, Marquette County, Michigan (see Hubbard and Schwarz 1878: 628, as *Platynus mutatus*). Two syntypes in MCZ [# 5762].

*Platynus mutatus* Gemminger and Harold, 1868a: 374. Replacement name for *Platynus atratus* LeConte, 1850.

**Distribution.** This species is found from Newfoundland (Lindroth 1955a: 124) to British Columbia, north to east-central Alaska (Lindroth 1966: 601), south to west-central Washington (Lindroth 1966: 601), northwestern Montana (Russell 1968: 64), central Indiana (Downie 1957: 116; Schrock 1985: 343), and eastern South Carolina (Kirk 1969: 11; Ciegler 2000: 112).

**Records.** **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK **USA:** AK, CT, DE, IA, IN, MA, ME, MI, MN, MT, NC, NH, NJ, NY, OH, PA, RI, SC, VT, WA, WI, WV

***Agonum propinquum* (Gemminger and Harold, 1868)**

*Agonum piceum* LeConte, 1846b: 226 [secondary homonym of *Agonum piceum* (Linnaeus, 1758)]. Type locality: «Massachusetts» (original citation). Syntype(s) in MCZ [# 5764]. NOTE. The specimen in MCZ labeled as “Type” is also labeled “Can” and is not a syntype.

*Platynus propinquus* Gemminger and Harold, 1868a: 375. Replacement name for *Platynus piceus* (LeConte, 1846).

*Platynus fraterculus* LeConte, 1869c: 373. Type locality: Vancouver Island, British Columbia (inferred from title of the paper). Holotype [by monotypy] (♀) in MCZ [# 5765]. Synonymy established by Lindroth (1966: 611).

*Anchomenus xanthocnemis* Bates, 1884: 281. Type locality: «Mexico» (original citation). Holotype [by monotypy] (♀) in BMNH. Synonymy established by Liebherr (1991a: 119).

*Agonum humile* Casey, 1920: 117. Type locality: «Kalispell [Flathead County], Montana» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47482]. Synonymy established by Lindroth (1954b: 140).

*Agonum insuetum* Casey, 1920: 118. Type locality: «Wilbur [Lincoln County], Washington» (original citation). Lectotype (♀), designated by Lindroth (1975: 128), in USNM [# 47483]. Synonymy established by Hatch (1953: 142), confirmed by Lindroth (1954b: 140).

*Agonum amens* Casey, 1924: 83. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47486]. Synonymy established by Lindroth (1954b: 140).

**Distribution.** This widely distributed species extends from Newfoundland (Lindroth 1955a: 124) to Alaska (Lindroth 1966: 612), south to the Sierra Nevada in northeastern California (Liebherr 1991a: 119), southwestern Colorado (Wickham 1902: 239; Ouray County, CNC), northwestern Nebraska (Sheridan County, CNC), northwestern Pennsylvania (Erie County, CMNH), and “Maryland” (Liebherr 1994: 30). One specimen is also known from the city of Mexico (Liebherr 1994: 30) but in my opinion it is likely mislabeled.

**Records.** **CAN:** AB, BC (VCI), MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT  
**USA:** AK, CA, CO, CT, ID, IN, MA, MD, ME, MI, MN, MT, ND, NE, NH, NJ, NY, OR, PA, SD, VT, WA, WI, WY

***Agonum tenue* (LeConte, 1854)**

*Platynus tenuis* LeConte, 1854b: 48. Type locality: «middle and eastern states» (original citation), restricted to «Cambridge [Middlesex County], Mass[achusetts]» by Lindroth (1966: 610). Three syntypes in MCZ [# 5761].

**Distribution.** This species ranges from Cape Breton Island (Lindroth 1954c: 306) to northeastern Minnesota (Kamal J.K. Gandhi pers. comm. 2008), south to southern Georgia (Fattig 1949: 34). The record from “Nebraska” (Bousquet and Larochelle 1993: 258) needs confirmation.

**Records.** CAN: NB, NS (CBI), ON, PE, QC USA: CT, DC, DE, GA, IA, IL, IN, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, RI, SC, VA, VT, WI, WV [NE]

***Agonum trigeminum* Lindroth, 1954**

*Agonum trigeminum* Lindroth, 1954b: 156. Type locality: «Sackville [near] Halifax, Nova Scotia» (original citation). Holotype (♂) in CNC [# 6573].

**Distribution.** This species is known from Cape Breton Island (CNC) to southern Manitoba (Lindroth 1966: 601), south to southwestern North Carolina (Macon County, CNC).

**Records.** CAN: MB, NB, NS (CBI), ON, PE, QC USA: CT, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, RI, VT, WI, WV

[**nutans group**]

***Agonum aeruginosum* Dejean, 1828**

*Agonum aeruginosum* Dejean, 1828: 168. Type locality: «Amérique septentrionale» (original citation), restricted to «Rivervale [Bergen County], N[ew] J[ersey]» by Lindroth (1966: 623). One syntype in MHNP (Lindroth 1955b: 21).

*Circinalia undulata* Casey, 1920: 79. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47516]. Synonymy established by Lindroth (1966: 623).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1954c: 306) to southeastern South Dakota (Kirk and Balsbaugh 1975: 25), south at least to northeastern Kansas (Popenoe 1877: 23), central Louisiana (East Feliciana Parish, CMNH, CNC), and the Florida Panhandle (Peck and Thomas 1998: 22).

**Records.** CAN: NB, NS, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, PA, RI, SC, SD, TN, VA, VT, WI, WV

***Agonum basale* LeConte, 1846**

*Agonum basale* LeConte, 1846b: 227. Type locality: «ad Rocky Mountains» (original citation); cited from «Nebraska [Territory], near the mountains [probably in present day Colorado]» by LeConte (1854b: 52). One syntype in MCZ [# 5772]. NOTE. Prior to 1854, Nebraska included the area between the Missouri river and the Rockies from 40°N to the Canadian border.

*Platynus vagans* LeConte, 1854b: 52. Type locality: «New York» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5773]. Synonymy established by LeConte (1879b: 56), confirmed by Lindroth (1966: 620).



*Micragonum concretum* Casey, 1920: 83. Type locality: «Illinois» (original citation). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47503]. Synonymy established by Lindroth (1966: 620).

*Micragonum concretum amicum* Casey, 1920: 83. Type locality: «northern Illinois» (original citation). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47504]. Synonymy established by Lindroth (1966: 620).

**Distribution.** This species ranges from “New York” (LeConte 1854b: 52, as *P. vagans*) and New Jersey (Smith 1890: 85; Smith 1910: 208) to northeastern Colorado (LeConte 1854b: 52), south to northwestern South Carolina (Kirk 1970: 12; Ciegler 2000: 110). The record from “Florida” (Leng and Beutenmüller 1893: 140) is probably in error; that from “Wisconsin” (Bousquet and Laroche 1993: 258) needs confirmation.

**Records. USA:** CO, IA, IL, IN, KS, NE, NJ, NY, PA, SC [WI]

### *Agonum crenulatum* (LeConte, 1854)

*Platynus crenulatus* LeConte, 1854b: 53. Type locality: «Georgia; Louisiana» (original citation). Syntype(s) in MCZ [# 5775].

*Micragonum maritimum* Casey, 1920: 85. Type locality: «Galveston [Galveston County], Texas» (original citation). Lectotype (♀), designated by Liebherr (1991a: 117), in USNM [# 47496]. Synonymy established by Liebherr (1991a: 117).

*Micragonum semiviride* Casey, 1920: 85. Type locality: «Fruitdale [Washington County], Alabama» (original citation). Lectotype (♀), designated by Lindroth (1975: 128), in USNM [# 47498]. Synonymy established by Lindroth (1966: 619).

*Micragonum ovalipenne* Casey, 1920: 86. Type locality: «Southern Pines [Moore County], North Carolina» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47499]. Synonymy established by Lindroth (1966: 619).

*Micragonum pinorum* Casey, 1920: 86. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47500]. Synonymy established by Lindroth (1975: 129).

*Micragonum houstoni* Casey, 1920: 87. Type locality: «Galveston [Galveston County], Texas» (original citation). Holotype [by monotypy] (♂) in USNM [# 47497]. Synonymy established by Lindroth (1966: 619).

**Distribution.** This species ranges from central North Carolina (Casey 1920: 86, as *Micragonum ovalipenne* and *M. pinorum*) and South Carolina (Ciegler 2000: 111) west to southeastern Texas (Casey 1920: 85, 87, as *M. maritimum* and *M. houstoni*). The records from Missouri (Summers 1873: 134) and “Florida” (Bousquet and Laroche 1993: 258) need confirmation.

**Records. USA:** AL, GA, LA, MS, NC, SC, TN, TX [FL, MO]

***Agonum nutans* (Say, 1823)**

*Feronia nutans* Say, 1823a: 52. Type locality: «Phila[delphia] Neck, P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 347), in MCZ [# 33013].

*Agonum femoratum* Dejean, 1828: 145. Type locality: «Amérique septentrionale» (original citation). Two syntypes in MHNP (Lindroth 1955b: 20). Synonymy established by LeConte (1846b: 227), confirmed by Lindroth (1955b: 20).

**Distribution.** This eastern species is found from southern Quebec (Larochelle 1975: 38) to eastern South Dakota (Kirk and Balsbaugh 1975: 24), south to Oklahoma (French et al. 2001: 228; Latimer County, UASM) and the District of Columbia (Ulke 1902: 7). The records from central Arizona (Griffith 1900: 565), northern Colorado (Wickham 1902: 239; Armin 1963: 149), southeastern Texas (Snow 1906a: 141), “Mississippi,” “Alabama” (Bousquet and Larochelle 1993: 259), and “Florida” (LeConte 1879b: 56) are probably in error; those from “Maryland,” “Delaware” (Bousquet and Larochelle 1993: 259), and South Carolina (Kirk 1970: 12, as *Agonum* possibly *nutans*) need confirmation.

**Records.** CAN: ON, QC USA: AR, CT, DC, IA, IL, IN, KS, MA, ME, MI, MN, MO, NE, NH, NJ, NY, OH, OK, PA, RI, SD, VT, WI [DE, MD, SC]

***Agonum striatopunctatum* Dejean, 1828**

*Agonum striatopunctatum* Dejean, 1828: 167. Type locality: «Amérique septentrionale» (original citation), restricted to «Mobile [Mobile County], Alab[ama]» by Lindroth (1966: 618). One syntype in MHNP (Lindroth 1955b: 20).

*Agonum decipiens* LeConte, 1846b: 229. Type locality: «Georgia» (original citation). Syntype(s) in MCZ [# 5774]. Synonymy established by LeConte (1854b: 53), confirmed by Lindroth (1966: 618).

*Micragonum breviceps* Casey, 1920: 87. Type locality: «Vicksburg [Warren County], Mississippi» (original citation). Lectotype (♂), designated by Lindroth (1975: 128), in USNM [# 47502]. Synonymy established by Lindroth (1966: 618).

*Micragonum luculentum* Casey, 1920: 88. Type locality: «Indiana» (original citation). Lectotype (♀), designated by Lindroth (1975: 128), in USNM [# 47501]. Synonymy established by Lindroth (1966: 618).

**Distribution.** This species ranges from New Jersey (Essex County, CMNH) to east-central Iowa (Muscatine County, Doug A. Veal pers. comm. 2010), including southernmost Ontario (Lindroth 1966: 619), south to southeastern Texas (Casey 1920: 88) and northern Florida (Peck and Thomas 1998: 23). The record from “Wisconsin” (Bousquet and Larochelle 1993: 259) needs confirmation.

**Records.** CAN: ON USA: AL, AR, DC, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MO, MS, NC, NJ, OH, OK, PA, SC, TN, TX, VA [WI]

[**octopunctatum group**]***Agonum octopunctatum* (Fabricius, 1798)**

*Carabus 8punctatus* Fabricius, 1798: 55. Type locality: «America boreali» (original citation), restricted to «Milton [Strafford County], N[ew] H[ampshire]» by Lindroth (1966: 593). Lectotype (♂), designated by Lindroth (1966: 593), in ZMUC.

**Distribution.** This species ranges from Nova Scotia (Lindroth 1966: 594) to southeastern Manitoba (UASM), south to eastern Texas (Orange and Sabine Counties, CNC; Dajoz 2007: 23) and central Florida (Peck and Thomas 1998: 23).

**Records.** CAN: MB, NB, NS, ON, PE, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WI, WV

[**pallipes group**]***Agonum crenistriatum* (LeConte, 1863)**

*Platynus crenistriatus* LeConte, 1863c: 9. Type locality: «Illinois» (original citation). One syntype in MCZ [# 5781].

*Circinalia politissima* Casey, 1920: 76. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47513]. Synonymy established by Lindroth (1966: 621).

*Circinalia politissima statenensis* Casey, 1920: 77. Type locality: «Staten Island, New York» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47514]. Synonymy established by Lindroth (1966: 621).

*Circinalia liticola* Casey, 1920: 77. Type locality: «Iowa City [Johnson County], Iowa» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47512]. Synonymy established by Lindroth (1966: 621).

*Circinalia roticollis* Casey, 1920: 78. Type locality: «New Jersey» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47515]. Synonymy established by Lindroth (1966: 621).

**Distribution.** The range of this species extends from Cape Breton Island (Bousquet 1987a: 125) to southeastern South Dakota (Kirk and Balsbaugh 1975: 25), south to southeastern Nebraska (Hall County, Foster F. Purrington pers. comm. 2009), east-central Missouri (Saint Louis, CNC), and northwestern South Carolina (Kirk 1970: 12; Ciegler 2000: 111). The records from southern Louisiana (Summers 1874a: 80), «Kansas», and «Arkansas» (Bousquet and Laroche 1993: 259) need confirmation.

**Records.** CAN: NB, NS (CBI), ON, PE, QC USA: CT, DC, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, NE, NH, NJ, NY, OH, PA, RI, SC, SD, VA, VT, WI, WV [AR, KS, LA]

***Agonum pallipes* (Fabricius, 1787)**

*Carabus pallipes* Fabricius, 1787: 202. Type locality: «America» (original citation), restricted to «Hope [Hempstead County], Arkans[as]» by Lindroth (1966: 620). Lectotype [as type], designated by Staig (1931: 33), in HMUG.

*Feronia limbata* Say, 1823a: 49. Type locality: «Camden [Kershaw County], S[outh] C[arolina]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33010]. Synonymy established by Fall (1933: 103).

*Agonum palliatum* Dejean, 1828: 174. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 21). Synonymy established, under the name of *A. limbatum* (Say), by Say (1830b: (5) [3]), confirmed by Lindroth (1955b: 21).

*Olisares flavolimbatus* Motschulsky, 1865: 327. Type locality: «environs de Mobile [Mobile County, Alabama]» (original citation). Lectotype (♂), designated by Liebherr (1991a: 120), in ZMMU. Synonymy established by Liebherr (1991a: 120).

**Distribution.** This species ranges from “Maryland” (CMNH) to north-central Oklahoma (Kay County, CNC), south at least to central Texas (Travis and Blanco Counties, CMNH; Casey 1920: 73), eastern Louisiana (Washington Parish, LSAM), and the Florida Panhandle (Peck and Thomas 1998: 23). The record from “Kansas” (Bousquet and Laroche 1993: 259) needs confirmation.

**Records. USA:** AL, AR, DC, FL, GA, IL, IN, KY, LA, MD, MO, MS, NC, OK, SC, TN, TX, VA [KS]

***Agonum punctiforme* (Say, 1823)**

*Feronia punctiformis* Say, 1823a: 58. Type locality: «Phila[delphia] Neck, P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 348), in MCZ [# 33009].

*Agonum orbicollis* Say, 1830b: (4) [3]. Type locality: «35 km NE Zimapan, Hidalgo, Mexico» (neotype label). Neotype (♀), designated by Liebherr (1994: 17), in MCZ [# 35412]. Synonymy established by Bates (1882a: 95). NOTE. «Mexico» was the area originally cited by Say (1830b: (4) [3]).

*Agonum foveicolle* Chaudoir, 1843b: 764. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♀), designated by Lindroth (1966: 622), in MHNP. Synonymy established by LeConte (1854b: 50), confirmed by Lindroth (1966: 622).

*Olisares picipes* Motschulsky, 1865: 326. Type locality: «Caraccas [Venezuela]» (original citation), which is likely incorrect. Lectotype (♂), designated by Liebherr (1991a: 120), in ZMMU. Synonymy established by Liebherr (1991a: 120).

*Circinalia ludoviciana* Casey, 1920: 76. Type locality: «Alexandria [Rapides Parish], Louisiana» (original citation). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47511]. Synonymy established by Lindroth (1966: 622).

**Distribution.** This species ranges from southeastern New Hampshire (Rockingham County, Ross T. Bell pers. comm. 2008) to southeastern Colorado (Michels et al. 2008), including southern Ontario (CNC), south to southern Mexico (Liebherr 1994: 20) and southern Florida (Peck and Thomas 1998: 23), west along the southwest to southern California (Liebherr 1994: 19-20); also recorded from the Bahamas and Bermuda where it is probably adventive (Hilburn and Gordon 1989: 677; Liebherr 1994: 19). The record from Quebec (Lindroth 1966: 622) refers to *A. rufipes* (Lindroth 1969a: 1120); that from northern Wisconsin along Lake Superior (Wickham 1896c: 134) is probably in error.

**Records.** CAN: ON USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WV – Bahamas, Bermuda, Mexico

### *Agonum rigidulum* (Casey, 1920)

*Circinalia rigidula* Casey, 1920: 75. Type locality: «Southern Pines [Moore County], North Carolina» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 129), in USNM [# 47507].

*Circinalia rigidula semipunctata* Casey, 1920: 75. Type locality: «Norfolk, Virginia» (original citation). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47508]. Synonymy established by Lindroth (1966: 621).

*Circinalia rigidula putata* Casey, 1920: 75. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47510]. Synonymy established by Lindroth (1966: 621).

*Circinalia ventricula* Casey, 1920: 75. Type locality: «Mobile [Mobile County], Alabama» (original citation). Lectotype (♀), designated by Lindroth (1975: 129), in USNM [# 47509]. Synonymy established by Lindroth (1966: 621).

**Distribution.** This species ranges from New Jersey (Ocean County, CMNH) south to northwestern Louisiana (Bossier Parish, LSAM), southwestern Mississippi (Hancock and Hinds Counties, CMNH), southwestern Alabama (Casey 1920: 75, as *Circinalia ventricula*), and southwestern Georgia (Fattig 1949: 33, as *Platynus ventricula*).

**Records.** USA: AL, GA, LA, MD, MS, NC, NJ, TN, VA

### *Agonum rufipes* Dejean, 1828

*Agonum rufipes* Dejean, 1828: 173. Type locality: «Amérique septentrionale» (original citation), restricted to «Galesburg [Knox County], Illin[ois]» by Lindroth (1966: 621). Two syntypes in MHNP (Lindroth 1955b: 21).

*Platynus rubripes* Zimmermann [in LeConte], 1869b: 244. Type locality: «M[arylan]d» (syntype label). One syntype in MCZ [# 5782]. Synonymy established by Lindroth (1966: 621).



**Distribution.** The range of this eastern species extends from southeastern New Hampshire (Rockingham County, Donald S. Chandler pers. comm. 2009) to eastern South Dakota (Kirk and Balsbaugh 1975: 25), including southern Ontario (Lindroth 1969a: 1120), south to southeastern Texas (Casey 1920: 74) and southeastern Georgia (Fattig 1949: 32, as *Platynus rubripes*); also recorded from southern Arizona (Casey 1920: 74). The record from Connecticut (Britton 1920: 215, as *Platynus rubripes*) needs confirmation (see Krinsky and Oliver 2001: 4); that from Quebec (Lindroth 1966: 622, as *A. punctiforme*) based on specimens collected by Beaulne are very likely mislabeled.

**Records.** CAN: ON USA: AL, AR, AZ, CA, DC, GA, IL, IN, KS, KY, MD, MI, MO, NC, NE, NH, NJ, NY, OH, OK, PA, SD, TN, TX, VA, WI, WV [CT]

#### [quadrinaculatus group]

#### *Agonum quadrinaculatus* (Horn, 1885)

*Platynus quadrinaculatus* G.H. Horn, 1885a: 130. Type locality: «near Owensburgh [probably Owensboro, Davies County], K[entuck]y (banks of the Ohio, near Louisville)» (original citation). Holotype [by monotypy] (♀) in MCZ [# 34454].

**Distribution.** This species is known from scattered localities from southwestern Indiana (Blatchley 1910: 123) south to southwestern Georgia (Fattig 1949: 34), southwestern Alabama (Casey 1920: 71; Mobile County, MCZ), southeastern Mississippi (George County, MCZ), north-central Louisiana (Winn Parish, MCZ), and northeastern Texas (Wood County, UASM). The record from Alberta (see Lindroth 1966: 631) must be in error after all; those from northwestern New York (Notman 1928: 235) and “Michigan” (Bousquet and Laroche 1993: 261) need confirmation.

**Records.** USA: AL, AR, GA, IN, KY, LA, MO, MS, TN, TX [MI, NY]

#### Genus *PLATYNUS* Bonelli, 1810

*Platynus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus angusticollis* Fabricius, 1801 (= *Carabus assimilis* Paykull, 1790) by subsequent monotypy in Germar (1817: 303). Etymology. From the Greek *platyno* (to broaden, widen), possibly alluding to the large abdomen (“*abd[omen] latissimum*”) of the adults in the hands of Bonelli [masculine].

**Diversity.** The number of species of *Platynus* is difficult to assess. Lorenz (2005: 429–434) assigned about 550 species to the genus arrayed in 14 subgenera, with about 95 species left unplaced. However, Liebherr (1998: 997) restricted the concept of *Colpodes* Macleay to three species from Java and suggested assigning the remaining species to “a broader *Platynus*.” Lorenz (2005: 416–418) listed about 270 species in *Colpodes* and if Liebherr’s advice is followed, this brings the total number of *Platynus* species to about 820. The Northern Hemisphere has about 155 species (19% of the world fauna) of the *Platynus*–“*Colpodes*-like” complex and 23 of them, placed in five subgenera, occur in North America.

**Identification.** Liebherr and Will (1996: 303-307) published a key for the identification of all species found in North America. Bousquet (2012: 77-78) described a new species and issued a key for the species found east of the Mississippi River.

### **Subgenus *Microplatynus* Barr, 1982**

*Microplatynus* Barr, 1982b: 98. Type species: *Platynus pecki* Barr, 1982 by original designation. Etymology. From the Greek *micros* (small, little) and the generic name *Platynus* [*q.v.*], alluding to the comparatively small size of adults of these *Platynus* species [masculine].

**Diversity.** Two species in southwestern North America.

### ***Platynus agilis* LeConte, 1863**

*Platynus fragilis* LeConte, 1854b: 41 [secondary homonym of *Platynus fragilis* (Mannheim, 1853)]. Type locality: «in the mountains near Santa Isabel [San Bernardino County], in the southern part of California» (original citation). Three syntypes in MCZ [# 5739].

*Platynus agilis* LeConte, 1863b: 6. Replacement name for *Platynus fragilis* LeConte, 1854.

**Distribution.** This species is restricted to southern California from the Santa Ynez Mountains to San Diego County (Liebherr and Will 1996: 318).

**Records. USA:** CA

### ***Platynus pecki* Barr, 1982**

*Platynus pecki* Barr, 1982b: 98. Type locality: «Monjeau Lookout northwest of Ruidoso (9,100 feet), Lincoln County, New Mexico» (original citation). Holotype (♂) location unknown (not in CNC).

**Distribution.** This species is known only from the Sierra Blanca (Barr 1982b: 98), Capitan, and Sacramento Mountains (Liebherr and Will 1996: 318) in New Mexico.

**Records. USA:** NM

### **Subgenus *Platynus* Bonelli, 1810**

*Platynus* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus angusticollis* Fabricius, 1801 (= *Carabus assimilis* Paykull, 1790) by subsequent monotypy in Germar (1817: 303).

*Lyrophorus* Chaudoir [in Chevrolat], 1846: 522. Type species: *Carabus angusticollis* Fabricius, 1801 (= *Carabus assimilis* Paykull, 1790) by monotypy. Etymology (original). From the Greek *lyra* (lyre) and *phoro* (to bear, carry) [masculine]. NOTE. This name is usually credited to Seidlitz (1872: 15 [Arten]) but it was made available by Chaudoir many years earlier.

*Limodromus* Motschulsky, 1850a: 70. Type species: *Carabus angusticollis* Fabricius, 1801 (= *Carabus assimilis* Paykull, 1790) designated by Motschulsky (1865: 316). Etymology. Probably from the Greek prefix *limo-* (meadow) and *dromos* (running) [masculine].

**Diversity.** Sixteen species in the Nearctic (nine species, of which one extends into Mexico) and Palaearctic (seven species) Regions.

### ***Platynus brunneomarginatus* (Mannerheim, 1843)**

*Anchomenus brunneomarginatus* Mannerheim, 1843 [after 28 March]: 196. Type locality: «California» (original citation), herein restricted to San Diego, San Diego County (see LeConte 1854b: 43, as *P. bicolor*). Syntype(s) location unknown.

*Anchomenus rugiceps* Mannerheim, 1843 [after 28 March]: 196 [*nomen dubium*]. Type locality: «California» (original citation). Syntype(s) location unknown (Lindroth 1966: 637). Synonymy established with doubt by LeConte (1863b: 6).

*Anchomenus marginatus* Ménétriés, 1843 [29 July]: 56 [secondary homonym of *Platynus marginatus* (Linnaeus, 1758)]. Type locality: «Californie» (original citation). Syntype(s) location unknown (Lindroth 1966: 637). Synonymy established by LeConte (1879b: 55).

*Anchomenus ovipennis* Motschulsky, 1845b: 339 [primary homonym of *Anchomenus ovipennis* Mannerheim, 1843]. Type locality: «Californie» (original citation). Syntype(s) location unknown (possibly in ZMMU). Synonymy established, under the name *P. rugiceps* (Mannerheim), by Motschulsky (1850a: 70).

*Platynus bicolor* LeConte, 1854b: 43 [secondary homonym of *Platynus bicolor* (Dejean, 1828)]. Type locality: «San Diego [San Diego County], California» (original citation). Syntype(s) in MCZ [# 5746]. Synonymy established by LeConte (1879b: 55).

*Platynus cinctellus* LeConte, 1854b: 43. Type locality: «San Francisco [San Francisco County], California» (original citation). Syntype(s) in MCZ [# 5745]. Synonymy established by LeConte (1863b: 6), confirmed by Lindroth (1966: 637).

*Platynus bicoloratus* Gemminger and Harold, 1868a: 368. Replacement name for *Platynus bicolor* LeConte, 1854.

*Platynus tenebricosus* Gemminger and Harold, 1868a: 377. Replacement name for *Platynus marginatus* (Ménétriés, 1843).

**Distribution.** This species ranges from southern British Columbia, including Vancouver Island (Lindroth 1966: 639), south to the northern parts of the Baja California Peninsula (Horn 1894: 309), east to western New Mexico (Liebherr and Will 1996: 316) and northern Sonora (Bates 1884: 280).

**Records.** CAN: BC (VCI) USA: AZ, CA (CHI), ID, NM, NV, OR, UT, WA – Mexico

### ***Platynus daviesi* Bousquet, 2012**

*Platynus daviesi* Bousquet, 2012: 70. Type locality: «Powell Gap (2300'), Shenandoah N[ational] P[ark], Virg[inia]» (original citation). Holotype (♂) in CNC [# 23464].

**Distribution.** This species occurs along the Appalachian Mountains from Connecticut to southern Pennsylvania, south to northwestern Alabama [see Bousquet 2012: Fig. 4]

**Records. USA:** AL, CT, KY, MD, NC, NY, PA, TN, VA, WV

***Platynus decentis* (Say, 1823)**

*Feronia decentis* Say, 1823a: 53. Type locality: «Marion [Plymouth County], Mass[achusetts]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 346), in MCZ [# 33020]. NOTE. The specific name derives from the Latin adjective *decens*, *-entis* (decent, proper). All authors seen, starting with LeConte (1850: 205), have used the spelling *decens* (nominative singular) until Lindroth (1966: 636) returned to the spelling *decentis* (genitive singular). Although the ICZN (1999: Article 11.9.1.1) mandates that a Latin adjective is to be proposed in the nominative singular, it could be argued in this case that the adjective is used in a nominal form and so can be formulated in the genitive case (Miguel A. Alonso-Zarazaga pers. comm. 2012).

*Anchomenus gagates* Dejean, 1828: 107. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 19). Synonymy established by Dejean (1828: 107), confirmed by Lindroth (1955b: 19).

*Anchomenus sinuatus* Dejean, 1828: 108. Type locality: «Amérique septentrionale» (original citation), restricted to «Bethel [Oxford County], Maine» by Lindroth (1966: 636). One syntype in MHNP (Lindroth 1955b: 19). Synonymy established by Lindroth (1955b: 118).

*Anchomenus depressus* Haldeman, 1843b: 299. Type locality: southeastern Pennsylvania (Haldeman 1843a: 296). Syntype(s) presumably lost. Synonymy established, under the name *P. sinuatus* (Dejean), by LeConte (1879b: 54).

*Anchomenus coracinus* LeConte, 1846b: 220. Type locality: «NovEboraci [= New York]» (original citation). Syntype(s) in MCZ [# 5741]. Synonymy established by LeConte (1854b: 44), confirmed by Lindroth (1966: 636). NOTE. The specimen in the LeConte collection with the type label is also labeled «S.C.» and is probably not a syntype. Two other specimens in LeConte's collection have pink labels (e.g., middle states, which included New York) and are probably syntypes.

*Anchomenus oblongipennis* Casey, 1920: 31. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47402]. Synonymy established by Lindroth (1966: 636).

*Anchomenus turbidus* Casey, 1920: 32. Type locality: «Bayfield [Bayfield County, Wisconsin], Lake Superior» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [47403]. Synonymy established by Lindroth (1966: 636).

*Anchomenus iowanus* Casey, 1920: 32. Type locality: «Iowa City [Johnson County], Iowa» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47401]. Synonymy established by Lindroth (1966: 636).



*Anchomenus aleneanus* Casey, 1920: 36. Type locality: «Coeur d’Alene [Kootenai County], Idaho» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47407]. Synonymy established by Hatch (1953: 135), confirmed by Lindroth (1966: 636).

*Anchomenus pacatus* Casey, 1920: 43. Type locality: «Peaceful Valley [Boulder County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47416]. Synonymy established by Lindroth (1966: 636).

*Anchomenus missourianus* Casey, 1924: 81. Type locality: «Westminster [= probably Westminster College in Fulton, Callaway County], Missouri» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47399]. Synonymy established by Lindroth (1966: 636).

*Anchomenus albertanus* Casey, 1924: 81. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47400]. Synonymy established by Lindroth (1966: 636).

**Distribution.** This species ranges from Newfoundland (Lindroth 1955a: 118, as *Agonum sinuatum*) to south-central British Columbia (Lindroth 1966: 637), north to the coast of southern Alaska (Lindroth 1969a: 1120), south to western Oregon (Hatch 1953: 135), the Sangre de Cristo Mountains in New Mexico (Fall and Cockerell 1907: 159; Lindroth 1955a: 118), northeastern Kansas (Knaus 1901: 110; Ottawa County, CNC), east-central Alabama (Lee County, CNC), and southern Georgia (Torres and Ruberson 2006: 32). The records from “Louisiana” and “Texas” (Bousquet and Laroche 1993: 262) need confirmation.

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK **USA:** AK, AL, AR, CO, CT, DC, DE, GA, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OR, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY [LA, TX]

### *Platynus indecentis* Liebherr and Will, 1996

*Platynus indecentis* Liebherr and Will, 1996: 307. Type locality: «McLean Bog, Tompkins Co[unty], New York» (original citation). Holotype (♂) in CUIC [# 6964]. NOTE. The remark made in the “Note” section for *Feronia decentis* (see previous species) also applies in this case.

**Distribution.** This species ranges from Nova Scotia (Majka et al. 2007: 11) to eastern Ohio, south to West Virginia and Maryland [see Liebherr and Will 1996: Fig. 18].

**Records.** **CAN:** NB, NS, ON, QC **USA:** CT, MD, ME, NH, NY, OH, PA, RI, VT, WV

### *Platynus opaculus* LeConte, 1863

*Platynus opaculus* LeConte, 1863c: 8. Type locality: «Ohio» (original citation). Syntype(s) in MCZ [# 5742]. NOTE. The specimen labeled “Type 5742” and “Lectotype” (by Liebherr, 1996; apparently not published) has a pink label and is



probably not a syntype. The second specimen in LeConte's collection has a yellow disc and is probably a syntype.

*Anchomenus inquisitor* Casey, 1920: 30. Type locality: «Marquette [Marquette County], Michigan» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47904]. Synonymy established by Lindroth (1966: 641).

*Anchomenus boopis* Casey, 1920: 37. Type locality: «S[outh] Meriden [New Haven County], Connecticut» (original citation). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [# 47411]. Synonymy established by Lindroth (1966: 641).

**Distribution.** This species ranges from southwestern New Brunswick (Webster and Bousquet 2008: 22) to northeastern Iowa (Allamakee County, Doug A. Veal pers. comm. 2009), including the upper peninsula of Michigan (Casey 1920: 30, as *Anchomenus inquisitor*), south to west-central Illinois (Fulton County, Ken Karns pers. comm. 2009), southwestern Indiana (Blatchley 1910: 125), and west-central South Carolina (Ciegler 2000: 115).

**Records.** CAN: NB, ON, QC USA: CT, IA, IL, IN, MA, MI, NH, NJ, NY, OH, PA, RI, SC, VT, WI

### *Platynus ovipennis* (Mannerheim, 1843)

*Anchomenus ovipennis* Mannerheim, 1843: 196. Type locality: «California» (original citation), herein restricted to Redwood Creek, Humboldt County (see Casey 1920: 33, as *Anchomenus rugulifer*). Syntype(s) location unknown.

*Anchomenus maurus* Motschulsky, 1845b: 339. Type locality: «Californie» (original citation). Holotype [by monotypy] location unknown (possibly in ZMMU in collection Eschscholtz). Synonymy established by Hatch (1953: 136).

*Anchomenus rotundipennis* Motschulsky, 1845b: 340. Unnecessary replacement name for *Anchomenus ovipennis* Mannerheim, 1843.

*Anchomenus rugulifer* Casey, 1920: 33. Type locality: «Redwood Creek, Humboldt C[ounty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 47406]. Synonymy established by Liebherr (1991a: 118).

*Anchomenus tersus* Casey, 1920: 35. Type locality: «Redwood Creek, Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Liebherr (1991a: 118), in USNM [# 47409]. Synonymy established by Liebherr (1991a: 118).

*Anchomenus arachnoides* Casey, 1920: 35. Type locality: «Clackamas Co[unty], Oregon» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [# 47410]. Synonymy established by Hatch (1953: 136), confirmed by Lindroth (1966: 644).

*Anchomenus similatus* Casey, 1920: 35. Type locality: «Hydesville, Eel River Valley, Humboldt Co[unty], California» (original citation). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [# 47405]. Synonymy established by Lindroth (1966: 644).

**Distribution.** This species is found along the west coast from Vancouver Island (Lindroth 1966: 645) to at least west-central California (Marin County, CNC). The record from northern Colorado (Wickham 1902: 238; Armin 1963: 153) is in error.

**Records.** CAN: BC (VCI) USA: CA, OR, WA

***Platynus parmarginatus* Hamilton, 1893**

*Platynus parmarginatus* Hamilton, 1893: 305. Type locality: near Allegheny [Pennsylvania] (inferred from title of the paper). Lectotype (♂), designated by Lindroth (1966: 641), in CMNH.

**Distribution.** This species ranges from southwestern Pennsylvania southwestwards to eastern Oklahoma [see Bousquet 2012: Fig. 4].

**Records.** USA: AR, IL, IN, MO, OK, PA

***Platynus tenuicollis* (LeConte, 1846)**

*Anchomenus tenuicollis* LeConte, 1846b: 222. Type locality: «ad cataractam Sanctae Mariae (Sault de S[ain]te Marie) [= Sault Sainte Marie, Ontario]» (original citation). One syntype in MCZ [# 5743].

*Anchomenus marginatus* LeConte, 1846b: 221 [primary homonym of *Anchomenus marginatus* Ménétriés, 1843]. Type locality: «NovEboraci [= New York]» (original citation). One syntype in MCZ [# 5744]. Synonymy established by Lindroth (1966: 641).

*Limodromus acuticollis* Motschulsky, 1865: 319. Type locality: «états méridionaux de l'Amérique du Nord» (original citation), restricted to «Washington, D.C.» by Liebherr (1991a: 119). Lectotype (♂), designated by Liebherr (1991a: 119), in ZMMU. Synonymy established by Liebherr (1991a: 119).

*Colpodes approximatus* Chaudoir, 1879: 370. Type locality: «du nord du Mexique» (original citation), restricted to «Jefferson County, Colorado» by Whitehead (1973: 212). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Whitehead (1973: 212). NOTE. The type locality given by Chaudoir (1879: 371) indicates that the holotype was collected in northern Mexico. As far as known, *P. tenuicollis* has not been found in Mexico.

*Platynus reflexus* LeConte, 1879b: 55. Replacement name for *Platynus marginatus* (LeConte, 1846).

*Anchomenus pennsylvanicus* Casey, 1920: 40. Type locality: «Pennsylvania» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47414]. Synonymy established by Lindroth (1966: 641).

*Anchomenus distinguendus* Casey, 1920: 40. Type locality: «Ridgeway, Ontario» (original citation). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [# 47413]. Synonymy established by Lindroth (1966: 641).

**Distribution.** The range of this species extends from Cape Breton Island (Lindroth 1966: 643) to the Black Hills in southwestern South Dakota (Kirk and Balsbaugh 1975: 24), south to northern Colorado (Armin 1963: 154; UASM), northwestern Tex-

as (Wheeler County, CMNH), northeastern Oklahoma (Delaware County, CMNH), and southern South Carolina (Ciegler 2000: 115). The record from “Florida” (Bousquet and Laroche 1993: 262) needs confirmation.

**Records.** **CAN:** NB, NS (CBI), ON, PE, QC **USA:** AL, AR, CO, CT, DC, GA, IA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [FL]

### *Platynus trifoelatus* Beutenmüller, 1903

*Platynus trifoelatus* Beutenmüller, 1903: 516. Type locality: «Pigeon River, Retreat [Haywood County], western North Carolina» (original citation). Syntype(s) [6 originally cited] in USNM, AMNH [# 4], ANSP, and MCZ (collection Horn).

**Distribution.** This species is known from high mountains along the Tennessee - North Carolina border (Barr 1969: 81); it was also reported from northeastern Georgia (Fattig 1949: 33).

**Records.** **USA:** GA, NC, TN

### Subgenus *Batenus* Motschulsky, 1865

*Batenus* Motschulsky, 1865: 317. Type species: *Harpalus livens* Gyllenhal, 1810 by original designation. Etymology. Uncertain, possibly from the Greek *bates* (walker) and the Latin suffix *-enus* (pertaining to) [masculine].

*Platynidius* Casey, 1920: 4. Type species: *Feronia hypolithos* Say, 1823 by original designation. Synonymy established by Liebherr (1990: 434).

*Paranchomenus* Casey, 1920: 30. Type species: *Platynus stygicus* LeConte, 1854 (= *Anchomenus mannerheimii* Dejean, 1828) designated by Bousquet and Laroche (1993: 262). Synonymy established by Bousquet and Laroche (1993: 262). Etymology. From the Greek *para* (near, beside) and the generic name *Anchomenus* [*q.v.*] [masculine].

*Pseudoplatynus* Habu, 1973b: 11. Type species: *Anchomenus magnus* Bates, 1873 by original designation. Synonymy established by Kryzhanovskij et al. (1995: 117). Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Platynus* [*q.v.*] [masculine].

*Platynomenus* Ádám, 1996: 12. Type species: *Carabus scrobiculatus* Fabricius, 1801 by original designation. Synonymy established by Lorenz (1998: 406). Etymology. From the generic name *Platynus* [*q.v.*] and the Greek *menos* (force, strength) [masculine].

**Diversity.** Forty-four species are recorded by Lorenz (2005: 429-430), five in the Nearctic Region, with one of them Holarctic, and 40 in the Palearctic Region. A number of Palearctic species considered as *incertae sedis* by Lorenz (2005: 433-434) have been listed in this subgenus by Bousquet (2003c: 462-464).

***Platynus angustatus* Dejean, 1828**

*Platynus angustatus* Dejean, 1828: 98. Type locality: «Amérique septentrionale» (original citation), restricted to «Little Switzerland [Mitchell County], Blacks M[oun]t[ain]s (3400 ft), N[orth] Carol[ina]» by Lindroth (1966: 646). One syntype in MHNP (Lindroth 1955b: 18).

*Platynus gracilentus* Beutenmüller, 1903: 517. Type locality: «summit of the Black Mountains (5000-6717 feet), N[orth] C[arolina]» (original citation). Sixteen syntypes in AMNH [# 2] (Grossbeck 1912: 361), one in ANSP. Synonymy established by Lindroth (1955b: 18).

*Platynidius enormis* Casey, 1920: 8. Type locality: «Black M[oun]t[ain]s, North Carolina» (original citation). Holotype [by monotypy] (♀) in USNM [# 47385]. Synonymy established by Lindroth (1966: 646).

*Platynidius aesopus* Casey, 1920: 9. Type locality: «Adirondack M[oun]t[ain]s, New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47386]. Synonymy established by Lindroth (1966: 646).

*Platynidius rhombiceps* Casey, 1920: 9. Type locality: «New Jersey» (original citation). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [# 47389]. Synonymy established by Lindroth (1966: 646).

*Platynidius cervicalis* Casey, 1920: 10. Type locality: «Pennsylvania» (original citation). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [# 47388]. Synonymy established by Lindroth (1966: 646).

*Platynidius carolinensis* Casey, 1920: 10. Type locality: «Black M[oun]t[ain]s, North Carolina» (original citation). Lectotype (♀), designated by Lindroth (1975: 130), in USNM [# 47387]. Synonymy established by Lindroth (1966: 646).

**Distribution.** This species is found from the Adirondack Mountains in New York (Casey 1920: 9 as *Platynidius aesopus*; Liebherr and Song 2002: 135) to at least south-central Ohio (Will and Androw 1993), south to southwestern Alabama (Löding 1945: 19) and southeastern South Carolina (Ciegler 2000: 114). The records from “Indiana” (Schrock 1985: 353), “Illinois” (Thomas 1861: 635), and Mount Washington in New Hampshire (Bowditch 1896: 2) need confirmation.

**Records. USA:** AL, GA, KY, MD, NC, NJ, NY, OH, PA, SC, TN, VA, WV [IL, IN, NH]

***Platynus cincticollis* (Say, 1823)**

*Feronia cincticollis* Say, 1823a: 52. Type locality: «Phila[delphia] [Philadelphia County], P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 343), in MCZ [# 33019].

*Feronia maculifrons* Say, 1823b: 146 [*nomen dubium*]. Type locality: «Arkansa Territory» (original citation). Syntype(s) lost. Synonymy established with doubt by LeConte (1854b: 43).

*Platynus blandus* Germar, 1824: 12 [*nomen dubium*]. Type locality: «America septentrionali» (original citation). Syntype(s) probably lost (Lindroth 1966: 640). Synonymy established by Say (1830b: (4) [3]).

*Anchomenus corvinus* Dejean, 1828: 109. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 19). Synonymy established by Say (1830b: (4) [3]), confirmed by Lindroth (1955b: 19).

*Anchomenus deplanatus* Chaudoir, 1843b: 763. Type locality: «Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) in MHNP. Synonymy established by LeConte (1854b: 43).

*Anchomenus marginalis* Haldeman, 1843b: 299. Type locality: southeastern Pennsylvania (Haldeman 1843a: 296). One possible syntype, a ♀ labeled “[pink disc] / marginalis praec. var. Hd. [handwritten] / cincticollis 4 [handwritten],” in MCZ (collection LeConte). Synonymy established, under the name *P. deplanatus* (Chaudoir), by LeConte (1846b: 221).

**Distribution.** This species ranges from Sable Island (CNC) off the Nova Scotia coast to southeastern Minnesota (Gandhi et al. 2005: 932), south to southern Texas (Casey 1920: 40, as *P. cincticollis deplanatus*; Dajoz 2007: 23) and southern Florida (Peck and Thomas 1998: 23); also recorded from Bermuda (Hilburn and Gordon 1989: 677).

**Records.** CAN: NS, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KY, LA, MA, MD, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WI, WV – Bermuda

### *Platynus hypolithos* (Say, 1823)

*Feronia hypolithos* Say, 1823a: 59. Type locality: «Cleveland [Cuyahoga County], O[hio]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 346), in MCZ [# 33021].

*Platynus erythropus* Dejean, 1828: 97. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 18). Synonymy established by LeConte (1854b: 41), confirmed by Lindroth (1955b: 18).

*Platynidius ontariensis* Casey, 1920: 8. Type locality: «Ontario» (original citation). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [# 47384]. Synonymy established by Lindroth (1966: 645).

**Distribution.** This species is found from Vermont (Rutland County, CNC) to the lower peninsula of Michigan (Hubbard and Schwarz 1878: 644), including southern Ontario (Lindroth 1966: 646), south to east-central Kentucky (Powell County, CNC). The record from “Iowa” (Bousquet and Laroche 1993: 263) needs confirmation; that from “Virginia” (Bousquet and Laroche 1993: 263) is probably in error (Richard L. Hoffman pers. comm. 2009).

**Records.** CAN: ON USA: IN, KY, MA, MD, MI, NY, OH, PA, VT, WV [IA]

**Note.** Morvan (2000: 76) treated this taxon as a subspecies of *P. angustatus* Dejean.



***Platynus mannerheimii* (Dejean, 1828)**

*Anchomenus mannerheimii* Dejean, 1828: 104. Type locality: «Finlande» (original citation). Syntype(s) probably in MHNP.

*Anchomenus morio* Gebler, 1847: 325. Type locality: «Flusse Ters [= Ters River in the Kuznetsky Alatau Mountain Range, eastern border of Kemerovo Oblast in southwestern Siberia]» (original citation). Syntype(s) [2 originally cited] probably in ZILR. Synonymy established by Chaudoir (1850b: 102).

*Anchomenus melas* Gebler, 1848: 68. Unnecessary replacement name for *Anchomenus morio* Gebler, 1847.

*Platynus stygicus* LeConte, 1854b: 42. Type locality: «Sault S[ain]te Marie [Ontario]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5740]. Synonymy established by Lindroth (1966: 634).

*Anchomenus octofoveolatus* Mäklin, 1855: 34. Type locality: «Kadjak [Alaska]» (original citation). Lectotype, designated by Silfverberg (1987: 21), in ZMH. Synonymy established, under the name *P. mannerheimii stygicus* LeConte, by Lindroth (1954b: 138).

*Limodromus interstitialis* Motschulsky, 1865: 318. Type locality: «Kadiak [Alaska]» (original citation). Three syntypes in ZMMU (Keleinikova 1976: 201). Synonymy established by Lindroth (1966: 634).

**Distribution.** This Holarctic species ranges from Newfoundland (Lindroth 1955a: 119) to central British Columbia and Alaska (Lindroth 1966: 636), south to north-eastern Minnesota (Casey 1920: 36, as *P. stygicus*), central Wisconsin (Messer 2010: 43), and northern West Virginia (Preston County, CMNH). In the Palaearctic Region, the species is found from the Far East to Finland (Bousquet 2003c: 463).

**Records.** **FRA:** PM **CAN:** AB, BC, LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, CT, ME, MI, MN, NH, NY, VT, WI, WV – **Holarctic**

***Platynus prognathus* Van Dyke, 1926**

*Platynus prognathus* Van Dyke, 1926a: 119. Type locality: «S[ain]t Simon[s] Island, Georgia» (original citation). Holotype (♀) in CAS [# 1861]. NOTE. Van Dyke (1926a: 119) recorded the type locality as «St. Simon Island, Okefinokee Swamp, Georgia». I have not been able to locate such island in the Okefinokee Swamp in Georgia.

**Distribution.** This characteristic species is known for sure only from the holotype. However, Fattig (1949) recorded it also from Dalton, Georgia but the specimen(s) was apparently destroyed (Liebherr 1990: 432).

**Records.** **USA:** GA

**Subgenus *Glyptolenopsis* Perrault, 1991**

*Glyptolenopsis* Perrault, 1991b: 48. Type species: *Glyptolenopsis degallieri* Perrault, 1991 by original designation. Etymology. From the generic name *Glyptolenus* and the

Greek suffix *-opsis* (likeness), alluding to the resemblance of adults of this group to those of *Glyptolenus* [feminine].

**Diversity.** Thirty-six species in Middle America (28 species, of which one extends into southern North America and two into South America) and the West Indies (eight species).

**Identification.** Liebherr (1992) revised the species.

### *Platynus ovatulus* (Bates, 1884)

*Anchomenus ovatulus* Bates, 1884: 281. Type locality: «Chihuahua, Mexico» (original citation). Lectotype (♀), designated by Whitehead (1973: 205), in BMNH.

*Platynus languidus* G.H. Horn, 1892c: 42. Type locality: «southern Arizona» (original citation), restricted to «Cochise Stronghold, Dragoon M[oun]t[ai]ns, Cochise Co[unty]» by Liebherr (1991a: 121). Lectotype (♂), designated by Liebherr (1991a: 121), in MCZ [# 2888]. Synonymy established by Liebherr (1991a: 121).

**Distribution.** This species is known from southeastern Arizona and the northern Sierra Madre Occidental in Sonora and Chihuahua [see Liebherr 1992: Fig. 160].

**Records. USA:** AZ – Mexico

### Subgenus *Trapezodera* Casey, 1920

*Trapezodera* Casey, 1920: 19. Type species: *Colpodes aeneicauda* Bates, 1891 by original designation. Etymology. From the Greek *trapezion* (an irregular four-shaped figure, by extension trapezoid) and *dere* (neck, by extension pronotum), alluding to the shape of the pronotum (“trapezoidal outline of the prothorax”) of the adult [feminine].

**Diversity.** Four species are assigned to this subgenus, one from southwestern United States and three from Mexico (Liebherr and Will 1996: 316).

### *Platynus cohni* Liebherr and Will, 1996

*Platynus cohni* Liebherr and Will, 1996: 313. Type locality: «Madera C[an]y[o]n (4400'), Santa Rita M[oun]t[ain]s, Pima Co[unty], Arizona» (original citation). Holotype (♂) in CUIC [# 6965].

**Distribution.** This species is known from several localities in southeastern Arizona [see Liebherr and Will 1996: Fig. 24].

**Records. USA:** AZ

### Subgenus *Dyscolus* Dejean, 1831

*Dyscolus* Dejean, 1831: 279, 437. Type species: *Dyscolus memnonius* Dejean, 1831 designated by Hope (1838: 105). Etymology (original). From the Greek *dyscolos* (difficult), probably alluding to the difficulty Dejean had to find the systematic place of the three species he had before him (“*formé sur des insectes qui ... semblent ... former le passage entre les Féroniens et les Troncatipennes, et que je n'ai*”).

*de même placé dans cette tribu que faute de pouvoir les mettre convenablement ailleurs”)* [masculine].

*Ophryodactylus* Chaudoir, 1842: 832. Type species: *Ophryodactylus subviolaceus* Chaudoir, 1842 by monotypy. Synonymy established by Moret (1989: 143). Etymology (original). From the Greek *ophrys* (brow, by extension turned-up margin) and *dactylos* (finger), alluding to the furrowed sides of the protarsomeres (“*tarses antérieurs ... tous fortement sillonnés sur les côtés, ce qui fait paraître ceux-ci relevés en bourrelet*”) of the adults [masculine].

*Paranomus* Chaudoir, 1842: 835. Type species: *Paranomus lherminieri* Chaudoir, 1842 by monotypy. Synonymy established by Moret (1989: 143). Etymology (original). From the Greek *para* (beside, near, outside) and *nomos* (usage, law) [masculine].

*Pleurasoma* Guérin-Méneville, 1844b: 9. Type species: *Pleurasoma sulcatum* Guérin-Méneville, 1844 by monotypy. Synonymy established by Moret (1989: 143). Etymology (original). From the Greek *pleura* (side) and *soma* (body) [neuter]. NOTE. This genus was described again the same year under the spelling *Pleurosoma* by Guérin-Méneville (1844d: 1).

*Metallosomus* Motschulsky, 1865: 304. Type species: *Metallosomus virescens* Motschulsky, 1865 designated by Jeannel (1948a: 515). Synonymy established by Moret (1989: 143). Etymology. Probably from the Greek *metallon* (metal) and *soma* (body) and alluding to the metallic coloration of the adults in the hands of Motschulsky [masculine].

*Omiastus* Motschulsky, 1865: 306. Type species: *Omiastus rutilans* Motschulsky, 1865 designated by Lorenz (1998: 129). Synonymy established by Perrault (1992: 276).

**Diversity.** About 320 species are listed in this subgenus by Lorenz (2005: 430–433). Of these only five unrelated species are found in southern United States, two of them being endemic (*P. falli* and *P. rufiventris*). The other species of the subgenus occur in the Neotropical Region, including the West Indies and the Galapagos Islands.

#### [cazieri group]

#### *Platynus cazieri* Liebherr and Will, 1996

*Platynus cazieri* Liebherr and Will, 1996: 312. Type locality: «El Mirador Ranch, 4 mi[les] N[orth]W[est] Sasabe, Baboquivari M[oun]t[ain]s, Pima Co[unty], Arizona» (original citation). Holotype (♂) in AMNH [# 1610].

**Distribution.** This species is known only from Pima and Santa Cruz Counties in southeastern Arizona and from one specimen without precise locality collected in Mexico [see Liebherr and Will 1996: Fig. 24].

**Records. USA:** AZ – Mexico

**[falli group]*****Platynus falli* (Darlington, 1936)**

*Colpodes falli* Darlington, 1936e: 152. Type locality: «Baboquivari M[oun]t[ain]s, Arizona» (original citation). Holotype (♂) in MCZ [# 34577].

**Distribution.** This species is known from Pima, Cochise, and Santa Cruz Counties in southern Arizona (Liebherr and Will 1996: 318).

**Records. USA:** AZ

**Note.** Whitehead (1973: 196) stated that adults of this form are possibly conspecific with those of *P. segregatus* (Bates), a species known from the states of Michoacán, Colima, Morelos, Guerrero, and Oaxaca.

**[lyratus group]*****Platynus lyratus* (Chaudoir, 1879)**

*Colpodes lyratus* Chaudoir, 1879: 347. Type locality: «Capulalpam, Mexique» (original citation for the lectotype). Lectotype (♂), designated by Whitehead (1973: 200), in MHNP. *Anchomenus pinalicus* Casey, 1920: 42. Type locality: «Pinal M[oun]t[ain]s [Gila County], Arizona» (original citation). Holotype [by monotypy] (♂) in USNM [# 47415]. Synonymy established by Whitehead (1973: 200).

**Distribution.** This species ranges from southern Utah, eastern Arizona, and western New Mexico south to Oaxaca in Mexico; it also occurs throughout the Baja California Peninsula (Liebherr and Will 1996: 318).

**Records. USA:** AZ, NM, UT – Mexico

**[megalops group]*****Platynus megalops* (Bates, 1882)**

*Colpodes megalops* Bates, 1882a: 116. Type locality: «Guanajuato, Mexico» (original citation). Lectotype (♂), designated by Whitehead (1973: 200), in BMNH. *Platynus longiceps* Schaeffer, 1910: 394. Type locality: «Huachuca M[oun]t[ain]s, Arizona» (original citation). Lectotype (♀), designated by Whitehead (1973: 200), in USNM [# 42502]. Synonymy established by Whitehead (1973: 200).

**Distribution.** The range of this species extends from southern Arizona and western Texas (Jeff Davis County, CMNH) south to the state of Oaxaca (Whitehead 1973: 201).

**Records. USA:** AZ, TX – Mexico

**[rufiventris group]*****Platynus rufiventris* (Van Dyke, 1926)**

*Colpodes rufiventris* Van Dyke, 1926a: 120. Type locality: «Mount Washington (6000 feet), near Nogales [Santa Cruz County], Arizona» (original citation). Holotype (♂) in CAS [# 1862].

**Distribution.** This species is yet known only from Cochise, Pima, and Santa Cruz Counties in southern Arizona (Liebherr and Will 1996: 318). The record from southwestern Utah (Tanner 1928: 270) is probably in error.

**Records. USA:** AZ

### **Genus** *METACOLPODES* Jeannel, 1948

*Metacolpodes* Jeannel, 1948a: 516. Type species: *Colpodes buchanani* Hope, 1831 by original designation. Etymology. From the Greek *meta* (between, among, beyond) and the generic name *Colpodes* [masculine].

**Diversity.** Twenty-three species in the Palaearctic (11 Asian species) and Oriental (15 species) Regions are listed in this genus by Lorenz (2005: 423). Liebherr (2005), on the other hand, redefined cladistically the genus to include seven Pacific and Asian species. One of these species is adventive in western North America.

**Identification.** The sole species present in North America is included in Hatch's (1953: 132) monograph on the beetles of the Pacific Northwest. It is also described in length by Habu (1978: 126-128).

### *Metacolpodes buchanani* (Hope, 1831)

*Colpodes buchanani* Hope, 1831: 21 (as *buchannani*). Type locality: Nepal (inferred from title of the paper). Syntype(s) probably in BMNH. NOTE. The spelling *buchanani*, used by most authors, is an incorrect subsequent spelling, introduced by Lacordaire (1854: 361), in prevailing usage and attributed to the publication of the original spelling; therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Agonum sargentorum* Malkin and Hatch, 1952: 107. Type locality: «Eugene [Lane County], Oregon» (original citation). Holotype (♂) in USNM. Synonymy established by Malkin and Hatch (1953: 134).

**Distribution.** This adventive species is known in North America from a few specimens collected in southern British Columbia (Jarrett and Scudder 2001: 382), southwestern Washington (Pacific County, Peter W. Messer pers. comm. 2011), western Oregon (Hatch 1953: 132), and northern Idaho (Liebherr and Will 1996: 303). The first specimen collected on this continent was found in 1931 in Portland, Oregon (Hatch 1953: 132). The species is also adventive in Hawaii (Liebherr and Zimmerman 2000: 466).

**Records. CAN:** BC **USA:** ID, OR, WA – **Adventive**

### **Tribe** PERIGONINI Horn, 1881

Trechichinae Bates, 1873: 224, 281 [*nomen oblitum*, see Bouchard et al. (2011: 140, 836-837)]. Type genus: *Trechicus* LeConte, 1853.

Perigonae G.H. Horn, 1881: 143 [*nomen protectum*]. Type genus: *Perigona* Laporte, 1835.



**Diversity.** About 120 species (Lorenz 2005: 438-439), mainly in the tropical regions, arrayed in five genera. Only one endemic species (*Perigona pallipennis*) is found in North America and one in Europe (*Galiciotyphlotes weberi* Assmann from northwestern Spain).

### Genus *PERIGONA* Laporte, 1835

*Perigona* Laporte, 1835: 151. Type species: *Perigona pallida* Laporte, 1835 by monotypy. Etymology. Uncertain, either from the Greek *peri* (around, near, very) and *gone* (offspring) or from Perigone, daughter of the brigand Sinis. According to Desmarest (1851: 104), the name derives from the Greek *peri* and *gonia* (angle) [feminine].

**Diversity.** Excluding the subcosmopolitan *P. nigriceps*, about 105 species (Lorenz 2005: 438-439) in the temperate, subtropical, and tropical areas of the Nearctic (one species), Neotropical (twelve species), Australian (about 17 species), Oriental (about 30 species), eastern Palaearctic (five species), and Afrotropical (about 40 species) Regions. These species are arrayed in 12 subgenera: *Cryptoperigona* Perrault (one Neotropical species), *Euripogona* Basilewsky (four Afrotropical species), *Euryperigona* Jeannel (three species in the Philippines, Indonesia, and New Guinea), *Hirtoperigona* Perrault<sup>9</sup> (two Oriental species), *Neoperigona* Perrault (three Neotropical species), *Perigona s.str.* (57 species in the Old World as well as the Neotropical and Australian Regions), *Perigonillus* Jeannel (three Afrotropical species), *Ripogona* Jeannel (ten Afrotropical species), *Trechicus* (18 species), *Typhlonestra* Jeannel (one Oriental and one Afrotropical species), *Xenogona* Jeannel (one Afrotropical species), and *Xenogonilla* Basilewsky (one Afrotropical species).

### Subgenus *Trechicus* LeConte, 1853

*Trechicus* LeConte, 1853c: 386. Type species: *Trechicus umbripennis* LeConte, 1853 (= *Bembidium nigriceps* Dejean, 1831) designated by Jeannel (1926: 247). Etymology. From the generic name *Trechus* [q.v.] and the Greek *eicon* (image, figure), probably alluding to the resemblance of the adults to those of *Trechus* ("have very much the appearance of minute *Trechus*") [masculine].

*Extromus* Péringuey, 1896: 584, 586. Type species: *Extromus pusillus* Péringuey, 1896 (= *Bembidium nigriceps* Dejean, 1831) by monotypy.

**Diversity.** Eighteen species in the Nearctic (one endemic species), Australian (seven endemic species), and Afrotropical (ten endemic species) Regions and one (*P. nigriceps*) subcosmopolitan species.

**Identification.** Bousquet (1987a: 128) commented on the structural differences between the two species found in North America.

<sup>9</sup> This subgenus is herein removed from synonymy with *Trechicus*, see "Taxonomic Note" under *Trechicus*.

**Taxonomic Note.** *Hirtoperigona* Perrault is placed in synonymy with *Trechicus* in Lorenz (2005: 438). However, the position of the median group of setae of the umbilical series in the type species (*P. tronqueti* Perrault from Sri Lanka) and in *P. pubescens* Jeannel (from Vietnam) suggests that members of *Hirtoperigona* are more closely related to *Perigona* s.str. than to *Trechicus*. Perrault (1988) placed a third species (*P. hirtella* Basilewsky from Africa) in *Hirtoperigona* on the basis of the original description alone; according to Basilewsky (1989: 447), the species belongs to *Trechicus*.

The relationship of the endemic North American species (*P. pallipennis* LeConte) has not been studied and, in my opinion, it may be more closely related to members of *Cryptoperigona* than to those of *Trechicus*.

### ***Perigona nigriceps* (Dejean, 1831)**

*Bembidium nigriceps* Dejean, 1831: 44. Type locality: «Amérique septentrionale» (original citation), restricted to «Georgia» by Lindroth (1968: 651). Holotype [by monotypy] in MHNP (Lindroth 1955b: 22; Erwin 1974a: 126).

*Trechicus umbripennis* LeConte, 1853c: 386. Type locality: «Georgia; Carolina» (original citation). Three syntypes in MCZ [# 5791]. Synonymy established by Horn (1875: 126), confirmed by Bousquet (1987a: 128).

*Polyderis testaceolimbata* Motschulsky, 1862b: 33. Type locality: «environs de Mobile [Mobile County, Alabama]» (original citation). Lectotype, designated by Erwin (1974a: 127), in ZMMU. Synonymy established by Erwin (1974a: 127).

*Polyderis glabrella* Motschulsky, 1862b: 34. Type locality: «Mobile [Mobile County, Alabama]» (original citation). Lectotype, designated by Erwin (1974a: 127), in ZMMU. Synonymy established by Erwin (1974a: 127).

**Distribution.** This species is subcosmopolitan. It is adventive in North America where it is known from Nova Scotia (Pictou County, CNC) to eastern Iowa (Muscatine County, Doug A. Veal pers. comm. 2009), south to east-central Texas (Riley 2011), central Louisiana (Grant Parish, CNC) and southern Florida (Peck and Thomas 1998: 23) in the east, and from Oregon (Hatch 1953: 147) to southern California (Fall 1901a: 47) in the west. The first inventoried specimen collected on this continent was found prior to 1853 (LeConte 1853c: 386, as *Trechicus umbripennis*). Basilewsky (1953a: 108) believed the species originated along the coast of the Indian Ocean where it is very abundant in rubbish and groundnut.

**Records.** CAN: NB, NS, ON, QC USA: AL, AR, CA, CT, DC, FL, GA, IA, IL, IN, KY, LA, MA, MD, ME, MI, MS, NC, NE, NH, NJ, NY, OH, OR, PA, RI, SC, TX, VA, VT, WI, WV – **Adventive**

### ***Perigona pallipennis* (LeConte, 1853)**

*Trechicus pallipennis* LeConte, 1853c: 386. Type locality: «Carolina» (original citation). One syntype in MCZ [# 5792].

*Perigona pallidipennis* Csiki, 1931: 898. Unjustified emendation of *Perigona pallipennis* (LeConte, 1853).

**Distribution.** The range of this species extends from southwestern Maine (Nelson 1991: 284) to eastern Iowa (Wickham 1911b: 7), including southernmost Ontario, south to “Missouri,” “Alabama” (Bousquet 1987a: 127-128), and northern Florida (Hamilton, Okaloosa, and Taylor Counties, CNC).

**Records.** CAN: ON USA: AL, DC, FL, GA, IA, IL, IN, MD, ME, MI, MO, MS, NC, NJ, NY, OH, PA, SC, VA

### Tribe ATRANINI Horn, 1881

Atrani G.H. Horn, 1881: 145. Type genus: *Atronus* LeConte, 1847.

**Diversity.** One genus with two species in the Nearctic and Palaearctic Regions.

### Genus *ATRANUS* LeConte, 1847

*Atronus* LeConte, 1847: 438. Type species: *Anchomenus pubescens* Dejean, 1828 by monotypy. Etymology (original). From the Greek *a* (privative) and *tranos* (clear, distinct), possibly alluding to the obscure relationships of the genus to the eyes of LeConte [masculine].

**Diversity.** Two species in the temperate regions of eastern North America (*A. pubescens*) and Europe (*A. ruficollis* Gautier des Cottés).

**Identification.** Lindroth (1968: 649) commented on the structural differences between the two species.

### *Atronus pubescens* (Dejean, 1828)

*Anchomenus pubescens* Dejean, 1828: 122. Type locality: «Amérique septentrionale» (original citation), restricted to «White Sulphur Springs [Greenbrier County], W[est] V[irgini]a» by Lindroth (1966: 648). Holotype [by monotypy] in MHNP (Lindroth 1955b: 22).

*Anchomenus obconicus* Haldeman, 1843b: 299. Type locality: southeastern Pennsylvania (Haldeman 1843a: 296). Syntype(s) presumably lost. Synonymy established by LeConte (1847: 439).

*Atronus pallescens* Casey, 1913: 172. Type locality: «Fairmont Park, Philadelphia [Philadelphia County, Pennsylvania]» (original citation). Lectotype (♂), designated by Lindroth (1975: 130), in USNM [# 47616]. Synonymy established (as aberration) by Csiki (1931: 740), confirmed by Lindroth (1966: 648).

**Distribution.** The range of this species extends from central Nova Scotia (Hants County, Christopher G. Majka pers. comm. 2008) to southwestern Nebraska (Foster F. Purrington pers. comm. 2010), south to “Texas” (Barr 1964: 3; Lindroth 1968: 649) and west-central South Carolina (Ciegler 2000: 108).

**Records.** CAN: NB, NS, ON, QC USA: AL, AR, CT, DC, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA, VT, WI, WV

### Tribe LACHNOPHORINI LeConte, 1853

Lachnophori LeConte, 1853c: 370, 375. Type genus: *Lachnophorus* Dejean, 1831.

Anchonodérides Lacordaire, 1854: 373. Type genus: *Anchonoderus* Reiche, 1843.

Eucaeri LeConte, 1861a: 21. Type genus: *Eucaerus* LeConte, 1853.

Egini G.H. Horn, 1881: 125, 152. Type genus: *Ega* Laporte, 1834.

Selinini Jeannel, 1948a: 743. Type genus: *Selina* Motschulsky, 1858.

**Diversity.** About 115 species (Lorenz 2005: 440–441, as Lachnophorina) in the Nearctic and Neotropical Regions, arrayed in 11 genera, and one species (*Selina westermanni* Motschulsky) in the Oriental and Afrotropical Regions.

**Taxonomic Note.** Ball and Bousquet (2000: 108) recognized two groups of genera within this tribe. The eucaerine complex comprising *Eucaerus*, *Aporesthus* Bates, *Amphitasus* Bates, and *Asklepia* Liebke and the lachnophorine complex encompassing *Lachnophorus*, *Euphorticus*, *Calybe*, *Anchonoderus*, and *Selina*. Subsequently to their investigation, three new genera have been proposed: *Pseudophorticus* Erwin (four species), *Guatemalteca* Erwin (one species), and *Quammenis* Erwin (one species).

### Genus ANCHONODERUS Reiche, 1843

*Anchonoderus* Reiche, 1843a: 38. Type species: *Platynus elegans* Brullé, 1838 by original designation. Etymology. From the Greek *anchone* (strangling) and *dere* (neck, by extension pronotum), alluding to the cordate shape of the pronotum (“*thorax transversus valde cordatus*”) of the adult [masculine].

*Axylosius* Liebke, 1936: 461. Type species: *Lachnophorus humeralis* Bates, 1883 by original designation. Synonymy established by Liebherr (1988: 24).

**Diversity.** Western Hemisphere, with 26 species (Lorenz 2005: 440) in the Nearctic (two species) and Neotropical (24 species) Regions.

**Identification.** Schaeffer (1910: 395) commented on the structural differences between the two species found in North America.

### *Anchonoderus quadrinotatus* Horn, 1878

*Anchonoderus quadrinotatus* G.H. Horn, 1878b: 53. Type locality: «Texas» (original citation). Two syntypes [2 originally cited] in MCZ [# 8182].

**Distribution.** This species is known only from Texas (Val Verde County, CNC).

**Records.** USA: TX

***Anchonoderus schaefferi* Liebke, 1928**

*Anchonoderus unicolor* Schaeffer, 1910: 395 [primary homonym of *Anchonoderus unicolor* Chaudoir, 1850]. Type locality: «New Braunfels [Comal County], Tex[as]» (original citation). Holotype (♂) in USNM [# 56139].

*Anchonoderus schaefferi* Liebke, 1928: 128. Replacement name for *Anchonoderus unicolor* Schaeffer, 1910.

**Distribution.** This species is known from southeastern Arizona (Graham County, CNC) and southern Texas (Schaeffer 1910: 395).

**Records. USA:** AZ, TX

**Genus *LACHNOPHORUS* Dejean, 1831**

*Lachnophorus* Dejean, 1831: 28. Type species: *Lachnophorus pilosus* Dejean, 1831 designated by Desmarest (1851: 189). Etymology (original). From the Greek *lachnos* (soft hair, down) and *phoro* (to bear, carry), alluding to the pubescence covering the dorsal surface (“*corps pubescent*”) of the adults [masculine].

*Aretaonus* Liebke, 1936: 461, 463. Type species: *Lachnophorus elegantulus* Mannerheim, 1843 by original designation. Synonymy established by Liebherr (1988: 34).

**Diversity.** Western Hemisphere, with about 35 species in temperate, subtropical, and tropical areas of the Nearctic (one species only) and Neotropical Regions.

**Taxonomic Note.** According to Liebherr (1988: 34), *Stigmaphorus* Motschulsky, 1855 (type species: *Stigmaphorus tessellatus* Motschulsky, 1855), considered a junior synonym of *Lachnophorus* by several authors, “should not be considered the same as *Lachnophorus*.”

***Lachnophorus elegantulus* Mannerheim, 1843**

*Lachnophorus elegantulus* Mannerheim, 1843 [after 28 March]: 215. Type locality: «California» (original citation). Syntype(s) location unknown (possibly in ZMH).

*Bembidium mediosignatum* Ménétriés, 1843 [29 July]: 62. Type locality: «Californie» (original citation). Syntype(s) location unknown (possibly in ZMH). Synonymy established by Motschulsky (1845a: 29). NOTE. This name may be older than *L. elegantulus* but is not in “prevailing usage” (see *Principle of priority* under “Nomenclature” section).

*Lachnophorus sculptifrons* Bates, 1878a: 604. Type locality: «Chinautla (4100 feet) [and] Chontales, Guatemala» (original citation). Syntype(s) probably in BMNH. Synonymy established by Horn (1886b: xii). NOTE. Liebke (1936: 463) retained this form as a valid species.

*Lachnophorus elegantulus ocularis* Casey, 1920: 225. Type locality: «Texas» (original citation). Holotype [by monotypy] in USNM [# 47615]. Synonymy established by Erwin et al. (1977: 4.32).



**Distribution.** This species ranges from Kansas (LeConte 1858a: 28; Horn 1872c: 385) to southwestern Oregon (Hatch 1953: 146; Jackson County, MCZ, UASM), south to southern California (Moore 1937: 11; San Diego County, CNC, MCZ) and Costa Rica (Liebke 1936: 463).

**Records. USA:** AZ, CA, KS, NM, OK, OR, TX, UT – Costa Rica, Guatemala, Mexico, Nicaragua

### **Genus *EUPHORTICUS* Horn, 1881**

*Euphorticus* G.H. Horn, 1881: 144. Type species: *Lachnophorus pubescens* Dejean, 1831 by monotypy. Etymology. From the Greek *eu* (good, beautiful) and *phorticos* (of bearing) [masculine].

**Diversity.** Four species in temperate, subtropical, and tropical areas of the Nearctic (two species) and Neotropical (three species) Regions.

**Identification.** Horn (1891: 38) commented on the structural differences between the two species found in North America.

### ***Euphorticus occidentalis* Horn, 1891**

*Euphorticus occidentalis* G.H. Horn, 1891: 38. Type locality: «near Los Angeles [Los Angeles County], Cal[ifornia]» (original citation). One syntype in MCZ [# 35339].

**Distribution.** This species is known so far only from southwestern California (Horn 1891: 38; Fall 1901a: 47; Moore 1937: 11).

**Records. USA:** CA

### ***Euphorticus pubescens* (Dejean, 1831)**

*Lachnophorus pubescens* Dejean, 1831: 30. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 22).

*Lachnophorus niger* Gory, 1833: 245. Type locality: «Cayenne [French Guiana]» (original citation). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established by Bates (1883a: 156).

*Lachnophorus laevicollis* Reiche, 1843c: 180. Type locality: «provincia Novae Granatae [= present day Panama and Colombia]» (original citation). Syntype(s) probably in MHNP (collection Chaudoir). Synonymy established by Bates (1883a: 156).

*Euphorticus pubescens* var. *aeneolus* Bates, 1883a: 156. Type locality: «Jalapa, Oaxaca [in] Mexico; near the city, San Gerónimo, Paso Antonio [in] Guatemala; Amazons to Santa Catharina, S. Brazil» (original citation). Syntype(s) in BMNH. Synonymy established by Lieberr (1988: 28).

**Distribution.** This species is found along the Coastal Plain from southeastern North Carolina to central Florida, west to northeastern Texas (Dallas County, MCZ) and central Oklahoma (Grady County, Robert L. Davidson pers. comm. 2012), including west-central Louisiana (Allen 1965: 67), along the Mississippi Basin in southwestern

Ohio (Blatchley 1910: 137) and central Indiana (Downie and White 1967: 308), in the West Indies from the Bahamas (Turnbow and Thomas 2008: 12) to Trinidad, in tropical mainland from central Mexico to Santa Catarina in Brazil [see Liebherr 1988: Fig. 17], and along southwestern United States from New Mexico (Snow 1885: 66; Fall and Cockerell 1907: 159) to southern Arizona (Pima County, MCZ); also recorded from the southern part of the Baja California Peninsula (Horn 1895: 226). The record from southeastern Pennsylvania (Rathvon 1869: 523) must be in error.

**Records. USA:** AL, AZ, FL, GA, IN, LA, MS, NC, NM, OH, OK, SC, TX – Bahamas, Brazil, Colombia, Cuba, French Guiana, Guatemala, Honduras, Jamaica, Mexico, Venezuela

### Genus *CALYBE* Laporte, 1834

*Calybe* Laporte, 1834: 92. Type species: *Calybe leprieuri* Laporte, 1834 by monotypy.

Etymology. Mythological name designating a Trojan Nymph loved by King Laomedon of Troy. Literately, *kalybe* or *calybe* designates a rustic cabin or hut [feminine].

NOTE. *Chalybe* is an incorrect subsequent spelling, introduced by Dejean (1836: 56), not in prevailing usage.

**Diversity.** Twenty-five species (Lorenz 2005: 440-441) in the Western Hemisphere arrayed in two subgenera: *Calybe s.str.* (eight species) represented in the Neotropical Region only and *Ega* (17 species).

### Subgenus *Ega* Laporte, 1834

*Ega* Laporte, 1834: 93. Type species: *Ega formicaria* Laporte, 1834 by monotypy. Etymology. Uncertain, either from *Ega* (also spelled *Aega*), the mayor of the palace and regent of Neustria and Burgundy or from *Ega* the old name for the city and river port of Tefé in northwestern Brazil [feminine].

*Aega* Agassiz, 1846: 8, 134. Unjustified emendation of *Ega* Laporte, 1834.

**Diversity.** Seventeen species in the temperate, subtropical, and tropical areas of the Nearctic (two species) and Neotropical (17 species) Regions.

**Identification.** Horn (1881: 153) commented on the structural differences between the two species found in North America.

### *Calybe laetula* (LeConte, 1851)

*Ega laetula* LeConte, 1851: 173. Type locality: «ad flumina Colorado et Gila» (original citation). Three syntypes in MCZ [# 59].

**Distribution.** This species ranges from southernmost Nevada (Clark County, CNC) south to Guatemala (Bates 1883a: 157), including southeastern California (Riverside County, MCZ, UASM) and southern Arizona (Fall 1901a: 48; Maricopa and Pima Counties, MCZ, UASM). The record from “Colorado” (LeConte 1858a: 28) probably refers to the Colorado River.

**Records. USA:** AZ, CA, NV – Guatemala, Mexico

***Calybe sallei* (Chevrolat, 1839)**

*Ega sallei* Chevrolat, 1839: 308. Type locality: «environs de la Nouvelle-Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) location unknown (possibly in UMO).

*Ega sallaei* Bates, 1883a: 157. Unjustified emendation of *Ega sallei* Chevrolat, 1839.

**Distribution.** This species is known along the Coastal Plain from South Carolina (Kirk 1969: 12; Ciegler 2000: 116; Clarendon County, MCZ) to southern Florida (Peck and Thomas 1998: 23), west to central and southeastern Texas (Lee and Cameron Counties, MCZ; Wickham 1897: 107), and south to Nicaragua (Bates 1883a: 157). The record from “Arizona” (Ball and Bousquet 2000: 109) refers to *Calybe latula*. Old specimens simply labeled “Ill.” and “Ks” are known (MCZ).

**Records. USA:** AL, AR, FL, GA, LA, MS, SC, TX [IL, KS] – Guatemala, Mexico, Nicaragua

**Genus *EUCAERUS* LeConte, 1853**

*Eucaerus* LeConte, 1853c: 386. Type species: *Eucaerus varicornis* LeConte, 1853 by monotypy. Etymology. From the Greek *eu* (well) and *caeros* (fit, opportune) [masculine].

**Diversity.** Fourteen species in the Western Hemisphere arrayed in two subgenera: *Eucarvus* s.str. (11 species) and *Lachnaces* Bates (three Amazonian species).

**Subgenus *Eucaerus* LeConte, 1853**

*Eucaerus* LeConte, 1853c: 386. Type species: *Eucaerus varicornis* LeConte, 1853 by monotypy.

**Diversity.** Eleven species in temperate, subtropical, and tropical areas of the Nearctic (one species) and Neotropical (ten species) Regions arrayed in two species groups (Ball and Hilchie 1983: 107-108).

***Eucaerus varicornis* LeConte, 1853**

*Eucaerus varicornis* LeConte, 1853c: 387. Type locality: «New Orleans [Orleans Parish, Louisiana]» (original citation). Holotype [by monotypy] in MCZ [# 5834].

**Distribution.** This species inhabits the Coastal Plain from central Maryland (Hoffman et al. 2006: 28) to southern Florida (Peck and Thomas 1998: 23), west to eastern Texas (Hardin County, UASM), including southeastern Mississippi (Jackson County, Drew A. Hildebrandt pers. comm. 2008).

**Records. USA:** AL, FL, GA, LA, MD, MS, NC, SC, TX, VA

**Tribe PENTAGONICINI Bates, 1873**

Pentagonicinae Bates, 1873: 225, 320. Type genus: *Pentagonica* Schmidt-Göbel, 1846.

Scopodinae Bates, 1874: 275. Type genus: *Scopodes* Erichson, 1842.

**Diversity.** Worldwide but excluding Europe and northern Africa, with about 165 species (Lorenz 2005: 445–447) arrayed in five genera: *Aeolodermus* Andrewes (one Oriental species), *Homethes* Newman (ten australo-oriental species), *Parascopodes* Darlington (one Australian species), *Pentagonica* (about 85 species), and *Scopodes* Erichson (68 australo-oriental species). The Northern Hemisphere is underrepresented with only 17 species (about 10% of the world fauna).

### Genus *PENTAGONICA* Schmidt-Göbel, 1846

*Rhombodera* Reiche, 1842: 313 [junior homonym of *Rhombodera* Burmeister, 1838].

Type species: *Rhombodera virgata* Reiche, 1842 (= *Lebia trivittata* Dejean, 1831) designated by Bousquet and Larochelle (1993: 245). Etymology. From the Greek *rhombos* (lozenge) and *dere* (neck, by extension pronotum), alluding to the shape of the pronotum (“*thorax sub rhomboideus*”) of the adult [feminine].

*Pentagonica* Schmidt-Göbel, 1846: 47. Type species: *Pentagonica ruficollis* Schmidt-Göbel, 1846 designated by Andrewes (1938: 137). Synonymy established by Chaudoir (1877: 212). Etymology (original). From the Greek *pente* (five) and *goniakos* (angular), not *gonichos* as originally cited by Schmidt-Göbel, alluding to the shape of the pronotum (“*thorax pentagonus*”) of the adult [feminine].

*Didetus* LeConte, 1853c: 377. Type species: *Didetus flavipes* LeConte, 1853 by monotypy. Synonymy established by LeConte (1861a: 25). Etymology. From the Greek prefix *di-* (two) and *detos* (bound) [masculine].

**Diversity.** About 85 species in the temperate, subtropical, and tropical areas of the Nearctic (six species, only one endemic), Neotropical (about 25 species), Australian (10 species), Oriental (about 20 species), Palaearctic (11 Asian species), and Afrotropical (25 species) Regions.

**Identification.** Lindroth’s (1969a: 1013) key covered all North American known at the time. Two new species have been described subsequently by Bell (1987) and Mateu (1995).

### *Pentagonica bicolor* (LeConte, 1863)

*Rhombodera bicolor* LeConte, 1863c: 7. Type locality: «western states» (original citation), herein restricted to Columbus, Colorado County, Texas (see Reichardt 1968: 150). One syntype in MCZ [# 5836].

*Pentagonica semifulva* Bates, 1883a: 217. Type locality: «Cordova, Jalapa [in] Mexico; Cerro Zunil, Pantaleon [in] Guatemala» (original citation). Syntype(s) in BMNH. Synonymy established by Reichardt (1968: 150).

**Distribution.** This species ranges from Colorado County in southeastern Texas to Guatemala (Reichardt 1968: 150).

**Records. USA:** TX – Guatemala, Mexico

***Pentagonica felix* Bell, 1987**

*Pentagonica felix* R.T. Bell, 1987: 373. Type locality: «Rustler Park, Cochise Co[unty], Ariz[ona]» (original citation). Holotype (♀) in CNC [# 19859].

**Distribution.** This species is known from a few localities from southeastern Arizona and southwestern New Mexico (Bell 1987: 373) south to Chiapas in southern Mexico (Bell 1989a: 156).

**Records. USA:** AZ, NM – Mexico

***Pentagonica flavipes flavipes* (LeConte, 1853)**

*Didetus flavipes* LeConte, 1853c: 377. Type locality: «Louisiana» (original citation). Two syntypes in MCZ [# 5835].

*Pentagonica americana* Motschulsky, 1864: 224. Type locality: «environs de Mobile [Mobile County, Alabama]» (original citation). Lectotype, designated by Bousquet (1997b: 339), in ZMMU. Synonymy established by Horn (1882: 163), confirmed by Bousquet (1997b: 339).

*Pentagonica albipes* Bates, 1883a: 218. Type locality: «Mirandilla, Guatemala; Bugaba, Panama» (original citation). Syntype(s) in BMNH. Synonymy established by Reichardt (1968: 153).

*Rhombodera picea* Fleutiaux and Sallé, 1890: 362. Type locality: «Cascade Vauchelet, Camp- Jacob; Trois-Rivières [Guadeloupe]» (original citation). Syntype(s) probably in MHNP. Synonymy established by Reichardt (1968: 153).

**Distribution.** This subspecies ranges from southwestern New Jersey (Smith 1910: 212) and northern Virginia (Hoffman and Roble 2000: 39) to northeastern Kansas (Popenoe 1877: 23, as *Rhombodera pallipes*), south to eastern Texas (Sabine County, CNC) and the Florida Keys (Peck and Thomas 1998: 22). It is also known from Central America, Colombia, Brazil, and the West Indies (Reichardt 1968: 153; Bell 1985a: 326). The record from “Arizona” (Leng 1915: 589) needs confirmation.

**Records. USA:** AL, AR, FL, GA, IA, IN, KS, LA, MS, NC, NJ, OH, OK, SC, TX, VA [AZ] – Antigua, Bahamas, Belize, Brazil, Cayman Islands, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Guadeloupe, Guana Island, Guatemala, Monserrat, Panama, Trinidad and Tobago

**Note.** The subspecies *P. flavipes picipes* Darlington is restricted to Jamaica, Hispaniola, Puerto Rico, and the Virgin Islands (Reichardt 1968: 154; Bell 1985a: 326).

***Pentagonica marshalli* Mateu, 1995**

*Pentagonica marshalli* Mateu, 1995: 141. Type locality: «3 mill. N[orth]W[est] Alligator P[oin]t, Franklin Co[unty], Florida» (original citation). Holotype (♂) in Mateu’s collection (Almería, Spain).



**Distribution.** This species is known from southeastern Georgia (Camden and Glynn Counties, CMNH), central Florida (Pinellas County, CMNH), north-central Mississippi (Grenada County, Drew A. Hildebrandt pers. comm. 2010), and east-central (Riley 2011) and south-central Texas (Bastrop County, Peter W. Messer pers. comm. 2010).

**Records. USA:** FL, GA, MS, TX

### ***Pentagonica nigricornis* Darlington, 1934**

*Pentagonica nigricornis* Darlington, 1934: 121. Type locality: «Soledad (near Cienfuegos), Cuba» (original citation). Holotype in MCZ [# 19537].

**Distribution.** This species is known only from the Florida Peninsula as far north as Alachua County (Peck and Thomas 1998: 22), the Bahamas (Turnbow and Thomas 2008: 14), Cuba (Bell 1985a: 323), and the Cayman Islands (Darlington 1947: 211).

**Records. USA:** FL – Bahamas, Cuba, Cayman Islands

### ***Pentagonica picticornis* Bates, 1883**

*Pentagonica picticornis* Bates, 1883a: 217. Type locality: «El Jicaro, Guatemala» (original citation). Holotype [by monotypy] in BMNH.

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 98) to western Wisconsin (Messer 2010: 42), south to Guatemala (Bates 1883a: 217), southeastern Louisiana (Saint Tammany Parish, Igor M. Sokolov pers. comm. 2009), and central Florida (Vince Golia pers. comm. 2007), west to southern Arizona and the Baja California Peninsula (Horn 1894: 311).

**Records. CAN:** ON, QC **USA:** AR, AZ, FL, GA, IA, IL, IN, KS, LA, MD, MI, MO, MS, NE, NH, NJ, NM, OH, OK, PA, TN, TX, VA, VT, WI, WV – Guatemala, Mexico

## **Tribe ODACANTHINI Laporte, 1834**

Odacanthidae Laporte, 1834: 40. Type genus: *Odacantha* Paykull, 1798.

Casnoniae LeConte, 1861a: 21. Type genus: *Cosnania* Dejean, 1821. NOTE. This family-group name is based on *Casnonia*, an incorrect subsequent spelling of *Cosnania* Dejean, not in prevailing usage.

Colliurini Bedel, 1910: 72. Type genus: *Colliuris* DeGeer, 1774.

Lasiocerini Jeannel, 1948a: 757. Type genus: *Lasiocera* Dejean, 1831.

**Diversity.** Worldwide, with about 325 species (Lorenz 2005: 441-445, as Odacanthina) in the Nearctic (five species), Neotropical, Australian, Oriental, Palaearctic (21 species, several shared with the Oriental Region), and Afrotropical Regions.

## **Genus COLLIURIS DeGeer, 1774**

*Colliuris* DeGeer, 1774: 79. Type species: *Attelabus surinamensis* Linnaeus, 1758 by monotypy. Etymology. From the Latin *collum* (neck, by extension pronotum), al-

luding to the unusually long pronotum (“à cause de la grande étendue de leur corcelet qui leur forme comme un très long col”) of the adult [feminine].

*Collyris* Agassiz, 1846: 94 [junior homonym of *Collyris* Fabricius, 1801]. Unjustified emendation of *Colliuris* DeGeer, 1774.

**Diversity.** Western Hemisphere, with about 100 species (Lorenz 2005: 442–444, as *Cosnania* and *Colliuris*) in temperate, subtropical, and tropical areas of the Nearctic (five species) and Neotropical Regions. The species are arrayed in 20 subgenera.

**Identification.** Bousquet (2010b) reviewed the Nearctic, Mexican and West Indian (Greater Antilles) species and provided a key for their identification.

**Taxonomic Note.** Liebke (1930, 1938) recognized an array of subgenera and several appear to be polyphyletic assemblages. A taxonomic revision of the genus is much needed. Lorenz (2005: 442) recognized *Cosnania* as generically distinct from *Colliuris*. I see no reason to support this approach particularly since *Cosnania*, as currently recognized, is likely polyphyletic (see below).

### Subgenus *Mimocasnonia* Liebke, 1938

*Mimocasnonia* Liebke, 1938: 51, 57. Type species: *Casnonia pilatei* Chaudoir, 1848 by original designation. Etymology. From the Greek *mimos* (imitator, actor) and *Casnonia*, an incorrect subsequent spelling of the generic name *Cosnania* [q.v.] [feminine].

**Diversity.** Three species in the Neotropical Region (Liebke 1938: 57), one of them extending into southern Arizona.

### *Colliuris pilatei* (Chaudoir, 1848)

*Casnonia pilatei* Chaudoir, 1848: 47 (as *pilati*). Type locality: «Yucatan [Mexico]» (original citation). Syntype(s) [2 originally cited] probably in MHNP. NOTE. The incorrect subsequent spelling *pilatei*, first used by Bates (1883a: 161), is in prevailing usage and attributed to the publication of the original spelling; therefore it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

**Distribution.** This species ranges from southern Arizona (Bousquet 2010b: 7) to Panama (FSCA).

**Records. USA:** AZ – Costa Rica, Guatemala, Honduras, Mexico, Panama

### Subgenus *Cosnania* Dejean, 1821

*Macrotrachelus* Latreille, 1818a: 16 [potential *nomen oblitum*, see Bousquet (2002b: 30)]. Type species: *Attelabus pensylvanicus* Linnaeus, 1758 by monotypy. Etymology. From the Greek *macros* (long) and *trachelos* (neck, by extension pronotum), alluding to the elongate pronotum of the adult [masculine].

*Cosnania* Dejean, 1821: 2 [potential *nomen protectum*]. Type species: *Attelabus pensylvanicus* Linnaeus, 1758 by monotypy. Etymology. Unknown; this is also the case for the spelling *Casnonia* [feminine]. NOTE. *Casnonia* is an incorrect subsequent spelling, first used by Dejean (1825: 170), not currently in prevailing usage. The spelling was in prevailing usage until the 1990s but not attributed to the publication of the original spelling. Therefore *Casnonia* cannot be considered as the correct original spelling (see ICZN 1999: Article 33.3.1).

*Odacanthella* Liebke, 1930: 658. Type species: *Attelabus pensylvanicus* Linnaeus, 1758 by original designation. Etymology. From the generic name *Odacantha* and the Greek suffix *-ella* (small, little) [feminine].

**Diversity.** Fourteen species are listed in this subgenus by Lorenz (2005: 442) but some (e.g., *C. lioptera*, *C. tetrastigma*, and *C. emdeni* Liebke) are not closely related to the type species, *C. pensylvanica*. Two North American species belong to this subgenus.

### *Colliuris lengi* (Schaeffer, 1910)

*Casnonia lengi* Schaeffer, 1910: 395. Type locality: «Nogales [Santa Cruz County], Arizona» (original citation). Holotype [by monotypy] (♀) in USNM [# 56140]. Etymology. The species name honors Charles William Leng [1859-1941], coleopterist and historian. Born on Staten Island, Leng was early in his adult life a business partner with his father in importing iron and steel, with bicycles as a new and promising sideline. He eventually became director of the Staten Island Institute of Arts and Sciences. He is of course well known for the catalogue of North American beetles he published in 1920 at the request of John D. Sherman, Jr.

**Distribution.** This species has a very restricted distribution; it is known from southeastern Arizona and adjacent northern Mexico [see Bousquet 2010b: Fig. 19].

**Records. USA:** AZ – Mexico

### *Colliuris pensylvanica* (Linnaeus, 1758)

*Attelabus pensylvanicus* Linnaeus, 1758: 387. Type locality: «Philadelphia [Philadelphia County, Pennsylvania]» (original citation). Syntype(s) probably lost (see Lindroth 1957b: 327).

*Casnonia picta* Chaudoir, 1843b: 697. Type locality: «Californie» (original citation), which is likely incorrect. Syntype(s) in MHNP. Synonymy established by Bousquet (2010b: 9).

*Casnonia suturalis* Chaudoir, 1872d: 405. Type locality: «midi des Etats-Unis» (original citation). Syntype(s) [3 originally cited] in MHNP. Synonymy established by LeConte (1880a: 85).

*Casnonia limbata* C.O. Waterhouse, 1879: 304. Type locality: «Jamaica» (lectotype label). Lectotype (♀), designated by Bousquet (2010b: 9), in BMNH. Synonymy established by Bousquet (2010b: 9).

*Colliuris picta* var. *extrema* Liebke, 1930: 689. Type locality: «Mexico» (original citation). Lectotype (♂), designated by Bousquet (2010b: 10), in ZMHB. Synonymy established by Bousquet (2010b: 9).

*Colliuris picta* var. *concluda* Liebke, 1930: 689. Type locality: «Durango city [Mexico]» (lectotype label). Lectotype (♂), designated by Bousquet (2010b: 9), in ZMHB. Synonymy established by Bousquet (2010b: 9).

*Colliuris yucatana* Liebke, 1930: 700. Type locality: «Temax, N[orth] Yucatan [Mexico]» (original citation). Holotype in BMNH. Synonymy established by Bousquet (2010b: 9).

**Distribution.** This species ranges from Maine (Dearborn and Donahue 1993: 8; Foss 2001: 14) to eastern South Dakota (Kirk and Balsbaugh 1975: 37), including southern Quebec (Larochelle 1975: 78) and the Ontario Peninsula (Lindroth 1969a: 1008), south to the Yucatán Peninsula and southern Florida, west to southern Arizona and Baja California Sur [see Bousquet 2010b: Fig. 18]; also known from Cuba and Jamaica (Bousquet 2010b: 10).

**Records.** CAN: ON, QC USA: AL, AR, AZ, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV – Cuba, Jamaica, Mexico

### Subgenus *Calocolliuris* Liebke, 1938

*Calocolliuris* Liebke, 1938: 55. Type species: *Casnonia ludoviciana* Sallé, 1849 by original designation. Etymology. From the Greek prefix *calo-* (beautiful) and the generic name *Colliuris* [*q.v.*] [feminine].

**Diversity.** Five Nearctic and Neotropical species were included in this subgenus by Liebke (1938: 55–56). However, a number of species (e.g., *C. liptera* Bates, *C. tetrastigma* Chaudoir, *C. caymanensis* Darlington, *C. ellipticeps* Liebke, and *C. gundlachi* Darlington), placed in other subgenera by Liebke (1938), are closely related to members of *Calocolliuris* (personal observation).

### *Colliuris caymanensis* Darlington, 1947

*Colliuris tetrastigma caymanensis* Darlington, 1947: 211. Type locality: «South Sound, Grand Cayman» (original citation). Holotype (♂) in BMNH.

**Distribution.** This species is known from southern Florida, Cuba, the Cayman Islands, Jamaica, and Haiti (Bousquet 2010b: 23).

**Records.** USA: FL – Cayman Islands, Cuba, Haiti, Jamaica

### *Colliuris lioptera* (Bates, 1891)

*Casnonia lioptera* Bates, 1891a: 265. Type locality: «Atoyac, in Vera Cruz [Mexico]» (original citation). Syntype(s) in BMNH.

**Distribution.** This species ranges from southeastern Arizona (Bousquet and Larochelle 1993: 334) south at least to Honduras (USNM).

**Records. USA:** AZ – Honduras, Mexico

***Colliuris ludoviciana* (Sallé, 1849)**

*Casnonia ludoviciana* Sallé, 1849: 297. Type locality: «Nouvelle-Orléans [Orleans Parish], Louisiane» (original citation). One syntype [2 originally cited] in MHNP (collection Chaudoir) and one in MCZ (collection LeConte).

**Distribution.** This species inhabits the Coastal Plain and ranges from southeastern New York to southern Florida, west to eastern Louisiana [see Bousquet 2010b: Fig. 20]. The species was also recorded from “N. Yucatan” by Liebke (1938: 56) and from “Pennsylvania” by Leng (1920: 65); both records are suspect.

**Records. USA:** AL, DC, FL, LA, MD, NC, NJ, NY, VA [PA]

**Tribe CTENODACTYLINI Laporte, 1834**

Ctenodactylidae Laporte, 1834: 45. Type genus: *Ctenodactyla* Dejean, 1825.

**Diversity.** Western Hemisphere, with about 65 species (Lorenz 2005: 393) arrayed in 16 genera.

**Genus *LEPTOTRACHELUS* Latreille, 1829**

*Leptotrachelus* Latreille, 1829: 371. Type species: *Odacantha dorsalis* Fabricius, 1801 by monotypy. Etymology. From Greek *leptos* (thin, slender) and *trachelos* (neck, by extension pronotum), alluding to the narrow pronotum (“où cette partie du corps [pronotum] est à peu près cylindrique”) of the adult [masculine].

*Spheracra* Say, 1830a: 133. Type species: *Odacantha dorsalis* Fabricius, 1801 by monotypy.

**Diversity.** Thirty-four species (Lorenz 2005: 393) in the temperate, subtropical, and tropical areas of the Nearctic (three species) and Neotropical (32 species) Regions.

**Identification.** Bousquet (1997b: 336) commented on the structural differences between *L. dorsalis* and *L. pallidulus*. The third species (*L. depressus*) is known only from the holotype which is very similar to members of *L. pallidulus* and may eventually prove to be conspecific with them.

***Leptotrachelus depressus* Blatchley, 1923**

*Leptotrachelus depressus* Blatchley, 1923: 15. Type locality: «Lake Wales [Polk County], Fl[orid]a» (original citation). Holotype [by monotypy] (♂) in PURC.

**Distribution.** This species is known only from the Florida Peninsula (Peck and Thomas 1998: 23).

**Records. USA:** FL



***Leptotrachelus dorsalis* (Fabricius, 1801)**

*Odacantha dorsalis* Fabricius, 1801: 229. Type locality: «Carolina» (original citation), herein restricted to Yemassee, Hampton County, South Carolina (see Ciegler 2000: 117). Syntype(s) location unknown (Lindroth 1969a: 1006).

**Distribution.** This species ranges from Rhode Island (William L. Krinsky pers. comm. 2009) and Connecticut (Krinsky and Oliver 2001: 232) to southeastern South Dakota (Kirk and Balsbaugh 1975: 36), including the Ontario Peninsula (Lindroth 1969a: 1006), south to southeastern Texas (Wharton County, CNC) and southern Florida (Peck and Thomas 1998: 23); also found in Cuba (Gundlach 1891: 19), Barbados, and Hispaniola (Peck and Thomas 1998: 23).

**Records.** CAN: ON USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, NE, NJ, NY, OH, PA, RI, SC, SD, TN, TX, VA, WI, WV – Barbados, Cuba, Hispaniola

***Leptotrachelus pallidulus* Motschulsky, 1864**

*Leptotrachelus pallidulus* Motschulsky, 1864: 218. Type locality: «Nouv[elle] Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype, designated by Bousquet (1997b: 335), in ZMMU.

**Distribution.** This species is known from a few scattered localities in Tennessee, Louisiana (Bousquet 1997b: 338), and Texas (Chaudoir 1872d: 412).

**Records.** USA: LA, TN, TX

**Tribe CYCLOSOMINI Laporte, 1834**

Cyclosomidae Laporte, 1834: 69. Type genus: *Cyclosomus* Latreille, 1829.

Tétragonodérides Chaudoir, 1871a: 111. Type genus: *Tetragonoderus* Dejean, 1829.

Sarothrocrepidae Chaudoir, 1876d: 2, 83. Type genus: *Sarothrocrepis* Chaudoir, 1850.

NOTE. The stem of *Sarothrocrepis* is *Sarothrocrepid-* (Madge 1989: 467).

**Diversity.** About 120 species in the Nearctic (four species), Neotropical (about 40 species of *Tetragonoderus*), Australian (one adventive *Tetragonoderus*), Oriental, Palaearctic (20 species), and Afrotropical Regions. These species are arrayed in four genera: *Cyclosomus* Latreille (13 species), *Cyclicus* Jeannel (22 afro-oriental species), *Mnuphorus* Chaudoir (11 species) and *Tetragonoderus* (about 75 species). The Northern Hemisphere is represented by about 25 species (approximately 21% of the world fauna).

**Taxonomic Note.** This tribe is treated here in a restricted sense following Ball and Bousquet (2000: 109) and excluded the graphipterines, corsyrines, masoreines, somoplatines, and nemotarsines.

**Genus *TETRAGONODERUS* Dejean, 1829**

*Tereus* Billberg, 1820: 26 [potential *nomen oblitum*, see Bousquet (2002b: 50)]. Type species: *Carabus quadrinotatus* Fabricius, 1798 designated by Bousquet (2002b: 50). Etymology. Unknown [masculine].

*Tetragonoderus* Dejean, 1829: 485 [potential *nomen protectum*]. Type species: *Carabus quadrum* Fabricius, 1792 designated by Hope (1838: 89). Synonymy established by Bousquet (2002b: 50). Etymology (original). From the Greek *tetragonos* (square) and *dere* (neck, by extension pronotum), alluding to the shape of the pronotum (“*corselet ... plus ou moins carré*”) of adults of the 16 species Dejean had before him [masculine].

**Diversity.** About 75 species (Lorenz 2005: 453) arrayed in two subgenera, *Tetragonoderus s.str.* with about 35 species in the Old World and *Crossonychus* for the Western Hemisphere species.

**Identification.** Lindroth (1969a: 1010) included a key to four of the five species found in North America.

### Subgenus *Crossonychus* Chaudoir, 1848

*Crossonychus* Chaudoir, 1848: 98. Type species: *Dromius viridis* Dejean, 1831 by monotypy. Etymology. From the Greek *crossos* (fringe) and *onyx*, *-ychos* (claw) [masculine].

*Lobius* Motschulsky, 1864: 230. Type species: *Dromius viridis* Dejean, 1831 designated by Lorenz (1998: 108).

*Peronoscelis* Chaudoir, 1876d: 56. Type species: *Tetragonoderus figuratus* Dejean, 1831 designated by Bousquet and Laroche (1993: 266). Synonymy established by Ball (2000: 190). Etymology. From the Greek *perone* (pin, something pointed) and *scelos* (leg) [feminine].

**Diversity.** Western Hemisphere, with about 40 species in the Nearctic (five species, one of them adventive) and Neotropical (about 40 species) Regions. One South American species (*T. undatus* Dejean) is adventive in Australia (Moore 1976). The species have been arrayed in two species groups by Ball (2000: 190), the *figuratus* and *intersectus* groups; only the last one is represented in North America.

### *Tetragonoderus fasciatus* (Haldeman, 1843)

*Coptodera fasciata* Haldeman, 1843b: 298. Type locality: North America (inferred from title of the paper), «Fairfax Co[unty], V[irgini]a» selected by Lindroth (1969a: 1010). One possible syntype, a ♀ labeled “[pink disc] / *T. fasciatus* (Hald.) Lec. [handwritten],” in MCZ (collection LeConte).

*Tetragonoderus undulatus* LeConte, 1863c: 6. Type locality: «Cape San Lucas, Lower California» (original citation). Two syntypes in MCZ [# 5797]. Synonymy established by Horn (1882: 160).

*Tetragonoderus distigma* Motschulsky, 1864: 222. Type locality: «Etat de Tennessee» (original citation). Lectotype (♀), designated by Bousquet (1997b: 338), in ZMMU. Synonymy established by Bousquet (1997b: 339).

**Distribution.** This species ranges from southwestern Maine (Majka et al. 2011: 47) and southern Quebec (CNC) to southwestern Minnesota (Gandhi et al. 2005: 932), south

to southern Texas (Wickham 1897: 107; Zapata County, CMNH) and central Florida (Peck and Thomas 1998: 23), west along the south to Riverside County in California (Dajoz 2007: 19) and the Baja California Peninsula (Horn 1894: 310; Horn 1895: 226).

**Records.** **CAN:** ON, QC **USA:** AL, AR, AZ, CA, CT, DC, DE, FL, GA, IA, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA, VT, WI – Mexico

### *Tetragonoderus intersectus* (Germar, 1824)

*Bembidion intersectum* Germar, 1824: 28. Type locality: «Kentucky» (original citation). Lectotype (♀), designated by Lindroth (1969a: 1012), in ZMHB.

*Tetragonoderus lecontei* Dejean, 1829: 499. Type locality: «Amérique septentrionale» (original citation). Two syntypes in MHNP (Lindroth 1955b: 22). Synonymy established by LeConte (1853c: 378), confirmed by Lindroth (1955b: 22).

**Distribution.** This species ranges from North Carolina (Moore County, CNC) to southern Arizona (Pima County, CMNH), south to Jalisco in Mexico (CMNH), southern Texas (Johnson 1978: 68), and southern Florida (Peck and Thomas 1998: 23); also known from the Bahamas (Darlington 1953: 16). The record from “Virginia” (Bousquet and Larochelle 1993: 266) needs confirmation; that from southern Ontario (Belaoussoff et al. 2003: 878) probably refers to *T. fasciatus*.

**Records.** **USA:** AL, AR, AZ, FL, GA, KY, LA, MS, NC, SC, TN, TX [VA] – Bahamas, Mexico

### *Tetragonoderus laevigatus* Chaudoir, 1876

*Tetragonoderus laevigatus* Chaudoir, 1876d: 46. Type locality: «près de Montevideo, Uruguay» (original citation). One syntype (♂) in MHNP (Shpeley and Ball 2008: 7).

*Tetragonoderus unicolor* Chaudoir, 1876d: 47 [primary homonym of *Tetragonoderus unicolor* Gemminger and Harold, 1868]. Type locality: «province de Rio-Janeiro [Brazil]» (original citation). Lectotype (♂), designated by Shpeley and Ball (2008: 7), in MHNP. Synonymy established by Shpeley and Ball (2008: 7).

*Tetragonoderus chaudoiri* Liebke, 1928: 129. Replacement name for *Tetragonoderus unicolor* Chaudoir, 1876.

**Distribution.** This South American species is adventive in southeastern Florida (Shpeley and Ball 2008: 9). The first inventoried specimen collected on this continent was found in March 2007 (Halbert 2007: 7; Shpeley and Ball 2008: 9). In South America, the species ranges from the Baía de Marajó along the Atlantic Coast in northern Brazil to southern Uruguay and central Argentina (Shpeley and Ball 2008: Fig. 6).

**Records.** **USA:** FL – Adventive

### *Tetragonoderus latipennis* LeConte, 1874

*Tetragonoderus latipennis* LeConte, 1874b: 44. Type locality: «Texas» (original citation). Four syntypes in MCZ [# 5798].

**Distribution.** This species occurs from southwestern Alabama (Baldwin and Clarke Counties, CMNH) to central Arizona (Yavapai County, CNC), south to southern Texas (Wickham 1897: 107; Johnson 1978: 68); also recorded from Mexico (Blackwelder 1944: 52).

**Records. USA:** AL, AR, AZ, LA, MS, TX – Mexico

### ***Tetragonoderus pallidus* Horn, 1869**

*Tetragonoderus pallidus* G.H. Horn, 1869b: 130. Type locality: «Temescal, southern California and Arizona» (original citation). Syntype(s) in MCZ [# 34501].

**Distribution.** This species is known from southwestern California (Fall 1901a: 48; Moore 1937: 11) to the western tip of Texas (El Paso County, CMNH), including western Nevada (Bechtel et al. 1983: 474); also recorded from the Baja California Peninsula (Horn 1895: 226).

**Records. USA:** AZ, CA, NV, TX – Mexico

### **Tribe LEBIINI Bonelli, 1810**

Lebiotae Bonelli, 1810: Tabula Synoptica. Type genus: *Lebia* Latreille, 1802.

**Diversity.** Worldwide, with about 4,260 species arrayed in 237 genera (Lorenz 2005: 453-502, as Nemotarsina and Lebiini). The North American fauna is underrepresented both in term of species (about 155 species or 3.6% of the world fauna) and genera (25 genera or 10.5%). The lebiine genera are classified into the following 17 subtribes: Actenonycina (one New Zealand species), Agrina (about 585 species), Apenina (about 115 species), Calleidina (about 660 species), Celaenephina (two species), Cymindidina (about 315 species), Demetriadina (14 species), Dromiusina (about 735 species), Gallerucidiina (ten species), Lebiina (about 800 species), Metallicina (about 70 species), Nemotarsina (nine species), Peliocypadina (about 70 species), Pericalina (about 825 species), Physoderina (45 species), Sugimotoina (one species), and Trichina (five species).

### **Subtribe PERICALINA Hope, 1838**

Pericalidae Hope, 1838: 105 (as Pericallidae). Type genus: *Pericalus* Macleay, 1825.

Coptodérides Chaudoir, 1848: 116 (as Costodérides). Type genus: *Coptodera* Dejean, 1825.

Mormolycites Blanchard, 1845: 390. Type genus: *Mormolyce* Hagenbach, 1825. Synonymy established by Ball (1975: 149).

Thyréoptérides Chaudoir, 1870a: 113. Type genus: *Thyreopterus* Dejean, 1831.

Eucheilinae Bates, 1883a: 168. Type genus: *Eucheila* Dejean, 1829.

Miscelini Sloane, 1907: 473. Type genus: *Miscelus* Klug, 1834.

Thysanotini Jeannel, 1949a: 947, 975. Type genus: *Thysanotus* Chaudoir, 1848.

Lobodontini Jeannel, 1949a: 1007. Type genus: *Lobodontus* Chaudoir, 1842.

Somotrichini Mateu, 1963: 122, 131. Type genus: *Somotrichus* Seidlitz, 1887. Synonymy established by Ball (1975: 147).

**Diversity.** Worldwide, with about 825 species arrayed in 77 genera (Lorenz 2005: 454–464). The subtribe is underrepresented in the Northern Hemisphere with about 70 species (8.5% of the world fauna), of which nine (about 1%) only occur in North America.

**Identification.** Shpeley and Ball (2001) reviewed all 111 native species-group taxa found in the Western Hemisphere and provided keys for their identification. Their work is to be used in conjunction with a previous study (Ball and Shpeley 1983).

**Taxonomic Note.** In a cladistic analysis based on characters of the adults performed by Ball et al. (1995: Fig. 7), this subtribe is positioned as the sister-group to {Sugimotoina + Actenonycina}. In Casale's (1998: Fig. 91) cladistic analysis, the pericalines showed up as the sister-group to the remaining Lebiini.

### Genus *MOCHTHERUS* Schmidt-Göbel, 1846

*Mochtherus* Schmidt-Göbel, 1846: 76. Type species: *Mochtherus angulatus* Schmidt-Göbel, 1846 (= *Dromius tetraspilotus* Macleay, 1825) designated by Andrewes (1938: 136). Etymology (original). From the Greek *mochtheros* (toiling, suffering, wretched, by extension cheaply, stunted) [masculine].

*Cyrtopterus* Motschulsky, 1861: 106. Type species: *Cyrtopterus quadrinotatus* Motschulsky, 1861 (= *Dromius tetraspilotus* Macleay, 1825) designated by Habu (1967: 103). Etymology. From the Greek *cyrtos* (curved) and *pteron* (wing, by extension elytron) [masculine].

**Diversity.** Nine species (Lorenz 2005: 460) in the Palearctic (eastern Asia only), Oriental, and Australian Regions, with one of them adventive in Florida.

**Identification.** The character states of the sole species found in North America are described in detail by Habu (1967: 104–105) under the name *Dolichoctis tetraspilotus*.

**Taxonomic Note.** Habu (1967: 100) treated this taxon as a subgenus of *Dolichoctis* Schmidt-Göbel.

### *Mochtherus tetraspilotus* (Macleay, 1825)

*Dromius tetraspilotus* W.S. Macleay, 1825: 25. Type locality: Java (inferred from title of the book). Syntype(s) location unknown (possibly in USS).

**Distribution.** This species is widely distributed in Asia from India to Japan, south through the Malay Archipelago to New Guinea; it is also known from Christmas Island and Samoa. The species is adventive in southeastern United States and currently known from Florida, where the first specimens were detected in 1992 in Palm Beach County (Choate 2001), southern Mississippi (Pearl River County, Peter W. Messerspers. comm. 2010), and east-central Louisiana (West Feliciana Parish, Igor M. Sokolov pers. comm. 2009).

**Records. USA:** FL, LA, MS – **Adventive**



**Genus *PHLOEOXENA* Chaudoir, 1870**

*Phloeoxena* Chaudoir, 1870a: 145. Type species: *Phloeoxena picta* Chaudoir, 1870 designated by Ball (1975: 178). Etymology. From the Greek *phloios* (bark) and *xenos* (stranger, guest) [feminine].

**Diversity.** Thirty-four species in the temperate, subtropical, and tropical areas of the Nearctic (one eastern species) and Neotropical (34 species) Regions. These species are arrayed in five subgenera: *Oenaphelox* Ball (nine species), *Tacana* Ball (one species), *Phloeoxena s.str.* (15 species), *Oxephloena* Shpeley and Ball (one species), and *Ochropisus* Bates (eight species).

**Identification.** Shpeley and Ball (2001: 78-80) published a key for the identification of all known species.

**Subgenus *Oenaphelox* Ball, 1975**

*Oenaphelox* Ball, 1975: 205. Type species: *Coptodera signata* Dejean, 1825 by original designation. Etymology. Anagram of the generic name *Phloeoxena* [*q.v.*] [masculine].

**Diversity.** Nine species in North America and Middle America.

***Phloeoxena signata* (Dejean, 1825)**

*Coptodera signata* Dejean, 1825: 275. Type locality: «Géorgie» (original citation), herein restricted to Billy's Island, Okefinokee Swamp, Charlton County (see Ball 1975: 222). Lectotype [as holotype] (♂), designated by Ball (1975: 213), in MHNP.

*Coptodera collaris* LeConte, 1846b: 197. Type locality: «Georgia» (original citation). Lectotype (♀), designated by Ball (1975: 215), in MCZ [#5810]. Synonymy established by Horn (1882: 160), confirmed by Ball (1975: 215).

*Phloeoxena maculicollis* Chaudoir, 1870a: 151. Type locality: «Nouvelle-Grenade» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Ball (1975: 215).

*Phloeoxena högei* Bates, 1883a: 178. Type locality: «Mirador [Veracruz], Mexico» (original citation for the lectotype). Lectotype (♀), designated by Ball (1975: 215), in BMNH. Synonymy established by Ball (1975: 215).

*Phloeoxena signata* var. *nigripennis* Leng, 1915: 587. Type locality: «Enterprise [Volusia County, Florida]» (original citation). Syntype(s) location unknown. Synonymy established (as aberration) by Csiki (1932b: 1359), accepted by Ball (1975: 215).

**Distribution.** This species extends from Maryland (Steiner et al. 2007: 224) to central Florida (Peck and Thomas 1998: 24) and southeastern Louisiana, and from the states of Tamaulipas and Jalisco in Mexico to Panama [see Ball 1975: Fig. 112].

**Records. USA:** AL, FL, GA, LA, MD, MS, NC, SC, TN, VA – Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Panama

## Genus *EUCHEILA* Dejean, 1829

*Eucheila* Dejean [in Dejean and Boisduval], 1829: 60 (as *Eucheyla*). Type species: *Eucheyla flavilabris* Dejean, 1829 by monotypy. Etymology (original). From the Greek *eu* (well, large) and *cheilos* (lip), alluding to the large size of the labrum (“*lèvre supérieure très-grande*”) of the adult [feminine]. NOTE. *Eucheila* is an incorrect subsequent spelling of *Eucheyla* Dejean, 1829 introduced by Dejean (1831: 455). The spelling *Eucheila* is in prevailing usage and attributed to the original publication by recent authors (e.g., Lorenz 2005: 463; Anichtchenko 2010: 189); therefore, it is deemed to be the correct original spelling (ICZN 1999: Article 33.3.1).

*Euchila* Agassiz, 1846: 146 [junior homonym of *Euchila* Billberg, 1820]. Unjustified emendation of *Eucheila* Dejean, 1829.

**Diversity.** Twenty-four species (Lorenz 2005: 463–464) in the Neotropical Region, one of them reaching southeastern Texas. The species are arrayed in five subgenera: *Inna* Putzeys (ten species), *Eucheila s.str.* (six species), *Pseudoinna* Mateu (four species), *Bordoniella* Mateu (two species), and *Hansus* Ball and Shpeley (two species).

## Subgenus *Inna* Putzeys, 1861

*Inna* Putzeys, 1861: 71. Type species: *Inna punctata* Putzeys, 1861 (= *Polistichus boyeri* Solier, 1835) by monotypy. Etymology. Unknown [feminine].

*Periglossium* Liebke, 1929: 246. Type species: *Periglossium nevermanni* Liebke, 1929 by original designation. Synonymy established by Reichardt (1966: 14), confirmed by Ball and Shpeley (1983: 756).

**Diversity.** Ten species in the Neotropical Region, one of them reaching southeastern Texas.

## *Eucheila boyeri* (Solier, 1835)

*Polistichus boyeri* Solier, 1835: 111. Type locality: «Colombie» (original citation). Lectotype [as holotype] (♂), designated by Ball and Shpeley (1983: 775), in MHNP (collection Oberthür). Etymology. The specific name was proposed for Etienne Laurent Joseph Hippolyte Boyer de Fonscolombe [1772–1853], pharmacist and entomologist in Aix-en-Provence in France. Boyer published mainly on economic insects and Hymenoptera and had a large entomological collection.

*Inna punctata* Putzeys, 1861: 72. Type locality: «Aragua [Venezuela]» (original citation). Holotype [by monotypy] (♂) in ZMHB. Synonymy established by Ball and Shpeley (1983: 775).

*Inna texana* Schaeffer, 1910: 400. Type locality: «Esperanza Ranch, Brownsville [Cameron County], Texas» (original citation). Lectotype (♂), designated by Erwin and House (1978: 239), in USNM [# 42508]. Synonymy established by Ball and Shpeley (1983: 775).

**Distribution.** This species ranges from southern Texas (Shpeley and Ball 2001: 162) south to northeastern Brazil [see Ball and Shpeley 1983: Fig. 62].

**Records. USA:** TX – Brazil, Colombia, Costa Rica, Guatemala, Honduras, Mexico, Netherlands Antilles, Nicaragua, Panama, Venezuela

### Genus *SOMOTRICHUS* Seidlitz, 1887

*Somotrichus* Seidlitz, 1887: 7 [Gattung]. Type species: *Carabus elevatus* Fabricius, 1792 (= *Lebia unifasciata* Dejean, 1831) by monotypy. Etymology. From the Greek *soma* (body) and *trichos* (hair), probably alluding to the pubescence on the elytra (“*Fl[ü]g[el]d[ecken] ... dicht behaart*”) of the adult [masculine].

**Diversity.** Two species from the Afrotropical Region, one restricted to Madagascar, the other subcosmopolitan, having been dispersed through commerce.

**Identification.** The character states of the species found in North America are described in detail by Habu (1967: 75-77).

**Taxonomic Note.** This genus was listed in the tribe Singilini (currently considered a synonym of Dromiusina) by Jeannel (1949a: 915-916) along with the genera *Singilis* Rambur (eight species in the Mediterranean region and Middle East), *Phloeozetus* Peyron (about 55 species in Africa, Mediterranean region, and Middle East), *Velindopsis* Burgeon (three Afrotropical species), *Pephrica* Alluaud (six Afrotropical species), and *Paulianites* Jeannel (one Madagascan species).

### *Somotrichus unifasciatus* (Dejean, 1831)

*Carabus elevatus* Fabricius, 1792: 162 [primary homonym of *Carabus elevatus* Fabricius, 1787]. Type locality: «Parisiis [France]» (original citation). One syntype in ZMUC (Zimsen 1964: 59).

*Lebia unifasciata* Dejean, 1831: 389. Type locality: «Ile-de-France» (original citation). Holotype [by monotypy] in MHNP. Synonymy established by Brullé (1834a: 108).

*Coptodera 2-cincta* Hope, 1845: 15. Type locality: Canton (= Guangzhou in Guangdong province), China (inferred from title on page 13). Syntype(s) location unknown (possibly in UMO). Synonymy established by Andrewes (1919: 178).

*Coptodera massiliensis* Fairmaire, 1850: 419. Type locality: «Marseille [France]» (original citation). Syntype(s) location unknown (possibly in MHNP). Synonymy established by Chaudoir (1854: 133).

**Distribution.** This species is adventive in North America where it is known from Randolph County in North Carolina (Peter W. Messer pers. comm. 2012), Aiken County in South Carolina (Peter W. Messer pers. comm. 2011), Telfair and Jeff Davis Counties in southern Georgia (Harry J. Lee, Jr. pers. comm. 2010), Broward County in Florida (Peck and Thomas 1998: 25), Polk and Garland Counties in Arkansas (CMNH), and Santa Cruz County in southern Arizona (Ober and Maddison 2008: 30, as *S. elevatus*). The record from Seattle, Washington (Hatch 1953: 153) is based on specimens inter-

cepted in nuts from Brazil; that from “Texas” (Bousquet and Larochelle 1993: 270) needs confirmation.

**Records. USA:** AR, AZ, FL, GA, NC, SC [TX] – **Adventive**

### **Genus** *COPTODERA* Dejean, 1825

*Coptodera* Dejean, 1825: 273. Type species: *Coptodera festiva* Dejean, 1825 designated by Hope (1838: 85). Etymology (original). From the Greek *copto* (to cut, chop) and *dere* (neck, by extension pronotum), alluding to the straight (i.e., without lobe as in *Lebia*) basal edge of the pronotum (“*corselet ... coupé carrément postérieurement*”) of the adult [feminine].

**Diversity.** About 105 species (Lorenz 2005: 457–458) in the Nearctic (five species), Neotropical (43 species), Australian, Afrotropical, Oriental, and Palearctic (13 species in eastern Asia only) Regions. These species are arrayed in four subgenera: *Coptodera s.str.* (about 45 species), *Haplocrepis* Jeannel (six Afrotropical species), *Coptoderina* Jeannel (53 species), and *Coptoderinella* Hansen (one Afrotropical species).

### **Subgenus** *Coptodera* Dejean, 1825

*Coptodera* Dejean, 1825: 273. Type species: *Coptodera festiva* Dejean, 1825 designated by Hope (1838: 85).

*Stenoglossa* Chaudoir, 1848: 116. Type species: *Stenoglossa variegata* Chaudoir, 1848 (= *Coptodera sallei* Shpeley and Ball, 1994) by monotypy. Synonymy established by Shpeley and Ball (1994: 18). Etymology. From the Greek *stenos* (narrow) and *glossa* (tongue), alluding to the narrow ligula (“*ligula longissima angustissimaque*”) of the adult [feminine].

**Diversity.** About 45 species in temperate, subtropical, and tropical areas of the Western Hemisphere arrayed in 11 species groups. Five species are found in North America.

**Identification.** Shpeley and Ball (1994) revised the species and provided a key for their identification.

#### [**aerata group**]

### ***Coptodera aerata* Dejean, 1825**

*Coptodera aerata* Dejean, 1825: 277. Type locality: «Amérique septentrionale» (original citation), restricted to «Jones Creek, Lee Co[unty], V[irgini]a» by Lindroth (1969a: 1039). Lectotype (♂), designated by Shpeley and Ball (1994: 118), in MHNP.

*Coptodera viridipennis* Gory, 1833: 194. Type locality: «Java» (original citation), which is incorrect (Shpeley and Ball 1994: 118). Lectotype [as holotype] (♂), designated by Shpeley and Ball (1994: 118), in MHNP (collection Chaudoir). Synonymy established by Chaudoir (1850a: 357), confirmed by Shpeley and Ball (1994: 118).

*Coptodera viridipennis* LeConte, 1846b: 196 [primary homonym of *Coptodera viridipennis* Gory, 1833]. Type locality: «Alabama» (original citation). Lectotype (♂), designated by Shpeley and Ball (1994: 118), in MCZ [# 34513]. Synonymy established by Melsheimer (1853: 6), confirmed by Shpeley and Ball (1994: 118).

*Coptodera ruficornis* Chaudoir, 1870b: 179. Type locality: «états méridionaux de l'Union américaine» (original citation). Holotype [by monotypy; designated lectotype by Shpeley and Ball (1994: 119)] (♀) in MHNP. Synonymy established by Horn (1882: 160), confirmed by Shpeley and Ball (1994: 119).

**Distribution.** The range of this species extends from Connecticut (New London County, William L. Krinsky pers. comm. 2012) to southeastern Nebraska, south to eastern Texas and west-central Florida [see Shpeley and Ball 1994: map 19]. According to Shpeley and Ball (1994: 119), the specimens labeled from Gallatin County in Montana (CAS) and Santa Cruz County in Arizona (AMNH) are probably mislabeled.

**Records. USA:** AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MO, MS, NC, NE, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WV

### *Coptodera brunnea* Shpeley and Ball, 1994

*Coptodera brunnea* Shpeley and Ball, 1994: 116. Type locality: «Guadalupe Canyon, Cochise County, Arizona» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is found from southeastern Arizona and southeastern New Mexico south to Honduras and Belize [see Shpeley and Ball 1994: map 18].

**Records. USA:** AZ, NM – Belize, Honduras, Mexico

### *Coptodera nitidula* (Buquet, 1835)

*Lebia nitidula* Buquet, 1835: 677. Type locality: «Guyane centrale» (original citation). Lectotype [as holotype] (♂), designated by Shpeley and Ball (1994: 112), in MHNP. NOTE. The specimen selected as lectotype is labeled “Brésil” (Shpeley and Ball 1994: 112) and therefore may not be a syntype.

*Lebia triangularis* Buquet, 1835: 678. Type locality: «non loin des sources du Jari [Brazil]» (original citation). Lectotype [as holotype] (♂), designated by Shpeley and Ball (1994: 112), in MHNP. Synonymy established by Shpeley and Ball (1994: 112).

*Coptodera luculenta* Erichson, 1847: 69. Type locality: Peru (inferred from title of the paper). Lectotype [as holotype] (♂), designated by Shpeley and Ball (1994: 112), in MHNP. Synonymy established, under the name *C. triangularis* (Buquet), by Chaudoir (1870b: 185), confirmed by Shpeley and Ball (1994: 112).

*Coptodera debilis* Bates, 1869: 76. Type locality: «St. Paulo [= possibly São Paulo de Olivença, Brazil], Upper Amazons» (original citation). Lectotype (♀), designated by Shpeley and Ball (1994: 112), in MHNP. Synonymy established by Bates (1871: xvi), confirmed by Shpeley and Ball (1994: 112).



*Coptodera nubiculosa* Chaudoir, 1870b: 186. Type locality: «Paramaribo [Surinam]» (lectotype label). Lectotype (♂), designated by Shpeley and Ball (1994: 112), in MHNP. Synonymy established by Shpeley and Ball (1994: 112).

*Coptodera flavodisca* Chaudoir, 1870b: 187. Type locality: «Ega (Haut-Amazone) [Brazil]» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Shpeley and Ball (1994: 112).

*Coptodera flavodisca* var. *immaculipennis* Bates, 1883a: 182. Type locality: «San Gerónimo, Guatemala» (original citation for the lectotype). Lectotype, designated by Shpeley and Ball (1994: 112), in BMNH. Synonymy established by Shpeley and Ball (1994: 112).

**Distribution.** The range of this species extends from southern Arizona and southwestern New Mexico south to southeastern Brazil and northern Argentina [see Shpeley and Ball 1994: map 17].

**Records. USA:** AZ, NM – Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Guyana, Mexico, Nicaragua, Panama, Paraguay, Peru, Surinam, Trinidad and Tobago, Venezuela

#### [festiva group]

##### *Coptodera festiva* Dejean, 1825

*Coptodera festiva* Dejean, 1825: 274. Type locality: «île de Cuba» (original citation). Holotype [by monotypy; designated lectotype by Shpeley and Ball (1994: 82)] (♂) in MHNP.

*Coptodera chloris* Bates, 1883a: 182. Type locality: «Mirador [Veracruz], Mexico» (original citation). Lectotype (♂), designated by Shpeley and Ball (1994: 82), in BMNH. Synonymy established by Shpeley and Ball (1994: 82).

**Distribution.** This species occurs in southern Florida, the West Indies, and from Mexico (as far north as San Luis Potosí) to Brazil [see Shpeley and Ball 1994: map 12].

**Records. USA:** FL – Brazil, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Haiti, Jamaica, Mexico, Panama, Puerto Rico, Venezuela

#### [picea group]

##### *Coptodera picea* Dejean, 1826

*Coptodera picea* Dejean, 1826: 458. Type locality: «Brésil» (original citation). Lectotype (♂), designated by Shpeley and Ball (1994: 108), in MHNP.

*Coptodera velox* Gory, 1833: 195. Type locality: «Cayenne [French Guiana]» (original citation). Lectotype [as holotype] (♂), designated by Shpeley and Ball (1994: 108), in MHNP. Synonymy established by Chaudoir (1850a: 357), confirmed by Shpeley and Ball (1994: 108).

*Coptodera unicolor* Chevrolat, 1834: [no. 40]. Type locality: «Orixaba [Mexico]» (original citation). Lectotype (♀), designated by Shpeley and Ball (1994: 108), in UMO. Synonymy established by Shpeley and Ball (1994: 108).

*Coptodera obscura* Laporte, 1834: 51. Type locality: «Orizaba [Veracruz], Mexique» (original citation). Syntype(s) location unknown (possibly in MHNP). Synonymy established, under the name *C. unicolor* Chevrolat, by Chaudoir (1850a: 358).

*Lebia rufula* Buquet, 1835: 680. Type locality: «environs de Cayenne [French Guiana]» (original citation). Lectotype [as holotype] (♂), designated by Shpeley and Ball (1994: 108), in MHNP. Synonymy established by Chaudoir (1870b: 178), confirmed by Shpeley and Ball (1994: 108).

**Distribution.** This species is known from the tip of Florida, the West Indies, including the Bahamas (Turnbow and Thomas 2008: 12), Cuba, and the Dominican Republic (Shpeley and Ball 2001: 148), and from the state of San Luis Potosí in Mexico to southeastern Brazil [see Shpeley and Ball 1994: map 16].

**Records.** USA: FL – Bahamas, Belize, Bolivia, Brazil, Colombia, Cuba, Dominican Republic, Ecuador, French Guiana, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Surinam, Trinidad and Tobago, Venezuela

### Subtribe CYMINDIDINA Laporte, 1834

Cymindidae Laporte, 1834: 46. Type genus: *Cymindis* Latreille, 1805. NOTE. The stem of *Cymindis* is *Cymindid-* (Madge 1989: 462).

Taridae Gistel, 1848b: [2]. Type genus: *Tarus* Clairville, 1806 (= *Cymindis* Latreille, 1805).

Pseudomasoreini Jeannel, 1942: 1039. Type genus: *Pseudomasoreus* Desbrochers des Loges, 1904. Synonymy established by Ball and Hilchie (1983: 132).

**Diversity.** About 315 species (Lorenz 2005: 465–470, excluding *Metaxymorphus*) in the Nearctic (27 species), Neotropical (12 species), Oriental (six species), Palaearctic (about 170 species), and Afrotropical (about 115 species) Regions. These species are arrayed in nine genera: *Taridius* Chaudoir (four Oriental species), *Afrotarus* Jeannel (seven species in Africa, Arabia, and India), *Cymindis* (about 200 species), *Petrimagnia* Kryzhanovskij and Mikhailov (one species from Tadzhikistan), *Leptosarcus* Péringuey (two Afrotropical species), *Pseudomasoreus* Desbrochers des Loges (20 species in Africa, one of them extending into southwestern Europe), *Assadecma* Basilewsky (one Madagascan species), *Hystrichopus* Boheman (about 70 species in Africa and one in Yemen), and *Plagiopyga* Boheman (13 Afrotropical species). According to Ball and Hilchie (1983: 197), the Afrotropical genus *Metaxymorphus* Chaudoir belongs to the subtribe Dromiusina. On the other hand, Basilewsky (1984: 551), followed by Lorenz (2005: 470), listed it, but with strong doubt, with the Cymindidina.

### Genus CYMINDIS Latreille, 1805

*Cymindis* Latreille, 1805: 190. Type species: *Buprestis humeralis* Geoffroy, 1785 by monotypy. Etymology. From the Greek *cymindis* (kind of hawk in Pliny the Elder)

[feminine]. NOTE. Bousquet and Larochelle (1993: 267–269) treated *Cymindis* as masculine but the name is feminine (Theil 1882: 709).

*Tarus* Clairville, 1806: 94, 95. Type species: *Buprestis humeralis* Geoffroy, 1785 designated by Curtis (1828: plate 235).

**Diversity.** About 200 species (Lorenz 2005: 465–469, as *Pinacodera* and *Cymindis*) in the Nearctic (27 species), Neotropical (13 species), and Palearctic (167 species) Regions arrayed in 15 subgenera.

**Taxonomic Note.** Ball and Hilchie (1983) regarded *Afrotarus*, *Pinacodera*, and *Taridius* as subgenera of *Cymindis*, implicitly considering all 14 subgenera of *Cymindis* currently recognized in Lorenz (2005) as synonyms of *Cymindis s.str.* For practical reasons this approach is not followed here except that *Pinacodera* is retained as a subgenus of *Cymindis*.

### Subgenus *Tarulus* Bedel, 1906

*Tarulus* Bedel, 1906: 253. Type species: *Tarus zargoides* Wollaston, 1863 by monotypy.

Etymology. From the generic name *Tarus* [*q.v.*] and the Latin suffix *-ulus* (small, little) [masculine].

**Diversity.** Twenty-one species in North America (16 species, one of them Holarctic), Mexico (two species shared with North America), Eurasia (two species, one endemic to eastern Asia), and North Africa (four endemic species).

**Identification.** Lindroth (1969a) reviewed all North American species. Since then, one Palearctic species (*C. vaporariorum*) has been found to occur naturally also in North America. Shpeley and Ball (1999: 420–421) published an emendation to Lindroth's (1969a: 1072–1073) key of *Cymindis* to incorporate *C. vaporariorum* and commented on the structural differences to separate that species from *C. unicolor* which is most similar externally.

**Taxonomic Note.** Lorenz (2005) listed all Nearctic species in the subgenus *Cymindis s.str.* However, Lindroth (1969a: 1070) noted that the North American species belong to the subgenus *Tarulus*, to which *C. vaporariorum* is included.

### *Cymindis americana* Dejean, 1826

*Cymindis americana* Dejean, 1826: 446. Type locality: «Amérique septentrionale» (original citation), restricted to «Concord [Middlesex County], Mass[achusetts]» by Lindroth (1969a: 1079). One syntype in MHNP (Lindroth 1955b: 25).

*Cymindis venator* Dejean, 1831: 311. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 25). Synonymy established by Horn (1882: 162), confirmed by Lindroth (1955b: 25).

*Cymindis continens* Casey, 1920: 287. Type locality: «Colorado» (original citation), which is probably incorrect (Lindroth 1969a: 1082). Lectotype (♀), designated by Lindroth (1975: 146), in USNM [# 47607]. Synonymy established by Lindroth (1969a: 1079).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 78) to eastern South Dakota (Kirk and Balsbaugh 1975: 39), south to northeastern Texas (Lamar County, Brian Raber pers. comm. 2010), southern Louisiana (Chaudoir 1873c: 103), northern Alabama (Madison County, CMNH), and southeastern South Carolina (Ciegler 2000: 119). The record from “Florida” (Bousquet and Larochelle 1993: 267) needs confirmation.

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, GA, KS, IA, IL, IN, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [FL]

### *Cymindis arizonensis* Schaeffer, 1910

*Cymindis arizonensis* Schaeffer, 1910: 400. Type locality: «Huachuca M[oun]t[ain]s, Arizona» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1969a: 1074), in USNM.

*Cymindis zuniana* Casey, 1913: 181. Type locality: «Benson [Cochise County], Arizona» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 145), in USNM [# 47591]. Synonymy established by Lindroth (1969a: 1075).

**Distribution.** This species ranges from southwestern California to “New Mexico” (Lindroth 1969a: 1075).

**Records.** USA: AZ, CA, NM

### *Cymindis borealis* LeConte, 1863

*Cymindis borealis* LeConte, 1863c: 7. Type locality: «North Red River; Nova Scotia» (original citation), restricted to «North Red River [either in southern Manitoba or on Minnesota-Dakota line]» by Lindroth (1969a: 1082). Five syntypes in MCZ [# 5830].

**Distribution.** The range of this species extends from Newfoundland (Lindroth 1955a: 132) to southern British Columbia, south to “New Mexico” (Lindroth 1969a: 1082), northern Wisconsin along Lake Superior (Wickham 1896c: 135; MCZ), northwestern Pennsylvania (Erie County, CMNH), and Connecticut (Krinsky and Oliver 2001: 272). The record from “South Dakota” (Bousquet and Larochelle 1993: 267) is probably in error.

**Records.** CAN: AB, BC, MB, NB, NF, NS (CBI), ON, QC, SK USA: CO, CT, ME, MI, MN, ND, NH, NM, NY, PA, UT, VT, WI, WY

### *Cymindis californica* Horn, 1895

*Cymindis californica* G.H. Horn, 1895: 231. Type locality: «San Luis Obispo [San Luis Obispo County, California]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 34519].

**Distribution.** This species is known so far only from the holotype (Lindroth 1969a: 1086) collected in southwestern California.

**Records.** USA: CA

***Cymindis cribricollis* Dejean, 1831**

*Cymindis cribricollis* Dejean, 1831: 311. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1969a: 1075). One syntype in MHNP (Lindroth 1955b: 24).

*Cymindis marginatus* Kirby, 1837: 13. Type locality: «from New York to Cumberland-house; Lat. 65° [= apparently region of Great Bear Lake, Northwest Territories]» (original citation), restricted to «Fort Wrigley, N[orth] W[est] T[erritories]» by Lindroth (1969a: 1075). Two syntypes [2 originally cited] in BMNH (Lindroth 1953b: 169). Synonymy established by LeConte (1846b: 186), confirmed by Lindroth (1953b: 169).

*Cymindis reflexa* LeConte, 1850: 203. Type locality: Lake Superior (inferred from title of the paper). Four syntypes in MCZ [# 5824]. Synonymy established by LeConte (1869b: 244), confirmed by Lindroth (1955a: 131).

*Cymindis abstrusa* LeConte, 1859a: 82. Type locality: «Washington Territory» (original citation). Syntype(s) in MCZ [# 5825]. Synonymy established by Henshaw (1882: 209), confirmed by Lindroth (1969a: 1075).

*Cymindis acomana* Casey, 1913: 181. Type locality: «New Mexico» (original citation). Lectotype (♂), designated by Lindroth (1975: 145), in USNM [# 47597]. Synonymy established by Lindroth (1954b: 140).

*Cymindis rupimontis* Casey, 1913: 183. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47601]. Synonymy established by Lindroth (1954b: 141).

*Cymindis alticola* Casey, 1913: 183. Type locality: «White M[oun]t[ain]s, New Hampshire» (original citation). Lectotype (♂), designated by Lindroth (1975: 145), in USNM [# 47603]. Synonymy established by Lindroth (1954b: 141).

*Cymindis kirbyi* Casey, 1924: 88. Type locality: «Caribou District, British Columbia» (original citation). Holotype [by monotypy] (♂) in USNM [# 47602]. Synonymy established by Hatch (1953: 158), confirmed by Lindroth (1954b: 141).

*Cymindis planifera* Casey, 1924: 89. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♂) in USNM [# 47598]. Synonymy established by Lindroth (1954b: 141).

*Cymindis obliqua* Casey, 1924: 89. Type locality: «Edmonton, Alberta» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47598]. Synonymy established by Lindroth (1954b: 141).

*Cymindis sinuata* Casey, 1924: 90 [primary homonym of *Cymindis sinuata* Reiche and Saulcy, 1855]. Type locality: «New Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47595]. Synonymy established by Lindroth (1954b: 141).

*Cymindis alternans* Casey, 1924: 90 [primary homonym of *Cymindis alternans* Rambur, 1837]. Type locality: «probably Colorado» (original citation). Holotype [by monotypy] (♀) in USNM [# 47596]. Synonymy established by Lindroth (1954b: 141).



*Cymindis tarda* Liebke, 1927: 104. Replacement name for *Cymindis sinuata* Casey, 1924.

*Cymindis caseyi* Liebke, 1927: 104. Replacement name for *Cymindis alternans* Casey, 1924.

**Distribution.** This widely distributed species ranges from Newfoundland (Lindroth 1955a: 131) to Vancouver Island, north to Yukon Territory (Lindroth 1969a: 1076), south to “Oregon” (Horn 1882: 152), southeastern Arizona (Snow 1906b: 162), southern New Mexico (Otero County, CMNH; Lindroth 1969a: 1076), northeastern South Dakota (Kirk and Balsbaugh 1975: 38), and western Maryland (Bailey et al. 1994: 320). The records from “Prince Edward Island” (Bousquet and Larochelle 1993: 267, see Majka et al. 2008: 133), “Kansas” (Horn 1872c: 385), and “Nebraska” (Wickham 1896c: 135) need confirmation; that from southern California (Moore 1937: 12) is probably in error though one old specimen labeled “Cal.” is known (MCZ).

**Records.** **FRA:** PM **CAN:** AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, QC, SK, YT **USA:** AZ, CO, CT, MA, MD, ME, MI, MN, MT, ND, NH, NJ, NM, NY, OH, OR, PA, RI, SD, UT, VT, WA, WI, WY [CA, KS, NE, PE]

### *Cymindis elegans* LeConte, 1846

*Cymindis elegans* LeConte, 1846b: 186. Type locality: «provinciis australibus» (original citation). Syntype(s) in MCZ [# 5827].

*Cymindis elegans mobilensis* Casey, 1920: 288. Type locality: «Mobile [Mobile County], Alabama» (original citation). Two syntypes in USNM [# 47606]. **New synonymy.**

**Distribution.** This species is found from Massachusetts (Darlington 1936b: 148; Hampden County, MCZ) south to the Florida Panhandle (Peck and Thomas 1998: 24) and southwestern Alabama (Casey 1920: 288).

**Records.** **USA:** AL, DC, FL, GA, MA, NC, NJ, NY, RI, SC

### *Cymindis evanescens* Casey, 1913

*Cymindis evanescens* Casey, 1913: 179. Type locality: «Marysvale [Piute County], Utah» (original citation). Lectotype (♂), designated by Lindroth (1975: 146), in USNM [# 47594].

**Distribution.** This species is known from a few localities in southern Oregon (Westcott et al. 2006: 8; Harney County, CMNH; Lake County, Foster F. Purrington pers. comm. 2009), west-central Idaho (Valley County, USNM), southwestern Wyoming (Parmenter and MacMahon 1984: 26), south-central Utah (Casey 1913: 179; Knowlton 1939: 2; Piute County, MCZ), “Nevada” (CMNH, MCZ), and east-central California (Lindroth 1969a: 1079). The record from Seattle, Washington (Hatch 1953: 158) needs confirmation.

**Records.** **USA:** CA, ID, NV, OR, UT, WY [WA]

***Cymindis interior* Lindroth, 1969**

*Cymindis interior* Lindroth, 1969a: 1074. Type locality: «Albuquerque [Bernalillo County], New Mex[ico]» (original citation). Holotype (♂) in MCZ [# 34676].

**Distribution.** This species is found from the southern part of the Prairie Provinces south to southeastern Arizona (Graham County, UASM), central New Mexico (Lindroth 1969a: 1074), western Texas (Ward County, Ken Karns pers. comm. 2009), and northwestern Oklahoma (Woods County, CMNH).

**Records.** CAN: AB, MB, SK USA: AZ, CO, KS, MN, ND, NE, NM, OK, SD, TX, WY

***Cymindis laticollis* Say, 1830**

*Cymindis laticollis* Say, 1830a: 134. Type locality: «Col[orado]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 350), in MCZ [# 33002]. NOTE. «near the Rocky Mountains» was the area originally cited by Say (1830a: 134).

*Cymindis villigera* Chaudoir, 1873c: 96. Type locality: «Texas» (original citation). Holotype [by monotypy] (♀) in MHNP. Synonymy established by Horn (1882: 162), confirmed by Lindroth (1969a: 1073).

**Distribution.** This species ranges from northwestern South Dakota (Kirk and Balsbaugh 1975: 38) to western Montana (Hatch 1933a: 9), south to northern Sonora (Bates 1884: 296) and southern Texas (Sutton, Val Verde, Edwards, and Colorado Counties, CMNH). The record from “Arkansas” (Bousquet and Laroche 1993: 268) needs confirmation; those from southern Wisconsin (Rauterberg 1885: 14) and southwestern California (Moore 1937: 12) are probably in error.

**Records.** USA: AZ, CO, KS, MT, NM, OK, SD, TX, WY [AR] – Mexico

***Cymindis neglecta* Haldeman, 1843**

*Cymindis neglecta* Haldeman, 1843b: 298. Type locality: southeastern Pennsylvania (Haldeman 1843a: 295). One possible syntype, a ♀ labeled “[pink disc] / *C. neglecta* Hald. [handwritten],” in MCZ (collection LeConte).

**Distribution.** The range of this species extends from Sable Island (Christopher G. Majka pers. comm. 2007) off the coast of Nova Scotia to southern Alberta (Lindroth 1969a: 1086), south to northwestern South Dakota (Kirk and Balsbaugh 1975: 39) and southern South Carolina (Ciegler 2000: 119).

**Records.** CAN: AB, MB, NB, NS, ON, QC, SK USA: CT, DC, DE, IA, IL, IN, MA, ME, MI, MN, NC, ND, NH, NJ, NY, OH, PA, SC, SD, VA, VT, WI, WV

***Cymindis pilosa* Say, 1823**

*Cymindis pilosus* Say, 1823a: 10. Type locality: «Dorchester [Suffolk County], Mass[achusetts]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 350), in MCZ [# 33000].

*Cymindis pubescens* Dejean, 1825: 215. Type locality: «Amérique septentrionale» (original citation). Two syntypes in MHNP (Lindroth 1955b: 24). Synonymy established by Dejean (1826: 446), confirmed by Lindroth (1955b: 24).

*Cymindis cribrata* LeConte, 1859c: 2. Type locality: «Nebraska» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5829]. Synonymy established by Lindroth (1969a: 1083).

**Distribution.** This species ranges from southern Quebec (Larochelle 1975: 79) to southeastern North Dakota (Ransom County, CNC), north to southwestern Manitoba (Stjernberg 2011: 71), south to “Texas” (Lindroth 1969a: 1083) and northeastern Florida (Duval County, USNM). The record from the state of Puebla in Mexico (Bates 1891a: 270) needs confirmation.

**Records.** CAN: MB, ON, QC USA: AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

### *Cymindis planipennis* LeConte, 1863

*Cymindis planipennis* LeConte, 1863c: 6. Type locality: «New Mexico» (original citation). Four syntypes in MCZ [# 5826].

*Cymindis brevipennis* Zimmermann [in LeConte], 1869b: 243. Type locality: «Kansas» (original citation). Syntype(s) probably lost. Synonymy established by Horn (1882: 162), confirmed by Lindroth (1969a: 1077).

*Cymindis bipartita* Casey, 1913: 185. Type locality: «Green River [Sweetwater County], Wyoming» (original citation). Lectotype (♂), designated by Lindroth (1975: 145), in USNM [# 47604]. Synonymy established by Lindroth (1969a: 1077).

*Cymindis directa* Casey, 1920: 286. Type locality: «Akron [Washington County], Colorado» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47605]. Synonymy established by Lindroth (1969a: 1077).

*Cymindis govanica* Casey, 1924: 89. Type locality: «Govan [Lincoln County], Washington» (original citation). Lectotype (♀), designated by Lindroth (1975: 146), in USNM [# 47599]. Synonymy established, under the name *C. brevipennis* Zimmermann, by Hatch (1953: 159), confirmed by Lindroth (1969a: 1077).

**Distribution.** The range of this species extends from southern Manitoba to the Okanagan Valley in south-central British Columbia, north to southern Northwest Territories (Lindroth 1969a: 1078), south to northern Oregon (Baker and Wasco Counties, CMNH, USNM; Hatch 1953: 158), northern Arizona (Coconino County, USNM; Snow 1906b: 162), northwestern Texas (Potter County, USNM), and Wisconsin (Purrington and Maxwell 1998: 190); also known from one specimen collected in southern Quebec (Lindroth 1969a: 1078).

**Records.** CAN: AB, BC, MB, NT, QC, SK USA: AZ, CO, IA, ID, KS, MN, MT, ND, NE, NM, NV, OR, SD, TX, UT, WA, WI, WY

***Cymindis seriata* Hatch, 1953**

*Cymindis seriata* Hatch, 1953: 158. Type locality: «Steilacoom [Pierce County], Wash[ington]» (original citation). Holotype (♂) in USNM.

**Distribution.** This species is known from a few localities in Washington (Hatch 1953: 158) and western Oregon (Westcott et al. 2006: 8).

**Records.** USA: OR, WA

***Cymindis unicolor* Kirby, 1837**

*Cymindis unicolor* Kirby, 1837: 14. Type locality: northern parts of British America (inferred from title of the paper), restricted to «Fort Smith, N[orth] W[est] Terr[itories]» by Lindroth (1969a: 1083). Holotype [by monotypy] in BMNH (Lindroth 1953b: 169).

*Cymindis hudsonica* LeConte, 1863c: 6. Type locality: «Methy Lake [Saskatchewan] and Labrador» (original citation). One syntype in MCZ [# 5828]. Synonymy established by LeConte (1873b: 322), confirmed by Lindroth (1955a: 130).

*Cymindis parowana* Casey, 1924: 88. Type locality: «Parowan M[oun]t[ain]s (10000 ft.) [Juab County] Utah» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 146), in USNM [# 47592]. Synonymy established by Lindroth (1955a: 130).

**Distribution.** This species occurs from Newfoundland (Lindroth 1955a: 131) to southwestern Yukon Territory (Shpeley and Ball 1999: 422), south to the Sierra Nevada in east-central California (Papp 1978: 165; Nelson 1988a: Fig. 1), Santa Catalina Mountains in southern Arizona (Nelson 1988a: Fig. 1), and southern Colorado (Wickham 1902: 240; Lindroth 1969a: 1085); isolated on some mountains of northern New England. The records from “Vermont,” “Massachusetts,” “Connecticut,” and “Rhode Island” (Erwin et al. 1977: 4.58) are likely in error; that from Alaska (Lindroth 1969a: 1085) probably refers to *C. vaporariorum* Linnaeus (Shpeley and Ball 1999: 423). Fossil remnants of this species, dated between 11,200 and 20,530 years old, have been found in northeastern Wisconsin (Schwert 1992: 78), south-central Minnesota (Ashworth et al. 1981: 77), and southeastern and northeastern Iowa (Baker et al. 1986: 96; Schwert 1992: 78; Woodman et al. 1996: 17).

**Records.** CAN: AB, BC, LB, MB, NF, NT, NU, ON, QC, SK, YT USA: AZ, CA, CO, ME, MT, NH, OR, UT, WA, WY

***Cymindis uniseriata* Bates, 1884**

*Cymindis uniseriata* Bates, 1884: 296. Type locality: «Pinos Altos in Chihuahua, Mexico» (original citation). Syntype(s) probably in BMNH.

*Cymindis agitata* Casey, 1920: 285. Type locality: «Colonia Garcia, Chihuahua, Mexico» (original citation). Lectotype (♀), designated by Lindroth (1975: 146), in USNM [# 47593]. Synonymy established by Lindroth (1969a: 1085).

**Distribution.** This species is known from southeastern Arizona (Bousquet and Laroche 1993: 334) and central New Mexico (Torrance County, Ken Karns pers. comm. 2009) south to the state of Durango along the Sierra Madre Occidental (Ball and Shpeley 1992a: 61).

**Records. USA:** AZ, NM – Mexico

### *Cymindis vaporariorum* (Linnaeus, 1758)

*Carabus vaporariorum* Linnaeus, 1758: 415. Type locality: «Europa» (original citation), restricted to «Uppsala, Suecia» by Lindroth (1957b: 339). One possible syntype in LSL (Lindroth 1957b: 335).

*Carabus humeralis* Paykull, 1790: 40 [secondary homonym of *Cymindis humeralis* (Geoffroy, 1785)]. Type locality: Sweden (inferred from title of the book). Syntype(s) probably in NRSS. Synonymy established by Chaudoir (1850b: 86).

*Cymidis basalis* Gyllenhal, 1810: 174. Type locality: Sweden (inferred from title of the book). Syntype(s) probably in UZIU. Synonymy established by Germar (1840b: 442). NOTE. Gyllenhal (1810: 172-175) used the spelling *Cymidis*, an incorrect subsequent spelling of *Cymindis*.

*Cymindis punctata* Dejean, 1825: 214. Type locality: «Suède; Alpes de la Haute Styrie; dans les Pyrénées orientales au Canigou et Carlitte; Alpes du Piémont» (original citation). Syntype(s) in MHNP. Synonymy established with the name *C. basalis* Gyllenhal by Dejean (1825: 214).

*Cymindis immaculata* Dejean [in Dejean and Boisduval], 1829: 93. Type locality: «Kamtschatka [Russia]» (original citation). Syntype(s) in MHNP. Synonymy established (as aberration) by Csiki (1932b: 1482).

*Cymindis intricata* Motschulsky, 1844: 46. Type locality: «Alpes du Hamar-Daban au sud du Baïcal et auprès de Tourkinsk au N[ord] O[uest] du Baïcal, Sibérie orientale [Irkutsk Oblast, Russia]» (original citation). Three syntypes in ZMMU (Keleinskova 1976: 201). Synonymy established, under the name *C. immaculata* Dejean, by Chaudoir (1850b: 87).

*Tarus gebleri* Motschulsky, 1850a: 40. Type locality: «Altaïi» (original citation). One syntype, listed as “corruptum,” in ZMMU (Keleinskova 1976: 199). Synonymy established, under the name *C. vaporariorum immaculata* Dejean, by Emetz (1976: 227). NOTE. According to Emetz (1976: 227), the syntype is labeled “Alp. Altai, Ajan [= Ayan, a city along the coast of the Sea of Okhotsk, in northern Khabarovskii Kray Province, Russia].”

*Tarus dilatipennis* Motschulsky, 1865: 300. Type locality: «Ajan [Khabarovsk Kray], Sib[érie] or[ientale]» (original citation). One syntype in ZMMU (Keleinskova 1976: 195). Synonymy established by Chaudoir (1873c: 99).



*Cymindis subarcticus* Kano, 1933: 96. Type locality: «Oboedomari near Ohtomari, S. Saghalien [Russia]» (original citation). Holotype (♀) in USMT (Habu 1967: 69). Synonymy established, under the name *C. vaporariorum immaculata* Dejean, by Habu (1982: 122).

*Cymindis subarcticus asahiensis* Habu and Baba, 1962: 13. Type locality: «M[oun]t Asahidake (2,300 m), Niigata Prefecture, Honshu, Japan» (original citation). Holotype (♂) in NIAS. Synonymy established, under the name *C. vaporariorum immaculata* Dejean, by Habu (1982: 122).

**Distribution.** This Holarctic species ranges from Ireland to the Far East, south to Spain, Portugal, Greece, Kazakhstan, Mongolia, northern China (Kabak 2003: 418), and in the Nearctic Region from Alaska to northwestern Northwest Territories [see Shpeley and Ball 1999: Fig. 6].

**Records.** CAN: NT, YT USA: AK – **Holarctic**

### Subgenus *Pinacodera* Schaum, 1857

*Pinacodera* Schaum, 1857a: 294. Type species: *Cymindis limbata* Dejean, 1831 designated by Lindroth (1969a: 1067). Etymology. From the Greek *pinacos* (board, tablet, chart) and *dere* (neck, by extension pronotum) [feminine].

*Planesus* Motschulsky, 1864: 240. Type species: *Cymindis fuscata* Dejean, 1831 (= *Lebia platicollis* Say, 1823) by original designation. Synonymy established by Chaudoir (1875: 2).

**Diversity.** Nineteen species in the temperate, subtropical, and tropical regions of North America (11 species) and Middle America (11 species).

**Identification.** Casey (1920) published a key to all but three (*P. complanata*, *P. punctigera*, and *P. punctifera*) of the currently valid North American species. As usual his key is difficult to use. A taxonomic revision of the subgenus is needed.

**Taxonomic Note.** Lorenz (2005: 465) listed *Pinacodera* as a valid genus. However, Ball and Hilchie (1983: 149) presented arguments to treat this group as a subgenus of *Cymindis*.

### *Cymindis abbreviata* (Casey, 1920)

*Pinacodera abbreviata* Casey, 1920: 283. Type locality: «Colorado» (original citation). One syntype in USNM [# 47614].

**Distribution.** This species is known only from the type series.

**Records.** USA: CO

### *Cymindis ampliata* (Casey, 1920)

*Pinacodera ampliata* Casey, 1920: 282. Type locality: «Colorado» (original citation). One syntype in USNM [# 47611].

**Distribution.** This species is known only from the type series.

**Records. USA:** CO

***Cymindis atripennis* (Casey, 1920)**

*Pinacodera atripennis* Casey, 1920: 284. Type locality: «Florida» (original citation). Holotype [by monotypy] in USNM [# 47613].

**Distribution.** This species ranges from east-central Georgia (Emanuel County, UASM) to southern Florida (Collier County, CMNH). The record from “South Carolina” (Bousquet and Larochelle 1993: 268) needs confirmation.

**Records. USA:** FL, GA [SC]

***Cymindis blanda* Casey, 1913**

*Cymindis blanda* Casey, 1913: 184. Type locality: «Douglas, Cochise Co[unty], Arizona» (original citation). Three syntypes [3 originally cited] in USNM [# 47608].

**Distribution.** This species is known only from the type locality in southeastern Arizona.

**Records. USA:** AZ

***Cymindis complanata* Dejean, 1826**

*Cymindis complanata* Dejean, 1826: 448. Type locality: «Amérique septentrionale» (original citation), restricted to «S[ain]t John’s Bluff [Duval County], Flor[ida]» by Lindroth (1969a: 1070). Two syntypes in MHNP (Lindroth 1955b: 24).

*Lebia russata* Newman, 1840: 31. Type locality: «S[ain]t John’s Bluff [Duval County], East Florida» (original citation). One syntype in BMNH (Lindroth 1969a: 1070). Synonymy established by Lindroth (1969a: 1070).

**Distribution.** This species ranges from Maryland (Prince Georges County, UASM) and northeastern Virginia (UASM) south to central Florida (Peck and Thomas 1998: 24) and southwestern Alabama (Mobile and Washington Counties, UASM). All other state records listed in Bousquet and Larochelle (1993: 269) as well as that from southeastern Pennsylvania (Rathvon 1869: 524, as *Lebia russata*) need confirmation.

**Records. USA:** AL, FL, GA, MD, NC, SC, VA [LA, NJ, PA, TX]

***Cymindis limbata* Dejean, 1831**

*Cymindis limbata* Dejean, 1831: 320. Type locality: «Amérique septentrionale» (original citation), restricted to «Marion [Plymouth County], Mass[achusetts]» by Lindroth (1969a: 1067). One syntype in MHNP (Lindroth 1955b: 24).

*Cymindis comma* T.W. Harris [in Scudder], 1869: 82 [*nomen dubium*]. Type locality not stated. Syntype(s) presumably lost. Synonymy established with doubt by Bousquet and Larochelle (1993: 13).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1954c: 307) to northwestern Minnesota (Becker County, UASM), south to southeastern Texas (Brazoria County, CMNH) and central Florida (Peck and Thomas 1998: 24). The record from “North Dakota” (Bousquet and Larochelle 1993: 269) needs confirmation.

**Records.** CAN: NB, NS, ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WI, WV [ND]

### *Cymindis obscura* (Casey, 1920)

*Pinacodera obscura* Casey, 1920: 284. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). One syntype in USNM [# 47612].

**Distribution.** This species is known only from the type locality in central North Carolina and one locality in northern Georgia (Fattig 1949: 40).

**Records.** USA: GA, NC

### *Cymindis platicollis* (Say, 1823)

*Lebia platicollis* Say, 1823a: 14. Type locality: «Allegheny, P[ennsylvani]a» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 349), in MCZ [# 33001].

*Cymindis fuscata* Dejean, 1831: 321. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 24). Synonymy established by Lindroth (1969a: 1068).

*Planesus laevigatus* Motschulsky, 1865: 297. Type locality: «environs de Mobile [Mobile County, Alabama]» (original citation). Lectotype, designated by Bousquet and Larochelle (1993: 17), in ZMMU. Synonymy established by Bousquet and Larochelle (1993: 17).

*Planesus fuscicollis* Motschulsky, 1865: 298. Type locality: «états méridionaux de l’Amérique du Nord» (original citation). Lectotype (♀), designated by Bousquet and Larochelle (1993: 17), in ZMMU. Synonymy established by Bousquet and Larochelle (1993: 17).

*Pinacodera virescens* Dury, 1911: 275. Type locality: «Plott Balsam M[oun]t[ain]s, North Carolina» (original citation). Holotype [by monotypy] (♂) in CMC (Vulinec and Davis 1984: 233). Synonymy established by Ball (in Vulinec and Davis 1984: 233).

**Distribution.** This species ranges from southwestern Maine (Majka et al. 2011: 47) and southern Quebec (Bousquet 1987a: 133) to eastern North Dakota (Tinerella 2003: 636), south to western Texas, Nuevo León in Mexico, and southern South Carolina [see Hunting 2009: Fig. 4.12]. The record from northern Sonora (Bates 1884: 296) needs confirmation.

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, GA, IA, IL, IN, KS, LA, MA, MD, ME, MI, MN, MS, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WI, WV – Mexico

***Cymindis punctifera* (LeConte, 1884)**

*Lebia punctifera* LeConte, 1884: 2. Type locality: «Arizona» (original citation). Holotype [by monotypy] (♀) in MCZ [# 5800].

**Distribution.** This species is known from western Arizona to western Texas, south to Nuevo León, Coahuila, Durango, and Sonora in Mexico (Ball and Shpeley 1992a: 62).

**Records. USA:** AZ, NM, TX – Mexico

***Cymindis punctigera* LeConte, 1851**

*Cymindis punctigera* LeConte, 1851: 178. Type locality: «ad flumina Colorado et Gila» (original citation). Three syntypes in MCZ [# 66].

**Distribution.** This species ranges from northeastern California to north-central Colorado, south to eastern Michoacán in Mexico and southern California [see Hunting 2009: Fig. 4.23].

**Records. USA:** AZ, CA, CO, NM, NV, TX, UT – Mexico

***Cymindis subcarinata* (Casey, 1920)**

*Pinacodera subcarinata* Casey, 1920: 281. Type locality: «Tucson [Pima County], Arizona» (original citation). One syntype in USNM [# 47609].

**Distribution.** This species is known only from the type locality in southern Arizona.

**Records. USA:** AZ

**Subtribe APENINA Ball, 1983**

Apenina Ball, 1983: 516. Type genus: *Apenes* LeConte, 1851.

**Diversity.** About 115 species (Lorenz 2005: 464-465) in the Nearctic (eight species of *Apenes*), Neotropical (72 species of *Apenes*), Australian (one species in New Guinea), Oriental (nine species), Palaearctic (22 species), and Afrotropical (14 species) Regions. These species are arrayed in five genera: *Apenes* (75 species), *Habutarus* Ball and Hilchie (one species from New Guinea), *Cymindoidea* Laporte (15 species), *Platyтарus* Fairmaire (12 species), and *Trymosternus* Chaudoir (13 species from the Iberian Peninsula and northern Africa).

**Taxonomic Note.** 1. The family-group names Platyтарini and Trymosternini were proposed by Zaballo and Jeanne (1994: 116) and recorded as synonyms of Apenina by Lorenz (2005: 464). However, both names are unavailable since they were not accompanied by a description or a reference to a published description (ICZN 1999: Article 13.1). 2. Apenina came out as the sister-group to the remaining lebiine subtribes, with the exclusion of sugimotoinines, actenocynines, and pericalines, in Ball et al. (1995) and Casale (1998: Fig. 91) cladistic analyses.





**Figure 41.** *Tecnophilus croceicollis peigani* Larson. Adults of this handsome subspecies are usually found during the day on clay-sand soil on the ground or climbing on very low vegetation along the bases of south facing coulees. The subspecific name derives from the name of an Indian tribe of the Blackfoot Confederation, Peigan, which inhabited the prairies of southern Alberta where the taxon is found in Canada.



**Genus *APENES* LeConte, 1851**

*Sphenopalpus* Blanchard, 1842: plate1 [*nomen oblitum*, see Ball and Shpeley (2009: 95)].

Type species: *Sphenopalpus parallelus* Blanchard, 1842 (= *Cymindis aenea* Dejean, 1831) by monotypy. Etymology. From the Greek *sphenos* (wedge) and the Latin *palpus* (feeler, by extension palp), alluding to the shape of the last maxillary and labial palpomeres (“*palpes cylindriques, ayant leur dernier article ovalaire terminé en pointe*,” see Blanchard 1853: 32) of the adult [masculine]. NOTE. Since Chaudoir (1875: 38) listed *Sphenopalpus parallelus* Blanchard as a junior synonym of *Apenes aenea* (Dejean), *Sphenopalpus* has been considered a junior synonym of *Apenes* on the account that it was made available with the publication of the text in 1853. However, the name was first made available by the publication of the plate in 1842 (see Emberson 1992).

*Apenes* LeConte, 1851: 174 [*nomen protectum*]. Type species: *Cymindis lucidula* Dejean, 1831 designated by Lacordaire (1854: 110). Synonymy established by Chaudoir (1875: 38). Etymology. From the Greek *apenes* (rough, harsh, cruel, ferocious) [feminine]. NOTE. *Apenes* have been treated as masculine (e.g., Bousquet and Larochelle 1993: 269-270; Lorenz 2005: 464-465) or feminine (e.g., Lindroth 1969a: 1087-1088; Ball and Shpeley 1992b). It comes from a transliteration of the Greek adjective *Απηνής*, ἑς and so could be masculine or feminine. In such case, the name is to be treated as masculine unless its author, when establishing the name, stated that it is feminine or treated it as feminine in combination with an adjectival species-group name (ICZN 1999: Article 30.1.4.2). LeConte (1851) did not specify the gender but described the species “*A. opaca*”, so treating the generic name *Apenes* as feminine. As such *Apenes* is feminine.

*Sphenopselaphus* Gemminger and Harold, 1868a: 299. Unjustified emendation of *Sphenopalpus* Blanchard, 1842.

**Diversity.** Seventy-five species in the Western Hemisphere arrayed in two subgenera: *Apenes s.str.* (67 species) and *Didymochaeta* Chaudoir (eight Neotropical species).

**Subgenus *Apenes* LeConte, 1851**

*Apenes* LeConte, 1851: 174. Type species: *Cymindis lucidula* Dejean, 1831 designated by Lacordaire (1854: 110).

*Nominus* Motschulsky, 1864: 240. Type species: *Cymindis pustulata* Dejean, 1831 (= *Cymindis sinuatus* Say, 1823) by original designation. Synonymy established by Gemminger and Harold (1868a: 124).

*Malisus* Motschulsky, 1864: 240. Type species: *Cymindis variegata* Dejean, 1825 (= *Carabus pallipes* Fabricius, 1792) by original designation. Synonymy established by Bates (1883a: 188).

**Diversity.** Sixty-seven species in the temperate, subtropical, and tropical areas of the Nearctic (nine species) and Neotropical (64 species) Regions.

**Identification.** Horn (1882: 156) wrote a key to four of the species found in North America. A taxonomic revision of the subgenus is needed.

***Apenes angustata* Schwarz, 1878**

*Apenes angustata* Schwarz, 1878: 354. Type locality: «Enterprise [Volusia County, Florida]» (original citation). Lectotype (♂), designated by Erwin and House (1978: 234), in USNM [# 4495].

**Distribution.** This species is known from Alabama (Löding 1945: 22) and northwestern Georgia (Fattig 1949: 41) south to southern Florida (Peck and Thomas 1998: 23).

**Records. USA:** AL, FL, GA

***Apenes coriacea* (Chevrolat, 1863)**

*Cymindis coriacea* Chevrolat, 1863: 188. Type locality: Cuba (inferred from title of the paper). Lectotype (♀), designated by Ball and Shpeley (2009: 109), in UMO.

*Apenes laevis* Liebke, 1939: 473. Type locality: «Amer[ica] mer[idionalis]» (lectotype label according to Ball and Shpeley 2009: 111). Lectotype (♀), designated by Ball and Shpeley (2009: 111), in IZWP. Synonymy established by Ball and Shpeley (2009: 111). NOTE. Liebke (1939: 473) originally cited the type locality as “Nord Amerika.”

**Distribution.** This species is known from Monroe and Dade Counties in southern Florida (Thomas 2011: 308), Cuba, Jamaica, and the Grand Cayman Island [see Ball and Shpeley 2009: Fig. 9].

**Records. USA:** FL – Cayman Islands, Cuba, Jamaica

***Apenes hilariola* Bates, 1891**

*Apenes hilariola* Bates, 1891a: 271. Type locality: «Cuernavaca [Morelos], Colima City [Colima]» (original citation). Syntype(s) [2 originally mentioned] in BMNH.

**Distribution.** This species is known from the Mexican states of Morelos, Colima (Bates 1891a: 271) and Baja California Norte (Notman 1919b: 234) and from southern Arizona (Ober and Maddison 2008: 30).

**Records. USA:** AZ – Mexico

***Apenes lucidula lucidula* (Dejean, 1831)**

*Cymindis lucidula* Dejean, 1831: 320. Type locality: «Amérique septentrionale» (original citation), restricted to «Baltimore, M[arylan]d» by Lindroth (1969a: 1087). One syntype in MHNP (Lindroth 1955b: 25).

**Distribution.** This subspecies ranges from Massachusetts (Davidson et al. 2011: 514) to southeastern Minnesota (Gandhi et al. 2005: 932), south to southern Texas (Live Oak County, Brian Raber pers. comm. 2010), northwestern Louisiana (Natchitoches Parish, USNM), and central Florida (Highlands and Pasco Counties, CMNH; Horn 1882: 157); also known from southern Arizona (Pima and Santa Cruz Counties, UASM, CMNH) and the Baja California Peninsula (Horn 1895: 226).

**Records. USA:** AL, AZ, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, NC, NJ, NY, OH, PA, RI, SC, TN, TX, VA, WV – Mexico

**Note.** The subspecies *A. lucidulus dulculia* Ball and Shpeley and *A. lucidulus michelii* Ball and Shpeley are found in the West Indies.

***Apenes nebulosa* LeConte, 1867**

*Apenes nebulosa* LeConte, 1867b: 364. Type locality: «Cape San Lucas, Lower California [= Baja California Sur]» (original citation). Two syntypes in MCZ [# 5833].

**Distribution.** This species ranges from southern and western Texas (Duval, Val Verde, and Jeff Davis Counties, CMNH) to southeastern California (Dajoz 2007: 20) and the Baja California Peninsula (LeConte 1867b: 364).

**Records. USA:** AZ, CA, NM, TX – Mexico

***Apenes opaca* LeConte, 1851**

*Apenes opaca* LeConte, 1851: 175. Type locality: «Georgia» (original citation). Holotype [by monotypy] (♂) in MCZ [# 5832].

**Distribution.** This species is found along the Coastal Plain from South Carolina (Ciegler 2000: 120) to southern Florida (Peck and Thomas 1998: 23), west to southern Alabama (Löding 1945: 22); also recorded from the Bahamas (Turnbow and Thomas 2008: 11).

**Records. USA:** AL, FL, GA, SC – Bahamas

***Apenes pallidipes* (Chevrolat, 1836)**

*Cymindis pallidipes* Chevrolat, 1836a: [no. 153]. Type locality: «environs de Tuspan [Mexico]» (original citation). Holotype [by monotypy] location unknown (possibly in UMO).

*Apenes marginipennis* Chaudoir, 1875: 24. Type locality: «Yucatan [Mexico]» (original citation). Holotype [by monotypy] (♂) in MHNP. Synonymy established by Bates (1883a: 189).

*Apenes mexicana* Chaudoir, 1875: 25. Type locality: «Mexique» (original citation). Holotype [by monotypy] (♀) in IZWP (Mroczkowski 1960: 372). Synonymy established by Chaudoir (1875: 25).

**Distribution.** This species ranges from southern Arizona (Bousquet and Larochelle 1993: 334) to Panama (Bates 1883a: 189).

**Records. USA:** AZ – Guatemala, Mexico, Panama

***Apenes parallela parallela* (Dejean, 1825)**

*Cymindis parallela* Dejean, 1825: 218. Type locality: «île de Cuba» (original citation). One syntype in MHNP (Ball and Shpeley 2009: 115). NOTE. Ball and Shpeley

(2009: 115) mentioned that the specimen is MHNP is the holotype. However, Dejean (1825: 218) did not specify that he had a single specimen and so the specimen is a syntype.

**Distribution.** This subspecies is known from Dade County in southeastern Florida (Thomas 2011: 307), the Bahamas, Cuba, and the Cayman Islands [see Ball and Shpeley 2009: Fig. 13].

**Records. USA:** FL – Bahamas, Cayman Islands, Cuba

**Note.** Two other subspecies, *A. parallela inaguae* Darlington and *A. parallela sublaevis* Darlington, are known from the West Indies.

### *Apenes sinuata* (Say, 1823)

*Cymindis sinuatus* Say, 1823a: 8. Type locality: «M[arylan]d» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 350), in MCZ [# 32999]. NOTE. «Maryland» was the area originally cited by Say (1823a: 8).

*Cymindis pustulata* Dejean, 1831: 316. Type locality: «Amérique septentrionale» (original citation). Two syntypes [2 originally cited] in MHNP (Lindroth 1955b: 25). Synonymy established by LeConte (1846b: 189), confirmed by Lindroth (1955b: 25).

**Distribution.** The range of this species extends from Rhode Island (USNM) to northeastern Kansas (Popenoe 1877: 23), including southernmost Ontario (Lindroth 1969a: 1088), south to southern Texas (Wickham 1897: 112; Galveston and San Patricio Counties, UASM) and the Florida Keys (Peck and Thomas 1998: 23).

**Records. CAN:** ON **USA:** AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, NC, NE, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WV

### Subtribe DROMIUSINA Bonelli, 1810

Dromiei Bonelli, 1810: Tabula Synoptica. Type genus: *Dromius* Bonelli, 1810. NOTE. The spelling of the family-group name based on *Dromius* was emended to Dromiidae by the International Commission on Zoological Nomenclature (ICZN 2006).

Lichnasthenitae J. Thomson, 1858: 35 (as Lichnasthenitae), 458. Type genus: *Lichnasthenus* Thomson, 1858.

Lionychidae Jeannel, 1948a: 378, 380. Type genus: *Lionychus* Wissmann, 1846.

Singilini Jeannel, 1949a: 881, 915. Type genus: *Singilis* Rambur, 1837.

Metadromiina Basilewsky, 1984: 543. Type genus: *Metadromius* Bedel, 1907.

Metaxymorphina Basilewsky, 1984: 549. Type genus: *Metaxymorphus* Chaudoir, 1850.

Singiliomimina Basilewsky, 1984: 552. Type genus: *Singiliomimus* Péringuey, 1896.

**Diversity.** Worldwide, with about 735 species arrayed in 48 genera (Lorenz 2005: 470–478, 480, as Lionychina, Pseudotrechina, Dromiina, Lichnasthenina, Singilina,

plus *Metaxymorphus*). The North American fauna is represented by 33 species (about 4.5 % of the world fauna), of which two are adventive.

**Taxonomic Note.** Jeannel (1949a: 991) grouped this subtribe and the demetriadines under the subfamily Dromiitae and stated that this complex is characterized by having the basal bulb of the median lobe reduced. The peliocypidines were included in this subtribe by Ball and Bousquet (2000: 112).

### Genus *DROMIUS* Bonelli, 1810

*Dromius* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus quadrimaculatus* Linnaeus, 1758 by subsequent monotypy in Samouelle (1819: 155). Etymology. Probably from the Greek *dromeus* (runner) and alluding to the agility of the adults in the field [masculine]. NOTE. Madge (1975: 582) pointed out that the type species of *Dromius* Bonelli, 1810 should be *Carabus truncatellus* Linnaeus, 1760 by subsequent monotypy in Panzer (1813: 73). That species is now included in the genus *Syntomus* Hope, 1838. Acceptance of this species as type species of *Dromius* would require nomenclatural changes for both *Dromius* and *Syntomus*. A request should be addressed to the International Commission on Zoological Nomenclature to set aside *Carabus truncatellus* Linnaeus, 1760 as type species of *Dromius* Bonelli, 1810.

*Dromaeus* Billberg, 1820: 26. Unjustified emendation of *Dromius* Bonelli, 1810.

*Ocaeus* Gistel, 1848a: ix. Unnecessary replacement name for *Dromius* Bonelli, 1810.

**Diversity.** About 105 species (Lorenz 2005: 475-477) in the Nearctic (two species), Neotropical (20 species), Australian (one adventive species in New Zealand), Oriental, Palaearctic (53 species), and Afrotropical Regions. These species are placed in three subgenera: *Dromius s.str.* (about 50 species), *Obodromius* Jedlička (one species), and *Klepterus* Péringuey (47 species), with six species unplaced.

### Subgenus *Dromius* Bonelli, 1810

*Dromius* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus quadrimaculatus* Linnaeus, 1758 by subsequent monotypy in Samouelle (1819: 155).

*Eudromius* Acloque, 1896: 49 [junior homonym of *Eudromius* Gould, 1841]. Type species: *Dromius testaceus* Erichson, 1837 (= *Dromius angustus* Brullé, 1834) designated by Bousquet (2002b: 20). Synonymy established by Bousquet (2002b: 20).

*Dinodromius* Casey, 1920: 277. Type species: *Dromius piceus* Dejean, 1831 designated by Lindroth (1969a: 1041). Synonymy established by Lindroth (1969a: 1041). Etymology. Probably from the Greek prefix *dino-* (terrible, fearful) and the generic name *Dromius* [*q.v.*] [masculine].

**Diversity.** About 50 species in the Nearctic (two species, one of them adventive), Neotropical (20 species), Australian (one adventive species in New Zealand), Oriental (four species), and Palaearctic (28 species) Regions.

**Identification.** Larson (1998: 126) discussed the structural differences between the two species found in North America.



***Dromius fenestratus* (Fabricius, 1794)**

*Carabus fenestratus* Fabricius, 1794a: 443 [primary homonym of *Carabus fenestratus* Müller, 1776]. Type locality: «Germania» (original citation). One syntype, without head and pronotum, in ZMUC (Zimsen 1964: 59). NOTE. Fabricius' name should be permanently invalid because it is a primary homonym. However, *Carabus fenestratus* Müller has never been interpreted since its original description to my knowledge and the name is a *nomen dubium*.

**Distribution.** This European species is adventive in North America where it is known only from three specimens collected in Newfoundland (Larson 1998: 126) and Nova Scotia (Majka and Klimaszewski 2004: 9; Halifax County, UASM). The first inventoried specimen collected on this continent was found in 1952 in Armdale, near Halifax, Nova Scotia (UASM).

**Records.** CAN: NF, NS – **Adventive**

***Dromius piceus* Dejean, 1831**

*Dromius piceus* Dejean, 1831: 353. Type locality: «Amérique septentrionale» (original citation), restricted to «Bethel [Oxford County], Maine» by Lindroth (1969a: 1041). Holotype [by monotypy] in MHNP (Lindroth 1955b: 24).

*Dromius quadricollis* LeConte, 1859a: 82. Type locality: «Puget Sound [Washington]» (original citation). One syntype in MCZ [# 5812]. Synonymy established by Horn (1882: 160).

**Distribution.** The range of this species extends from Cape Breton Island (Bousquet 1987d: 107) to Vancouver Island (Lindroth 1969a: 1043), south to southern California (Fall 1901a: 48; MCZ), the states of Sonora (CNC) and Durango (CNC) in Mexico, and the Florida Panhandle (Peck and Thomas 1998: 24). Fossil remnants, undated but believed to be younger than 3 million years B.P., have been unearthed in northwestern Yukon Territory (Elias and Matthews 2002: 914).

**Records.** CAN: AB, BC (VCI), MB, NB, NS (CBI), ON, PE, QC, SK USA: AL, AR, AZ, CA, CO, CT, DC, FL, GA, IA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MS, MT, NC, NE, NH, NJ, NM, NY, OH, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY – Mexico

**Note.** Lindroth (1969a: 1042-1043) studied superficially the structural variation in this species and concluded there was a single species but that the specimens west of the Rockies “may very well be treated” as a subspecies for which the name *D. quadricollis* LeConte, 1859 is available. Until a detailed study of the variation is done, I prefer not to recognize subspecies for this taxon.

**Genus *PHILORHIZUS* Hope, 1838**

*Philorhizus* Hope, 1838: 63. Type species: *Carabus fasciatus* Paykull, 1790 (= *Carabus sigma* Rossi, 1790) by original designation. Etymology (original). Anagram of the

generic name *Risophilus* (as *Rizophilus*), derived from the Greek *philos* (beloved) and *rhiza* (root) [masculine].

*Dromiolus* Reitter, 1905: 230, 235. Type species: *Dromius nigriventris* Thomson, 1857 (= *Dromius notatus* Stephens, 1827) by original designation. Etymology. From the generic name *Dromius* [*q.v.*] and the Latin suffix *-olus* (diminutive) [masculine].

*Similidromius* Mateu, 1953: 140. Type species: *Dromius elliptipennis* Wollaston, 1864 by monotypy. Synonymy established by Machado (1992: 519). Etymology. From the Latin adjective *similis*, *-e* (like) and the generic name *Dromius* [*q.v.*], alluding to the resemblance of the species in the hands of Mateu to those of *Dromius* [masculine].

**Diversity.** About 50 species (Lorenz 2005: 477) in the Nearctic (two species, one of them adventive), Oriental (two species), Palaearctic (about 35 species, 15 of them endemic to the Canary and Madeira Islands), and Afrotropical (11 species) Regions.

**Identification.** Bousquet (2004b: 49-51) commented on the structural differences between the two species found in North America.

### *Philorhizus atriceps* (LeConte, 1880)

*Dromius atriceps* LeConte, 1880b: 163. Type locality: «Bayou Sara [West Feliciana Parish], L[ouisian]a» (original citation). One syntype in MCZ [# 5813].

**Distribution.** This Coastal Plain species is found from “Massachusetts” (Lindroth 1969a: 1043) to southern Florida (Peck and Thomas 1998: 24), west to Louisiana (LeConte 1880b: 163) and north to western Tennessee (Tipton County, CMNH).

**Records. USA:** AL, CT, FL, GA, LA, MA, MS, NJ, NY, RI, SC, TN, VA

### *Philorhizus melanocephalus* (Dejean, 1825)

*Dromius melanocephalus* Dejean, 1825: 234. Type locality: «environs de Paris et de Lyon, France; Allemagne; Angleterre» (original citation). Syntype(s) probably in MHNP.

**Distribution.** This Palaearctic species is adventive in North America where it known from four specimens (CNC) collected in 1996 on Vancouver Island, at Saanich Peninsula, Island View Beach (Bousquet 2004b: 49).

**Records. CAN:** BC (VCI) – **Adventive**

## Genus *MICROLESTES* Schmidt-Göbel, 1846

*Microlestes* Schmidt-Göbel, 1846: 41. Type species: *Microlestes inconspicuus* Schmidt-Göbel, 1846 designated by Andrewes (1934: 201). Etymology (original). From the Greek *micros* (small, little) and *lestes* (robber, mugger) [masculine].

*Blechrus* Motschulsky, 1847: 219. Type species: *Lebia glabrata* Duftschmid, 1812 (= *Carabus minutulus* Goeze, 1777) designated by Desmarest (1851: 70). Synonymy established by Chaudoir (1848: 95). Etymology. From the Greek *blechros* (faint, gentle, slight) [masculine].

*Bomius* LeConte, 1851: 177. Type species: *Bomius linearis* LeConte, 1851 designated by Lindroth (1969a: 1048). Synonymy established by Zimmermann (in LeConte 1869b: 243). Etymology. From the Greek *bomos* (base, plinth, pedestal), alluding to the lobate posterior edge of the pronotum (“*basi pedunculatus*”) of the adult [masculine].

**Diversity.** About 130 species (Lorenz 2005: 473–474) in the Nearctic (eight species), Neotropical (one species endemic to Cuba and one species in northern Mexico), Oriental, Palearctic (about 55 species), and Afrotropical Regions.

**Identification.** Lindroth (1969a: 1047–1054) reviewed the Nearctic species. Since then, one new North American species (*M. lindrothi*) has been described by Mateu (1995).

### *Microlestes brevilobus brevilobus* Lindroth, 1969

*Microlestes brevilobus* Lindroth, 1969a: 1054. Type locality: «Long Point, Ont[ario]» (original citation). Holotype (♂) in CNC [# 11577].

**Distribution.** This subspecies is known from scattered localities from southernmost Ontario (Lindroth 1969a: 1054) to southern Arizona (Pima County, CMNH), southwestern Texas (Val Verde County, CNC), northwestern Alabama (Walker County, CNC), and southwestern North Carolina (Macon County, CMNH). One specimen simply labeled from California is also known (Lindroth 1969a: 1054).

**Records.** CAN: ON USA: AL, AR, AZ, CO, IA, KS, MO, MS, NC, OH, OK, TX, WV [CA]

**Note.** The subspecies *M. brevilobus mexicanus* Mateu is known from Michoacán in Mexico.

### *Microlestes curtipennis* (Casey, 1920)

*Blechnus curtipennis* Casey, 1920: 270. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47685].

**Distribution.** This species is known from scattered localities from central Saskatchewan (Lindroth 1969a: 1053) to the Okanagan Valley in south-central British Columbia (Blades and Maier 1996: 66), south to the San Francisco area (Casey 1920: 270), northern Utah (Lindroth 1969a: 1053), northeastern Colorado (Bell 1971: 47), and southwestern South Dakota (Kirk and Balsbaugh 1975: 38).

**Records.** CAN: AB, BC, SK USA: CA, CO, OR, SD, UT, WY

### *Microlestes lindrothi* Mateu, 1995

*Microlestes lindrothi* Mateu, 1995: 144. Type locality: «Berkeley [Alameda County], California» (original citation). Holotype (♂) in Mateu’s collection (Almería, Spain).

**Distribution.** This species is known only from the original two specimens collected at Berkeley, on the San Francisco Bay in western California.

**Records.** USA: CA

***Microlestes linearis* (LeConte, 1851)**

*Dromius angustus* LeConte, 1846b: 191 [primary homonym of *Dromius angustus* Brul , 1834]. Type locality: «ad Rocky Mountains» (original citation). Two syntypes in MCZ [# 5815].

*Bomius linearis* LeConte, 1851: 177. Replacement name for *Bomius angustus* (LeConte, 1846).

*Blechrus prominulus* Casey, 1920: 269. Type locality: «Reno [Washoe County], Nevada» (original citation for the lectotype). Lectotype (♂), designated by Lindroth (1975: 145), in USNM [# 47686]. Synonymy established by Lindroth (1969a: 1050).

**Distribution.** The range of this species extends from Nova Scotia to southwestern British Columbia, though not quite reaching the coast (Lindroth 1969a: 1051), south to northern California (Lindroth 1969a: 1051; Casey 1920: 269, as *Blechrus prominulus*), northern Arizona (Lindroth 1969a: 1051), southern Oklahoma (Elliott et al. 2006: 126), and “Virginia” (CMNH, collection Ulke). The record from “Mississippi” (Bousquet and Larochelle 1993: 274) needs confirmation.

**Records.** CAN: AB, BC, MB, NS, ON, QC, SK USA: AR, AZ, CA, CO, CT, DC, IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NJ, NV, NY, OH, OK, OR, PA, UT, VA, VT, WA, WI, WY [MS]

**Note.** This species has passed under the name of *Blechrus glabratus* (Duftschmid, 1812) until the 1960s.

***Microlestes lucidus lucidus* (LeConte, 1851)**

*Bomius lucidus* LeConte, 1851: 177. Type locality: «Colorado [River, California]» (original citation). Four syntypes in MCZ [# 65].

**Distribution.** This subspecies is known from southern California (Fall 1901a: 48; Mateu 1974: 264), “Nevada” (Horn 1882: 134), southeastern Colorado (Bent County, CNC), and central Texas (Casey 1920: 270). The records from northeastern Kansas (Popenoe 1877: 23) and “Oregon” (Horn 1882: 134) need confirmation. The previous records from “Colorado” (Wickham 1902: 239; Mateu 1974: 264) were probably based on a misinterpretation of the type locality.

**Records.** USA: CA, CO, NV, TX [KS, OR]

**Note.** The subspecies *M. lucidus subdeserticus* Mateu is known from the states of Durango and Quer taro in Mexico.

***Microlestes major* Lindroth, 1969**

*Microlestes major* Lindroth, 1969a: 1049. Type locality: «W[ashington] T[erritory]» (holotype label), herein restricted to Seattle, King County, Washington (see Lindroth 1969a: 1049). Holotype (♂) in MCZ [# 34512].

**Distribution.** This species is known from a few specimens collected along the coast in southwestern British Columbia, west-central Washington (Lindroth 1969a: 1049), and Oregon (Lane County, CNC).

**Records.** CAN: BC USA: OR, WA

***Microlestes nigrinus* (Mannerheim, 1843)**

*Dromius nigrinus* Mannerheim, 1843: 184. Type locality: «California» (original citation), herein restricted to Port Harford, San Luis Obispo County (see Casey 1920: 269, as *Blechrus nigrinus obispinus*). Lectotype (♂), designated by Lindroth (1969a: 1051), in ZMH.

*Blechrus nigrinus fretus* Casey, 1920: 269. Type locality: «San Francisco [San Francisco County], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47683]. Synonymy established by Lindroth (1969a: 1051).

*Blechrus nigrinus obispinus* Casey, 1920: 269. Type locality: «Port Harford, S[an] L[uis] Obispo Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47684]. Synonymy established by Lindroth (1969a: 1051).

**Distribution.** The range of this species extends from Vancouver Island to eastern South Dakota (Kirk and Balsbaugh 1975: 38; French et al. 2004: 557), south to southern Colorado (Wickham 1902: 239; Boulder County, CMNH), northern Arizona (Coconino County, CMNH), and southern California (Lindroth 1969a: 1053). The record from “New Mexico” (Wickham 1896c: 135) needs confirmation.

**Records.** CAN: BC (VCI) USA: AZ, CA, CO, ID, OR, SD, UT, WA, WY [NM]

***Microlestes pusio* (LeConte, 1863)**

*Blechrus pusio* LeConte, 1863c: 6. Type locality: «Louisiana» (original citation). Syntype(s) location unknown. NOTE. All four specimens under this name in the LeConte collection (MCZ # 5816) are labeled either “Tex” or “Dallas, Texas” suggesting that none of these specimens are syntypes.

**Distribution.** This species is found from Long Island, New York (Notman 1928: 238) to eastern South Dakota (Kirk and Balsbaugh 1975: 38), including southernmost Ontario (Lindroth 1969a: 1054), south to southeastern Texas (Horn 1882: 135; Snow 1906a: 141; Casey 1920: 270), east-central Mississippi (Snodgrass and Cross 1983: 17), and northeastern Tennessee (Hylton 1980: 25). The record from the District of Columbia (Ulke 1902: 7) needs confirmation.

**Records.** CAN: ON USA: IL, IN, KS, LA, MO, MS, NY, OH, OK, PA, SD, TN, TX, WI [DC]

**Genus *APRISTUS* Chaudoir, 1846**

*Apristus* Chaudoir [in Chaudoir and Hochhuth], 1846: 62. Type species: *Apristus subaeneus* Chaudoir, 1846 by monotypy. Etymology (original). From the Greek *a*



(absence) and *prizos* (saw-like), alluding to the smooth (i.e., not denticulate) tarsal claws (“*crochets des targes non dentelés*”) of the adults [masculine].

**Diversity.** About 60 species (Lorenz 2005: 472) in the Nearctic (13 species), Neotropical (five species in Middle America and the West Indies), Australian, Oriental, Palaearctic (27 species), and Afrotropical Regions.

**Identification.** Casey (1920: 272-276) wrote a key to all but one (*A. latens*) North American species. As usual his key is difficult to use. Ten of the current 13 species in North America have been described by Casey (1920) and only two (*A. constrictus* and *A. pugetanus*) have been study subsequently (Lindroth 1969a). A taxonomic revision of the genus is needed.

### *Apristus actuosus* Casey, 1920

*Apristus actuosus* Casey, 1920: 274. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Holotype [by monotypy] (♂) in USNM [# 47687].

**Distribution.** This species is known only from the type locality in central North Carolina and two localities in northern Georgia (Fattig 1949: 39).

**Records. USA:** GA, NC

### *Apristus agitatus* Casey, 1920

*Apristus liratus agitatus* Casey, 1920: 276. Type locality: «San Diego [San Diego County], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 47691].

**Distribution.** This species is known only from the holotype collected in southwestern California.

**Records. USA:** CA

### *Apristus cephalus* Casey, 1920

*Apristus cephalus* Casey, 1920: 272. Type locality: «Cloverdale, Sonoma Co[unty], California» (original citation). Holotype [by monotypy] (♀) in USNM [# 47692].

**Distribution.** This species is known only from the holotype collected along the coast of California.

**Records. USA:** CA

### *Apristus constrictus* Casey, 1920

*Apristus constrictus* Casey, 1920: 276. Type locality: «S[an]ta Rosa [Sonoma County], California» (original citation). Lectotype, designated by Lindroth (1975: 145), in USNM [# 47696].

**Distribution.** The range of this species extends from southwestern Alberta to Vancouver Island, south to west-central California (Lindroth 1969a: 1046) and southwestern Colorado (Elias 1987: 634).

**Records.** CAN: AB, BC (VCI) USA: CA, CO, MT, OR, WA

### *Apristus latens* (LeConte, 1846)

*Dromius latens* LeConte, 1846b: 191. Type locality: «ad Mississippi scaturigines [according to Lindroth (1969a: 1046) apparently in present day Minnesota]» (original citation). One syntype in MCZ [# 5814].

*Apristus fuscipennis* Motschulsky, 1864: 233. Type locality: «nouveau Mexique [= New Mexico]» (original citation). Lectotype, designated by Bousquet and Laroche (1993: 12), in ZMMU. Synonymy established by Horn (1882: 160), confirmed by Bousquet and Laroche (1993: 12).

**Distribution.** The range of this species extends from Cape Breton Island (Lindroth 1969a: 1046) to southern Saskatchewan (Ronald R. Hooper pers. comm. 2007), south to southern Arizona (Pima County, CMNH), central Texas (Casey 1920: 274, as *A. fuscipennis*; Terrell County, CMNH), and southern Georgia (Torres and Ruberson 2006: 31). The record from “Montana” (Bousquet and Laroche 1993: 273) needs confirmation.

**Records.** CAN: MB, NB, NS (CBI), ON, QC, SK USA: AL, AR, AZ, CO, GA, IA, IL, MA, MD, ME, MN, MS, NE, NH, NJ, NM, OH, OK, PA, SD, TN, TX, VA, VT, WV [MT]

**Note.** This species has passed under the name *A. subsulcatus* (Dejean, 1826) in the literature until Lindroth (1969a: 1045–1046).

### *Apristus laticollis* LeConte, 1851

*Apristus laticollis* LeConte, 1851: 176. Type locality: «San Diego [San Diego County, California]» (original citation). Four syntypes in MCZ [# 64].

*Apristus subcyaneus* G.E. Horn, 1894: 360. Type locality: «San José del Cabo [Baja California Sur, Mexico]» (original citation). One syntype in CAS [# 3]. Synonymy established by Leng (1920: 66).

**Distribution.** This species is known from east-central Oregon (Grant County, UASM; Horn 1882: 134; Lindroth 1969a: 1044) to northern Colorado (Armin 1963: 179), including southern Idaho (Horning and Barr 1970: 25), south to central New Mexico (Bernalillo County, CMNH), southern Arizona (Pima County, CMNH; Horn 1882: 134), and the Baja California Peninsula (Horn 1894: 310).

**Records.** USA: AZ, CA, CO, ID, NM, NV, OR, UT – Mexico

### *Apristus liratus* Casey, 1920

*Apristus liratus* Casey, 1920: 276. Type locality: «Humboldt Co[unty] and S[an]ta Rosa [Sonoma County], California» (original citation). Two syntypes [2 originally cited] in USNM [# 47690].

**Distribution.** This species is known only from the two syntypes collected along coastal California.

**Records. USA:** CA

***Apristus nevadensis* Casey, 1920**

*Apristus nevadensis* Casey, 1920: 273. Type locality: «Reno [Washoe County], Nevada» (original citation). Holotype [by monotypy] in USNM [# 47695].

**Distribution.** This species is known only from the holotype collected in northwestern Nevada.

**Records. USA:** NV

***Apristus pugetanus* Casey, 1920**

*Apristus pugetanus* Casey, 1920: 275. Type locality: «Washington State» (original citation). Four syntypes [4 originally cited] in USNM [# 47689].

**Distribution.** This species ranges from Vancouver Island (Lindroth 1969a: 1047) to northwestern Montana (Flathead County, Ken Karns pers. comm. 2009), south to southwestern New Mexico (Hidalgo County, CMNH), southern Arizona (Graham, Pinal, Cochise, Pima, and Greenlee Counties, CMNH), and northern California (Shasta and Yolo Counties, CMNH).

**Records. CAN:** BC (VCI) **USA:** AZ, CA, CO, ID, MT, NM, OR, UT, WA

***Apristus subdeletus* Casey, 1920**

*Apristus subdeletus* Casey, 1920: 272. Type locality: «M[oun]t Diablo [Contra Costa County], California» (original citation). Holotype [by monotypy] (♂) in USNM [# 47694].

**Distribution.** This species is known only from the holotype collected in western California.

**Records. USA:** CA

***Apristus subsulcatus* (Dejean, 1826)**

*Dromius subsulcatus* Dejean, 1826: 451. Type locality: «Amérique septentrionale» (original citation), restricted to «Northfield [Franklin County], Mass[achusetts]» by Lindroth (1969a: 1044). One syntype in MHNP (Lindroth 1955b: 24).

*Dromius cordicollis* LeConte, 1846b: 190. Type locality: «NovEboraci [= New York]» (original citation). Three syntypes in MCZ [# 35338]. Synonymy established by Lindroth (1955b: 24).

**Distribution.** The range of this species extends from Cape Breton Island (Lindroth 1954c: 307, as *A. cordicollis*) to Minnesota (Gandhi et al. 2005: 932), south to Mississippi (Casey 1920: 275, as *A. cordicollis*), southeastern Alabama (Kharboutli and

Mack 1991: 1017), and southern South Carolina (Ciegler 2000: 122). The records from Colorado (LeConte 1879d: 500; Armin 1963: 179), “New Mexico,” and Texas (Horn 1882: 133; Wickham 1897: 109) need confirmation since they could refer to *A. latens* (LeConte).

**Records.** CAN: NB, NS (CBI), ON, QC USA: AL, AR, CT, DC, GA, IA, IL, IN, MA, MD, ME, MI, MN, MO, MS, NH, NJ, NY, OH, PA, RI, SC, VA, VT, WI, WV [CO, NM, TX]

### *Apristus thoracicus* Casey, 1920

*Apristus thoracicus* Casey, 1920: 275. Type locality: «Jemez Springs [Sandoval County], New Mexico» (original citation). Three syntypes [3 originally cited] in USNM [# 47688].

**Distribution.** This species is known only from the syntypes collected in northwestern New Mexico.

**Records.** USA: NM

### *Apristus tuckeri* Casey, 1920

*Apristus tuckeri* Casey, 1920: 273. Type locality: «Tucson [Pima County], Arizona» (original citation). One syntype in USNM [# 47693].

**Distribution.** This species is known only from the type series collected in southern Arizona.

**Records.** USA: AZ

## Genus *SYNTOMUS* Hope, 1838

*Syntomus* Hope, 1838: 64. Type species: *Carabus truncatellus* Linnaeus, 1760 by monotypy. Etymology (original). From the Greek *syntomos* (shortened), alluding to the small size (“body short”) of the adults [masculine].

*Metabletus* Schmidt-Göbel, 1846: 38. Type species: *Lebia obscuroguttata* Duftschmid, 1812 designated by Andrewes (1934: 201). Synonymy established by Lacordaire (1854: 122). Etymology (original). From the Greek *metabletos* (variable) [masculine].

*Charoapterus* Motschulsky, 1858: 155. Type species: *Carabus truncatellus* Linnaeus, 1760 designated by Habu (1967: 238). Etymology. From the Greek *charops* (glad-eyed, joyous) and *pteron* (wing, by extension elytron) [masculine].

*Apristomorphus* Motschulsky, 1861: 104. Type species: *Apristomorphus sexpunctatus* Motschulsky, 1861 (= *Metabletus quadripunctatus* Schmidt-Göbel, 1846) by monotypy. Synonymy established, under the name *Metabletus* Schmidt-Göbel, by Andrewes (1928: 7). Etymology. From the generic name *Apristus* [q.v.] and the Greek *morphe* (form), alluding to the resemblance of the adults to those of *Apristus* (“*dromiide de la forme parallèle des Apristus*”) [masculine].

**Diversity.** About 50 species (Lorenz 2005: 470-471) in the boreal, temperate, and tropical areas of the Nearctic (one species), Australian (one widely distributed Old World species), Oriental, Palaearctic (about 35 species), and Afrotropical Regions.

**Identification.** The North American species is included in Lindroth's (1969a: 1056) monograph on the Canadian and Alaskan Carabidae.

### *Syntomus americanus* (Dejean, 1831)

*Dromius americanus* Dejean, 1831: 361. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1969a: 1056). Holotype [by monotypy] in MHNP (Lindroth 1955b: 24).

*Metabletus borealis* Zimmermann [in LeConte], 1869b: 243. Type locality: «Lake Superior» (original citation). Syntype(s) probably lost (Lindroth 1969a: 1056). Synonymy established by Horn (1882: 161).

**Distribution.** The range of this species extends from Newfoundland (Lindroth 1955a: 130) to east-central Alaska (Lindroth 1969a: 1056), south to the Sierra Nevada in California (Dajoz 2007: 16), southeastern Arizona (Graham and Greenlee Counties, UASM), central New Mexico (Fall and Cockerell 1907: 160), south-central South Dakota (Kirk and Balsbaugh 1975: 38), central Illinois (Wolcott 1895: 309), and western North Carolina (Yancey County, USNM) along the Appalachians. The records from "Nebraska" and "Texas" (Bousquet and Larochelle 1993: 274) need confirmation.

**Records.** **CAN:** AB, BC (VCI), LB, MB, NB, NF, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AK, AZ, CA, CO, CT, DC, IA, ID, IL, IN, MA, MD, ME, MI, MN, MT, NC, ND, NH, NJ, NM, NY, OH, OR, PA, RI, SD, TN, UT, VA, VT, WA, WI, WV, WY [NE, TX]

### **Genus** *AXINOPALPUS* LeConte, 1846

*Axinopalpus* LeConte, 1846b: 190. Type species: *Dromius biplagiatus* Dejean, 1825 by monotypy. Etymology. From the Greek *axine* (ax, wedge) and the Latin *palpus* (feeler, by extension palp), alluding to the shape of the terminal labial palpomere ("*palpi labiales ... articulo ultimo magno, obconico, subsecuriformi*") of the adult [masculine].

*Variopalpis* Solier, 1849: 148. Type species: *Variopalpis humeralis* Solier, 1849 by monotypy. Synonymy established by Reed (1874: 69-70). Etymology. From the Latin *vario* (change, different) and *palpus* (feeler, by extension palp) [masculine]. NOTE. *Variopalpus* is an incorrect subsequent spelling of *Variopalpis* Solier used by Reed (1874: 69).

*Axinopselaphus* Gemminger and Harold, 1868a: 128. Unjustified emendation of *Axinopalpus* LeConte, 1846.

**Diversity.** Fifteen species in the temperate, subtropical, and tropical areas of the Nearctic (seven species) and Neotropical (nine species) Regions.



**Identification.** There is no modern taxonomic revision of the species of *Axinopalpus* and such study is much needed. A preliminary study of the type material of the species described by Casey and Hatch led to the three new synonyms proposed herein.

***Axinopalpus biplagiatus* (Dejean, 1825)**

*Dromius biplagiatus* Dejean, 1825: 243. Type locality: «Amérique septentrionale» (original citation), restricted to «Hays [Ellis County], Kansas» by Lindroth (1969a: 1058). Syntype(s) presumably lost (Lindroth 1969a: 1058).

*Dromius californicus* Motschulsky, 1845b: 336 [*nomen dubium*]. Type locality: «Californie» (original citation). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976). Synonymy established by LeConte (1880b: 164).

*Axinopalpus coloradensis* Casey, 1920: 266. Type locality: «Boulder Co[unty], Colorado» (original citation). One syntype in USNM [# 47680]. **New synonymy.**

*Axinopalpus habilis* Casey, 1920: 266. Type locality: «Austin [Travis County], Texas» (original citation). Holotype [by monotypy] in USNM [# 47679]. **New synonymy.**

*Axinopalpus demissus* Casey, 1920: 267. Type locality: «San Francisco to Los Angeles, California» (original citation). Two syntypes in USNM [# 47681]. **New synonymy.**

**Distribution.** This species ranges from “Maine” (Larochelle and Larivière 1990a: 32) to “Washington” (Hatch 1953: 156), north to the southern part of the Prairie Provinces (Bousquet 1987a: 133), south to southwestern California (Casey 1920: 266, as *A. demissus*; Moore 1937: 12), southern Arizona (Wickham 1898: 300; Ober and Maddison 2008: 31), southern Texas (Wickham 1897: 109; Kerr and Hidalgo Counties, CNC, USNM), and west-central Georgia (Fattig 1949: 39). The records from “Pennsylvania,” “Florida” (Bousquet and Larochelle 1993: 272), Vancouver Island (see Lindroth 1969a: 1058), and Mexico (Blackwelder 1944: 58) need confirmation.

**Records.** CAN: AB, MB, ON, QC, SK USA: AL, AZ, CA, CO, CT, DE, GA, IA, ID, IL, IN, KS, MA, ME, MI, MN, MO, ND, NE, NH, NJ, NM, NY, OK, OR, RI, SD, TX, UT, VT, WA, WI, WY [BC, FL, PA]

***Axinopalpus denticulatus* Hatch, 1949**

*Axinopalpus denticulatus* Hatch, 1949a: 84. Type locality: «Grand Coulee [Grant County], Wash[ington]» (original citation). Holotype (♀) in USNM.

**Distribution.** This species is known only from the holotype collected in central Washington.

**Records.** USA: WA

***Axinopalpus fusciceps* LeConte, 1851**

*Axinopalpus fusciceps* LeConte, 1851: 175. Type locality: «San Jose [Santa Clara County, California]» (original citation). Three syntypes in MCZ [# 61].

*Axinopalpus nigriceps* LeConte, 1880b: 164. Type locality: «Tex[as]» (syntype labels). Three syntypes in MCZ [# 5817]. Synonymy established by Henshaw (1882: 209).

**Distribution.** This species ranges from western Idaho (Washington County, CNC) to northern Oklahoma (Alfalfa County, CMNH), south to Guatemala (Bates 1883a: 193) and southwestern California (LeConte 1851: 175; Fall 1901a: 48).

**Records. USA:** AZ, CA, CO, ID, NM, OK, TX – Guatemala, Mexico

***Axinopalpus illectus* Casey, 1920**

*Axinopalpus illectus* Casey, 1920: 265. Type locality: «Jountville, Napa Co[unty], California» (original citation). One syntype in USNM [# 47682].

**Distribution.** This species is known only from the type series collected in west-central California.

**Records. USA:** CA

***Axinopalpus pratti* Hatch, 1949**

*Axinopalpus pratti* Hatch, 1949a: 83. Type locality: «Coupeville [Island County], Wash[ington]» (original citation). Holotype (♀) in USNM. Etymology. The specific name honors Robert Y. Pratt [1915-1999], a resident of Coupeville, on Whidbey Island, Washington. Pratt collected insects in the Pacific Northwest and left his collection of several thousand specimens, mostly beetles, to Au Sable-Pacific Rim. He also bequeathed 147 acres of his land to the Nature Conservancy. The reserve now safeguards a unique grassland ecosystem, including rare populations of golden paintbrush and brittle cactus, the only cactus native to western Washington.

**Distribution.** This species is known only from the holotype collected in northwestern Washington.

**Records. USA:** WA

***Axinopalpus utahensis* Tanner, 1928**

*Axinopalpus utahensis* Tanner, 1928: 270. Type locality: «S[ain]t George [Washington County], Utah» (holotype label). Holotype (♂) in BYUC (Shawn M. Clark pers. comm. 2007). NOTE. The type locality is incorrectly spelled “St. Geroge” on the holotype label (Shawn M. Clark pers. comm. 2007).

**Distribution.** This species is known only from Utah and Washington Counties in Utah (Tanner 1928: 270).

**Records. USA:** UT

***Axinopalpus vittatus* Hatch, 1949**

*Axinopalpus vittatus* Hatch, 1949a: 84. Type locality: «Seattle [King County], Wash[ington]» (original citation). Holotype (♀) in USNM.

**Distribution.** This species is known from the type locality in west-central Washington (Hatch 1953: 156) and from southeastern Oregon (Westcott et al. 2006: 6).

**Records. USA:** OR, WA

### Subtribe **LEBIINA Bonelli, 1810**

Lebiotae Bonelli, 1810: Tabula Synoptica. Type genus: *Lebia* Latreille, 1802.

Encratidae Gistel, 1856: 355. Type genus: *Encrates* Gistel, 1848 (= *Lebia* Latreille, 1802).

Lampriadae Chaudoir, 1871a: 115. Type genus: *Lamprias* Bonelli, 1810.

**Diversity.** Worldwide, with about 800 species arrayed in 25 genera (Lorenz 2005: 481–489). The North American fauna has 49 species (about 6 % of the world fauna) placed in two genera.

**Taxonomic Note.** Casale's (1998: Fig. 91) cladistic analysis suggests that this subtribe is possibly the sister-group to {cymindidines + dromiusines + physoderines + agrines + metallicines + calleidines + demetriadines + peliocypadines}.

### Genus **LEBIA Latreille, 1802**

*Lebia* Latreille, 1802: 85. Type species: *Carabus haemorrhoidalis* Fabricius, 1792 (= *Buprestis marginatus* Geoffroy, 1785) designated by Desmarest (1851: 76). Etymology (see Bedel 1878: 247). From the Greek *lebias* (kind of fish) [feminine]. NOTE. As stated by Andrewes (1935: 24), the first valid type species designation for *Lebia* Latreille, 1802 is that of *Carabus quadrimaculatus* Linnaeus, 1758 by Latreille (1810: 426). That species is also the type species of *Dromius* Bonelli, 1810. Acceptance of Latreille's designation would require nomenclatural changes for the taxa *Lebia* Latreille, 1802 and *Dromius* Bonelli, 1810. A request should be addressed to the International Commission on Zoological Nomenclature to suppress Latreille's designation. A first request was postponed (ICZN 1950).

*Encrates* Gistel, 1848a: ix. Unnecessary replacement name for *Lebia* Latreille, 1802.

**Diversity.** Worldwide, with about 740 species (Lorenz 2005: 481–488) arrayed in 17 subgenera. The North American fauna includes 48 species (about 6.5 % of the world fauna) in the boreal, temperate, and subtropical regions. These species are currently placed in four subgenera.

**Identification.** Madge (1967) revised the North American species. Since the publication of his work, one of his species (*L. viridis*) has been shown to be a complex of two species (*L. viridis* and *L. moesta*) by Lindroth (1969a).

### Subgenus **Loxopeza Chaudoir, 1871**

*Loxopeza* Chaudoir, 1871a: 117, 138. Type species: *Lebia grandis* Hentz, 1830 designated by Madge (1967: 153). Etymology (original). From Greek *loxos* (slanting,

by extension oblique) and *peza* (foot), alluding to the oblique anterior edge of the male first three protarsomeres (“*tarsi antici maris articulis tribus apice valde oblique truncatis*”) [feminine].

**Diversity.** Twenty-five species in the Nearctic (eight species) and Neotropical (18 species) Regions.

[**atriventris group**]

***Lebia atriceps* LeConte, 1863**

*Lebia atriceps* LeConte, 1863c: 5. Type locality: «Nebraska» (original citation), herein restricted to Mitchell, Scotts Bluff County (see Madge 1967: 156). One syntype in MCZ [# 5803].

*Loxopeza nanulina* Casey, 1920: 238. Type locality: «Boulder Co[unty], Colorado» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47622]. Synonymy established by Madge (1967: 155).

**Distribution.** This species ranges from southern Manitoba to eastern Oregon (Baker County, James R. LaBonte pers. comm. 1992), as far north as central Alberta, south to northern Sonora (Bates 1884: 298) and southwestern Texas [see Madge 1967: Fig. 141]. On specimen is known from Stafford County, northeastern Virginia (Hoffman 2010: 23), probably resulting from anthropogenic transport.

**Records.** CAN: AB, MB, SK USA: AZ, CO, ID, KS, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WY – Mexico

***Lebia atriventris* Say, 1823**

*Lebia atriventris* Say, 1823a: 13. Type locality: «Arlington [Middlesex County], Mass[achusetts]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 349), in MCZ [# 33007].

*Loxopeza enormis* Casey, 1920: 237. Type locality: «near the city [of New York], New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47620]. Synonymy established by Madge (1967: 154).

**Distribution.** This species ranges from “Maine” (Larochelle and Larivière 1990a: 32) to southwestern Montana, north to northern Alberta (Fort McMurray area, Gerald J. Hilchie pers. comm. 2009), Saskatchewan and southern Manitoba, south to central New Mexico (Fall and Cockerell 1907: 159), central Texas, and northeastern Florida [see Madge 1967: Fig. 117]. The records from “California” (Erwin et al. 1977: 4.61; Bousquet and Larochelle 1993: 274) and Mexico (Chaudoir 1871a: 143) are likely in error.

**Records.** CAN: AB, MB, ON, QC, SK USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

**[tricolor group]*****Lebia decepatrix* Madge, 1967**

*Lebia decepatrix* Madge, 1967: 158. Type locality: «Pena Blanca (4000'), Santa Cruz Co[unty], Ariz[ona]» (original citation). Holotype (♂) in CNC [# 9559].

**Distribution.** This species is known from southern Arizona and western Texas (Madge 1967: 159).

**Records. USA:** AZ, TX

***Lebia grandis* Hentz, 1830**

*Lebia grandis* Hentz, 1830: 255. Type locality: «North Carolina» (original citation), herein restricted to Asheville, Buncombe County (see Madge 1967: 163). Syntype(s) [2 originally cited] lost.

*Loxopeza majuscula* Chaudoir, 1871a: 141. Type locality: «Texas» (original citation). Syntype(s) [2 originally cited] in MHNP. Synonymy established by Madge (1967: 161).

*Loxopeza grandis rivularis* Casey, 1920: 235. Type locality: «Brownsville [Cameron County], Texas» (original citation). One syntype in USNM [# 47618]. Synonymy established by Madge (1967: 161).

*Loxopeza magister* Casey, 1920: 236. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47617]. Synonymy established by Madge (1967: 161).

**Distribution.** This species is found east of the Rocky Mountains from southern Quebec (Larochelle 1975: 91) to northeastern North Dakota (Tinerella 2003: 637), south to southeastern Texas along the Rio Grande and southern South Carolina, west to western Texas and western Oklahoma [see Madge 1967: Fig. 137]. The records from Baja California (Horn 1894: 310), Arizona (Wickham 1898: 300; Snow 1907: 142, as *L. majuscula*), New Mexico (Fall and Cockerell 1907: 159, 160 as *L. majuscula*), and “Colorado” (Snow 1877: 17; Wickham 1902: 239) need confirmation.

**Records. CAN:** ON, QC **USA:** AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [AZ, CO, NM]

***Lebia pimalis* (Casey, 1920)**

*Loxopeza pimalis* Casey, 1920: 237. Type locality: «Arizona» (original citation), herein restricted to Brown's Canyon, Baboquivari Mountains, Pima County (see Madge 1967: 159). One syntype in USNM [# 47619].

**Distribution.** This species is known so far only from southern Arizona (Madge 1967: 159).

**Records. USA:** AZ



***Lebia subdola* Madge, 1967**

*Lebia subdola* Madge, 1967: 157. Type locality: «Madera C[a]n[yon] Sta[tion] (5000'-5800'), Rita M[oun]t[ain]s, S[an]ta Cruz Co[unty], Ariz[ona]» (original citation). Holotype (♂) in CNC [# 9558].

**Distribution.** This species is known from southern Arizona and western Texas (Madge 1967: 158), including southwestern New Mexico (Luna County, Ken Karns pers. comm. 2009).

**Records. USA:** AZ, NM, TX

***Lebia subgrandis* Madge, 1967**

*Lebia subgrandis* Madge, 1967: 160. Type locality: «Pena Blanca (4000'), Santa Cruz Co[unty], Ariz[ona]» (original citation). Holotype (♂) in CNC [# 9557].

**Distribution.** This species ranges from southern Arizona to western Texas (Madge 1967: 161).

**Records. USA:** AZ, NM, TX

***Lebia tricolor* Say, 1823**

*Lebia tricolor* Say, 1823a: 11. Type locality: «Pennsylvania; on the Missouri» (original citation), restricted to «Pennsylvania» by Lindroth and Freitag (1969: 349), herein to Milford, Pike County (see Madge 1967: 157). Lectotype (♀), designated by Lindroth and Freitag (1969: 349), in MHNP.

**Distribution.** This species occurs from Nova Scotia (Halifax and Colchester Counties, CNC) to eastern Minnesota, north to southern Manitoba (CNC), south to northern Oklahoma (Alfalfa County, Foster F. Purrington pers. comm. 2010), southern Louisiana, and central Florida [see Madge 1967: Fig. 126]. Old specimens simply labeled from "Texas" (Madge 1967: 157) are known.

**Records. CAN:** MB, NB, NS, ON, QC **USA:** AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, VA, VT, WI, WV [TX]

**Subgenus *Polycheloma* Madge, 1967**

*Polycheloma* Madge, 1967: 163. Type species: *Lebia lecontei* Madge, 1967 by original designation. Etymology (original). From the Greek *polys* (many) and *cheloma* (notch), alluding to the presence of several preapical notches on the mesotibia of the male [neuter].

**Diversity.** One species in southern United States and northeastern Mexico.

***Lebia lecontei* Madge, 1967**

*Lebia lecontei* Madge, 1967: 164. Type locality: «Texas» (original citation), herein restricted to 2.5 miles east of Nickle Creek Station, Culberson County (see Madge

1967: 164). Syntype(s) in MCZ [# 5802]. NOTE. Madge (1967: 164) proposed the name *Lebia lecontei* as a replacement name for *Lebia testacea* (LeConte, 1880). However, LeConte never provided a description for *L. testacea*. The first description of the species was done by Madge (1967: 164).

**Distribution.** This species is known from a few specimens collected in western Texas (Madge 1967: 164), southeastern Arizona (Cochise County, CNC, UASM), and “Tamaulipas” (MCZ, collection LeConte) and Nuevo León (UASM) in Mexico. The record from Baja California (Horn 1894: 310, as *L. testacea*) needs confirmation.

**Records. USA:** AZ, TX – Mexico

### Subgenus *Lamprias* Bonelli, 1810

*Lamprias* Bonelli, 1810: Tabula Synoptica. Type species: *Carabus cyanocephalus* Linnaeus, 1758 by subsequent monotypy in Panzer (1813: 71). Etymology. From the Greek *lampros* (bright, brilliant) and the suffix *-ios* (pertaining to), possibly alluding to the vivid coloration of the adults in the hands of Bonelli [masculine].

*Echimuthus* Leach, 1815: 81. Type species: *Carabus cyanocephalus* Linnaeus, 1758 by monotypy.

*Lamprus* Billberg, 1820: 26. Unjustified emendation of *Lamprias* Bonelli, 1810.

*Omalomorpha* Motschulsky, 1844: 13[table], 42 [junior homonym of *Omalomorpha* Brullé, 1835]. Type species: *Lebia punctata* Gebler, 1843 designated by Lorenz (1998: 129). Synonymy established by Chaudoir (1871a: 129). Etymology. From the Greek *homalos* (even, equal) and *morphe* (form) [feminine].

*Homalops* Motschulsky, 1850a: viii, 42. Replacement name for *Omalomorpha* Motschulsky, 1844.

*Rhopalostyla* Chaudoir, 1850b: 96. Replacement name for *Omalomorpha* Motschulsky, 1844. Etymology (original). From the Greek *rhopalon* (club) and *stylos* (pillar, base) [feminine].

*Lebida* Motschulsky, 1862b: 51. Type species: *Lebida pilosella* Motschulsky, 1862 (= *Carabus cyanocephalus* Linnaeus, 1758) designated by Lorenz (1998: 104).

**Diversity.** Fourteen species in the Nearctic (one species) and Palaearctic (13 species) Regions.

### *Lebia divisa* LeConte, 1850

*Lebia concinna* LeConte, 1846b: 192 [primary homonym of *Lebia concinna* Brullé, 1838]. Type locality: «Lacum Superiorem» (original citation), herein restricted to Eagle Harbor, Keweenaw County, Michigan (see Hubbard and Schwarz 1878: 627). One syntype in MCZ [# 5801].

*Lebia divisa* LeConte, 1850: 203. Replacement name for *Lebia concinna* LeConte, 1846.

**Distribution.** This species ranges from the Prairie Provinces, as far north as central Alberta, south to northern Colorado (Wickham 1902: 239) and eastern Kansas (Popenoe 1877: 23), east to west-central Indiana (Downie 1957: 116; Schrock 1985: 351), west to northwestern Idaho [see Madge 1967: Fig. 120]. The record from northeastern New Mexico (Fall and Cockerell 1907: 159) needs confirmation.

**Records.** CAN: AB, MB, SK USA: CO, ID, IL, IN, KS, MN, MT, SD, WI, WY [NM]

### Subgenus *Lebia* Latreille, 1802

*Lebia* Latreille, 1802: 85. Type species: *Carabus haemorrhoidalis* Fabricius, 1792 (= *Buprestis marginatus* Geoffroy, 1785) designated by Desmarest (1851: 76).

*Metabola* Chaudoir, 1871a: 160 [junior homonym of *Metabola* Mayer, 1867]. Type species: *Metabola rufopyga* Chaudoir, 1871 (= *Lebia pulchella* Dejean, 1826) by monotypy. Synonymy established by Madge (1967: 166).

*Aphelogenia* Chaudoir, 1871b: 25. Type species: *Carabus vittatus* Fabricius, 1777 designated by Madge (1967: 166). Synonymy established by Madge (1967: 166).

*Dianchomena* Chaudoir, 1871b: 45. Type species: *Lebia abdominalis* Chaudoir, 1843 designated by Casey (1920: 239). Synonymy established by Madge (1967: 166). Etymology. From the Greek *dis* (twice, double) and *anchomenos* (strangled), possibly alluding to the constriction of the vertex ("*caput basi valde strangulatum*") of the adult [feminine].

**Diversity.** Worldwide, with about 525 species (Lorenz 2005: 481-488) of which 38 (about 7 % of the world fauna) occur in North America.

### [*analys* group]

#### *Lebia analis* Dejean, 1825

*Lebia analis* Dejean, 1825: 265. Type locality: «Amérique septentrionale» (original citation), restricted to «Newark [Essex County], N[ew] J[ersey]» by Lindroth (1969a: 1030). One syntype in MHNP (Lindroth 1955b: 23).

*Lebia anchora* Chevrolat, 1835c: [no. 132]. Type locality: «environs d'Orizaba [Veracruz, Mexico]» (original citation). Holotype [by monotypy] location unknown (Lindroth 1969a: 1030). Synonymy established by Madge (1967: 184).

*Lebia bonellii* Putzeys, 1845a: 39. Type locality: «Mexique» (original citation). Holotype [by monotypy] location unknown (Lindroth 1969a: 1030). Synonymy established, under the name *L. anchora* Chevrolat, by Chaudoir (1871a: 212). Etymology. The specific name honors Franco Andrea Bonelli [1784-1830], professional entomologist and professor of zoology at the University of Turin. Bonelli proposed the first classification of the family Carabidae when he classified the species into 22 "stirpes" in his "Tabula Synoptica" published in 1810.

*Lebia subfigurata* Motschulsky, 1864: 227. Type locality: «Amér[ique] bor[éale]» (original citation). Lectotype, designated by Bousquet and Laroche (1993: 14), in



**Figure 42.** *Helluomorphoides praeustus bicolor* (Harris). Adults of most carabids are opportunist predators or scavengers but those of *Helluomorphoides* seem to have adopted a different, more dangerous life-style. Adults of two North American species have been observed to plunder foraging and migrating columns of army ant species of the genus *Neivamyrmex* and run away with their prey and broods. The beetles do not inhabit the ant nest or bivouac but can detect and follow the chemical trails of the ants at night. Whether this habit is common to all species of *Helluomorphoides* remains to be investigated.

ZMMU. Synonymy established with doubt with the name *L. analis* var. *appendiculata* Chaudoir by Horn (1872a: 142), confirmed by Bousquet and Larochelle (1993: 14).

*Lebia sublimbata* Motschulsky, 1864: 226. Type locality: «états septentrionaux de l'Amérique du Nord» (original citation). Lectotype, designated by Bousquet and Larochelle (1993: 15), in ZMMU. Synonymy established by Bousquet and Larochelle (1993: 15).

*Lebia appendiculata* Chaudoir, 1871a: 212. Type locality: «Louisiane» (original citation). Syntype(s) [4 originally cited] in MHNP. Synonymy established by LeConte (1880a: 88).

**Distribution.** This species ranges from northwestern Vermont to eastern South Dakota (Kirk and Balsbaugh 1975: 37), including southernmost Ontario (Bousquet 1987a: 133), south to Guatemala (Bates 1883a: 229, as *L. anchora*) and the Florida Keys, west along the southwest to southeastern Arizona [see Madge 1967: Fig. 130] and the Baja California Peninsula (Blackwelder 1944: 52); also recorded from the Bahamas (Turnbow and Thomas 2008: 13). The record from “Maine” (Bousquet and Larochelle 1993: 276) needs confirmation.

**Records.** CAN: ON USA: AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [ME] – Bahamas, Guatemala, Mexico

#### [bitaeniata group]

##### *Lebia bitaeniata* Chevrolat, 1834

*Lebia bitaeniata* Chevrolat, 1834 [6 August]: [no. 37]. Type locality: «Orizaba [Veracruz, Mexico]» (original citation). Syntype(s) location unknown (possibly in UMO).

*Lebia bicincta* Laporte, 1834 [30 June]: 47. Type locality: «Orizaba [Veracruz], Mexique» (original citation). Syntype(s) location unknown (possibly in MHNP). Synonymy established by Chaudoir (1871a: 208). NOTE. Based on bibliographic research I made, this name may be older than Chevrolat's name but is not in “prevailing usage” (see *Principle of priority* under “Nomenclature” section).

*Lia femorata* Motschulsky, 1864: 228. Type locality: «Am[érique] centr[ale]» (original citation). One syntype in ZMMU (Keleinikova 1976: 197). Synonymy established with doubt by Chaudoir (1871a: 208).

*Lebia callizona* Bates, 1878a: 607. Type locality: «Guatemala» (original citation). Syntype(s) probably in BMNH. Synonymy established (as aberration) by Csiki (1932b: 1332).

**Distribution.** This species ranges from southeastern Texas (Madge 1967: 172) to Colombia (Martínez 2003: 14); also recorded from the Bahamas (Turnbow and Thomas 2008: 13), Cuba (Gundlach 1891: 16), Jamaica (Darlington 1941a: 14), Puerto Rico (Wolcott 1936: 188), and Dominica (Peck 2006: 176).



**Records. USA:** TX – Bahamas, Colombia, Costa Rica, Cuba, Dominica, Guatemala, Jamaica, Mexico, Nicaragua, Puerto Rico

[**bivittata group**]

***Lebia abdominalis* Chaudoir, 1843**

*Lebia abdominalis* Chaudoir, 1843b: 704. Type locality: «près de la Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Syntype(s) in MHNP.

*Dianchomena convictor* Casey, 1920: 262. Type locality: «Cairo [Alexander County], Illinois» (original citation). One syntype in USNM [# 47665]. Synonymy established by Madge (1967: 198).

**Distribution.** This species ranges from New Jersey to northeastern Kansas (Popenoe 1877: 23), south to Nicaragua (Bates 1883a: 240) and southern Florida, west to northwestern Texas [see Madge 1967: Fig. 119]; also recorded from Cuba (Gundlach 1891: 16; Darlington 1934: 113) and Jamaica (Darlington 1941a: 14). The record from “Wisconsin” (Bousquet and Larochelle 1993: 276) needs confirmation.

**Records. USA:** AL, AR, DC, DE, FL, GA, IL, IN, KS, LA, MD, MO, NC, NJ, OH, PA, SC, TN, TX, VA, WV [WI] – Belize, Cuba, Guatemala, Jamaica, Mexico, Nicaragua

***Lebia bilineata* Motschulsky, 1859**

*Lebia bilineata* Motschulsky, 1859a: 145. Type locality: «Col[onie] Ross [farming community about 75 miles north of San Francisco along the coast, California]» (original citation). Syntype(s) location unknown (possibly in ZMMU though not listed in Keleinikova 1976).

**Distribution.** This species ranges from central Idaho and northern Oregon south to southern California along the Mexican border [see Madge 1967: Fig. 133].

**Records. USA:** CA, ID, NV, OR

***Lebia bivittata* (Fabricius, 1798)**

*Carabus 2vittatus* Fabricius, 1798: 59. Type locality: «America» (original citation), restricted to «Galesburg [Knox County], Illin[ois]» by Lindroth (1969a: 1034). Syntype(s) apparently lost (Lindroth 1969a: 1034).

*Lebia quadrivittata* Dejean, 1825: 268. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 23). Synonymy established by LeConte (1863b: 5), confirmed by Lindroth (1955b: 23).

*Dianchomena aemula* Casey, 1920: 263. Type locality: «Kansas» (original citation). Two syntypes in USNM [# 47666]. Synonymy established by Madge (1967: 196).

*Dianchomena devincta* Casey, 1920: 264. Type locality: «Boulder Co[unty], Colorado» (original citation). One syntype in USNM [# 47667]. Synonymy established by Madge (1967: 196).

**Distribution.** The range of this species extends from northern New Jersey to north-central Colorado, north to southeastern Michigan, south at least to southern Arizona, Guanajuato and the Federal District in Mexico (Bates 1883a: 241), and central Georgia [see Madge 1967: Fig. 124]. At least one old specimen simply labeled from Wisconsin is known (Madge 1967: Fig. 124). The record from “Massachusetts” (Leng and Beutenmüller 1893: 142) needs confirmation.

**Records. USA:** AL, AR, AZ, CO, DC, DE, GA, IA, IL, IN, KS, KY, LA, MD, MI, MO, MS, NE, NJ, NM, NY, OH, PA, TX, VA [MA, WI] – Mexico

[**collaris group**]

***Lebia collaris* Dejean, 1826**

*Lebia collaris* Dejean, 1826: 456. Type locality: «Amérique septentrionale» (original citation), herein restricted to Southern Pines, Moore County, North Carolina (see Madge 1967: 215). One syntype in MHNP (Chaudoir 1871a: 200).

**Distribution.** This rarely collected species is known from southern Ohio (Purrington et al. 1999: 48) and southern Indiana, from North Carolina to southern Florida [see Madge 1967: Fig. 136], from southeastern Louisiana (Saint Tammany Parish, Igor M. Sokolov pers. comm. 2009), from east-central Texas (Riley 2011), and from western Arkansas (Polk and Garland Counties, Robert L. Davidson pers. comm. 2012). The records from New York (LeConte 1846b: 195), Alabama (Löding 1945: 21), and Cuba (Darlington 1934: 113) need confirmation.

**Records. USA:** AR, FL, GA, IN, LA, NC, OH, TX [AL, NY]

[**fuscata group**]

***Lebia abdita* Madge, 1967**

*Lebia abdita* Madge, 1967: 201. Type locality: «Pena Blanca (4000’), S[an]ta Cruz Co[unty], Ariz[ona]» (original citation). Holotype (♂) in CNC [# 9560].

**Distribution.** This species is known from southern Arizona and the Baja California Peninsula (Madge 1967: 202).

**Records. USA:** AZ – Mexico

***Lebia calliope* Bates, 1883**

*Lebia calliope* Bates, 1883a: 231. Type locality: «Mirador [and] Cerro de Plumas, Mexico; San Gerónimo, Guatemala» (original citation). Syntype(s) probably in BMNH.

*Lebia serpentina* Casey, 1920: 256. Type locality: «Brownsville [Cameron County], Texas» (original citation). Seven syntypes [7 originally cited] in USNM [# 47655]. Synonymy established by Madge (1967: 212).

**Distribution.** This species ranges from southeastern Texas (Madge 1967: 212) along the Rio Grande south at least to Guatemala (Bates 1883a: 231).

**Records. USA:** TX – Guatemala, Mexico

***Lebia esurialis* Casey, 1920**

*Lebia esurialis* Casey, 1920: 257. Type locality: «Brownsville [Cameron County], Texas» (original citation). Two syntypes [2 originally cited] in USNM [# 47656].

**Distribution.** This species is known from northwestern and south-central Louisiana (Caddo and Saint Landry Parishes, Igor M. Sokolov pers. comm. 2009), eastern Texas (Madge 1967: 212; Riley 2011), and “Mexico” (Erwin et al. 1977: 4.62); also recorded from the Bahamas (Turnbow and Thomas 2008: 13) and Cuba (Mateu 1977: 378). The record from South Dakota (Kirk and Balsbaugh 1975: 38) needs confirmation.

**Records. USA:** LA, TX [SD] – Bahamas, Cuba, Mexico

***Lebia fuscata* Dejean, 1825**

*Lebia fuscata* Dejean, 1825: 270. Type locality: «Amérique septentrionale» (original citation), restricted to «Rumney [Grafton County], N[ew] H[ampshire]» by Lindroth (1969a: 1035). One syntype in MHNP (Lindroth 1955b: 23).

*Lebia canonica* Casey, 1920: 257. Type locality: «Marquette [Marquette County, Michigan], Lake Superior» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47657]. Synonymy established by Madge (1967: 203).

**Distribution.** This species is found from Nova Scotia to western Washington, as far north as southern Manitoba and southwestern British Columbia (Lindroth 1969a: 1036), south to west-central California, east-central Texas (Riley 2011), and southern Florida [see Madge 1967: Fig. 127]. The species has been rarely collected in the Great Plains.

**Records. CAN:** BC (VCI), MB, NB, NS, ON, PE, QC **USA:** AL, AR, CA, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV

***Lebia guttula* LeConte, 1851**

*Lebia guttula* LeConte, 1851: 178. Type locality: «ad Colorado [River, California]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 67].

*Lebia metuens* Casey, 1920: 258. Type locality: «California» (original citation). Two syntypes in USNM [# 47658]. Synonymy established by Madge (1967: 199).

*Lebia pacifica* Casey, 1920: 259. Type locality: «Lake Co[unty], California» (original citation). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47659]. Synonymy established by Madge (1967: 200).

**Distribution.** The range of this species extends from southern Alberta (Drumheller, CNC) and southern British Columbia south to southern California, southern New Mexico [see Madge 1967: Fig. 134], and western Texas (Jeff Davis County, Ken Karns pers. comm. 2009). One old specimen simply labeled from Kansas is known (Madge 1967: 201).

**Records.** CAN: AB, BC USA: AZ, CA, CO, ID, MT, ND, NM, NV, OR, TX, UT, WA, WY [KS]

***Lebia insulata* Madge, 1967**

*Lebia insulata* Madge, 1967: 202. Type locality: «Esperanza Ranch, Brownsville [Cameron County], Tex[as]» (original citation). Holotype (♂) in MCZ [# 34669].

**Distribution.** This species is known only from southeastern Texas (Madge 1967: 203).

**Records.** USA: TX

***Lebia lobulata* LeConte, 1863**

*Lebia lobulata* LeConte, 1863c: 5. Type locality: «Ohio and Louisiana» (original citation). Syntypes location unknown. NOTE. The specimen in LeConte's collection [Type 5807] is labeled "V[irgini]a" and so is not a syntype.

*Lebia brunnicollis* Motschulsky, 1864: 227. Type locality: «Atlanta [Georgia]» (lectotype label). Lectotype, designated by Bousquet and Laroche (1993: 14), in ZMMU. Synonymy established by Horn (1872a: 142), confirmed by Bousquet and Laroche (1993: 14).

**Distribution.** This species ranges from southeastern Maine (Majka et al. 2011: 47) to eastern North Dakota (Tinerella 2003: 637), south to eastern Texas and central Florida [see Madge 1967: Fig. 135].

**Records.** CAN: ON USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, LA, MD, ME, MO, MS, NC, ND, NJ, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV

***Lebia ornata* Say, 1823**

*Lebia ornata* Say, 1823a: 13. Type locality: «Wis[s]ahick[o]n Cr[ee]k [Philadelphia County], P[ennsylvani]a» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 349), in MCZ [# 33005].

*Lebia axillaris* Dejean, 1831: 372. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] in MHNP (Lindroth 1955b: 23). Synonymy established by LeConte (1869b: 248), confirmed by Lindroth (1969a: 1036).

*Lebia marginella* Dejean, 1831: 373. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 23). Synonymy established, under the name *L. axillaris* Dejean, by LeConte (1869b: 248), confirmed by Lindroth (1969a: 1036).

*Lebia nigripennis* Dejean, 1831: 373. Type locality: «Amérique septentrionale» (original citation). Two syntypes in MHNP (Lindroth 1955b: 23). Synonymy established by Madge (1967: 208).

*Lebia nigripennis* var. *erythrocephala* Dejean, 1831: 373. Type locality: «Amérique septentrionale» (original citation). Syntype(s) in MHNP. Synonymy established by Chaudoir (1871a: 201).

*Dromius apicalis* Haldeman, 1843b: 298. Type locality: southeastern Pennsylvania (Haldeman 1843a: 296). Syntype(s) presumably lost. Synonymy established, under the name *L. axillaris* Dejean, by LeConte (1846b: 194).

*Lebia brunnea* Haldeman, 1843b: 298. Type locality: southeastern Pennsylvania (Haldeman 1843a: 296). Syntype(s) presumably lost. Synonymy established, under the name *L. axillaris* Dejean, by Melsheimer (1853: 5).

*Lebia flaviventris* Motschulsky, 1864: 227 [*nomen dubium*]. Type locality: «Am[érique] bor[éale]» (original citation). One syntype, represented only by parts of legs (Bousquet 1997b: 339), in ZMMU. Synonymy established with doubt by Horn (1872a: 142).

*Lebia frigida* Chaudoir, 1871a: 242. Type locality: «Boston? [Massachusetts]» (original citation). Lectotype (♂), designated by Lindroth (1969a: 1036), in MHNP. Synonymy established by Casey (1920: 260), confirmed by Lindroth (1969a: 1036).

*Lebia reperta* Casey, 1920: 255. Type locality: «New York» (original citation). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47651]. Synonymy established by Madge (1967: 208).

*Lebia virginica* Casey, 1920: 255. Type locality: «Va [with a black dot below the “a”] [= Norfolk, Virginia]» (lectotype label). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47652]. Synonymy established, under the name *L. axillaris* Dejean, by Lindroth (1955b: 23).

*Lebia virginica ashevillensis* Casey, 1920: 256. Type locality: «Asheville [Buncombe County], North Carolina» (original citation). Holotype [by monotypy] (♀) in USNM [# 47653]. Synonymy established, under the name *L. axillaris* Dejean, by Lindroth (1955b: 23).

*Lebia fluviatilis* Casey, 1920: 256. Type locality: «Vicksburg [Warren County], Mississippi» (original citation for the lectotype). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47654]. Synonymy established by Madge (1967: 208).

**Distribution.** This species ranges from Cape Breton Island, Nova Scotia (Christopher G. Majka pers. comm. 2007) to northwestern South Dakota (Kirk and Balsbaugh 1975: 37), including northern Minnesota, south to eastern Texas and central Florida (Peck and Thomas 1998: 24) [see Madge 1967: Fig. 128].

**Records.** CAN: NB, NS (CBI), ON, QC USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

### *Lebia perpallida* Madge, 1967

*Lebia perpallida* Madge, 1967: 206. Type locality: «Pena Blanca (4000’), S[an]ta Cruz Co[unty], Ariz[ona]» (original citation). Holotype (♂) in CNC [# 9561].

**Distribution.** This species is known only from a few specimens collected in southern Arizona (Madge 1967: 207).

**Records.** USA: AZ



***Lebia subrugosa* Chaudoir, 1871**

*Lebia subrugosa* Chaudoir, 1871a: 227. Type locality: «Mexique» (original citation). Syntype(s) in MHNP.

**Distribution.** This species is known from southern Arizona to western Texas (Madge 1967: 206), south to Guatemala (Bates 1883a: 230).

**Records. USA:** AZ, NM, TX – Guatemala, Mexico

**[lecta group]*****Lebia bumeliae* Schaeffer, 1910**

*Lebia bumeliae* Schaeffer, 1910: 399. Type locality: «Brownsville [Cameron County], Texas» (original citation). Lectotype (♀), designated by Erwin and House (1978: 239), in USNM [# 42507].

**Distribution.** This species is known only from a few specimens collected in southeastern Texas (Madge 1967: 213).

**Records. USA:** TX

***Lebia lecta* Horn, 1885**

*Lebia lecta* G.H. Horn, 1885a: 131. Type locality: «Florida» (original citation), herein restricted to Miami, Dade County (see Madge 1967: 214). Holotype [by monotypy] (♀) in MCZ [# 34502].

**Distribution.** This species is known only from Dade, Monroe, and Walton Counties in Florida (Peck and Thomas 1998: 24).

**Records. USA:** FL

**[pulchella group]*****Lebia pulchella* Dejean, 1826**

*Lebia pulchella* Dejean, 1826: 457. Type locality: «Amérique septentrionale» (original citation), restricted to «Texas» by Lindroth (1969a: 1023), herein to Brownsville, Cameron County (see Madge 1967: 169). One syntype in MHNP (Lindroth 1955b: 22).

*Metabola rufopyga* Chaudoir, 1871a: 160 [*nomen dubium*]. Type locality: «Mexique» (original citation). Holotype [by monotypy] (♂) in MHNP. Synonymy established with doubt by Lindroth (1969a: 1023). NOTE. Lindroth (1969a: 1023) stated that Madge (1967) synonymized *L. rufopyga* (Chaudoir) with *L. pulchella* though with a question mark. In fact Madge (1967: 167) simply wrote that “at least one [*M. vivida* Bates] and probably both species of *Metabola* are variants of *Lebia pulchella*.” However, he did not list *M. rufopyga* Chaudoir in synonymy with *L. pulchella*.

*Metabola vivida* Bates, 1884: 298. Type locality: «Arizona; northern Sonora, Mexico» (original citation). Syntype(s) in BMNH and ANSP. Synonymy established by Madge (1967: 167).

*Lebia tahoensis* Casey, 1920: 252. Type locality: «Lake Tahoe [Placer County], California» (original citation). Three syntypes [3 originally cited] in USNM [# 47623]. Synonymy established by Madge (1967: 167).

**Distribution.** This species is found from northern New Hampshire to central Alberta, south to central California, the state of Hidalgo in Mexico (Ball and Shpeley 1992a: 64), and southern Florida [see Madge 1967: Fig. 123].

**Records.** CAN: AB, MB, ON, SK USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IL, IN, KS, LA, MA, MD, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI, WV, WY – Mexico

### [*pumila* group]

#### *Lebia pumila* Dejean, 1831

*Lebia pumila* Dejean, 1831: 388. Type locality: «Amérique septentrionale» (original citation), restricted to «S[outh] McAlester [Pittsburg County, Oklahoma], Ind[ian Territory]» by Lindroth (1969a: 1038). One syntype in MHNP (Lindroth 1955b: 23).

*Lebia maculicornis* LeConte, 1846b: 195. Type locality: «Georgia» (original citation). Syntype(s) in MCZ [# 5805]. Synonymy established by LeConte (1880a: 88), confirmed by Lindroth (1969a: 1038).

*Lebia rhodopus* Schwarz, 1878: 354. Type locality: «Tampa [Hillsborough County, Florida]» (original citation). Lectotype (♂), designated by Erwin and House (1978: 239), in USNM [# 4494]. Synonymy established by Madge (1967: 215).

*Lebia tertiaria* Casey, 1920: 248. Type locality: «District of Columbia» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47650]. Synonymy established by Madge (1967: 215).

*Lebia ludoviciana* Casey, 1920: 248. Type locality: «Alexandria [Rapides Parish], Louisiana» (original citation). Lectotype (♂), designated by Lindroth (1975: 145), in USNM [# 47646]. Synonymy established by Madge (1967: 215).

*Lebia quadrata* Casey, 1920: 249. Type locality: «Southern Pines [Moore County], North Carolina» (original citation). Lectotype, designated by Lindroth (1975: 145), in USNM [# 47647]. Synonymy established by Lindroth (1955b: 23).

*Lebia illini* Casey, 1920: 249. Type locality: «Illinois» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47648]. Synonymy established by Madge (1967: 215).

*Lebia frugalis* Casey, 1920: 250. Type locality: «Bayfield [Bayfield County], Wisconsin» (original citation). Lectotype (♀), designated by Lindroth (1975: 145), in USNM [# 47649]. Synonymy established by Madge (1967: 215).

**Distribution.** This species ranges from Nova Scotia (Lindroth 1954c: 307) and Prince Edward Island (Majka et al. 2008: 133) to southeastern Alberta, south to southeastern Texas along the Rio Grande and southern Florida. The species is also known from one locality in southwestern British Columbia and one in western Washington [see Madge 1967: Fig. 132].

**Records.** CAN: AB, BC, MB, NB, NS, ON, PE, QC, SK USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV

**Note.** *Lebia floricola*, credited to Harris, has been cited as a synonym of this species, first by LeConte (1846b: 195), on the basis that the name was published in the “N[ew] E[ngland] Farmer.” I have not found any publication of Harris citing such a name. The name is a *nomen nudum* as mentioned by Madge (1967: 216).

[scalpta group]

***Lebia scalpta* Bates, 1883**

*Lebia scalpta* Bates, 1883a: 230. Type locality: «Jalapa [and] Yucatan, Mexico» (original citation). Syntype(s) probably in BMNH.

**Distribution.** This species ranges from southern Arizona and southern Texas (Madge 1967: 186) south at least to the Yucatán Peninsula (Bates 1883a: 230) in Mexico.

**Records.** USA: AZ, TX – Mexico

[scapula group]

***Lebia scapula* Horn, 1885**

*Lebia scapula* G.H. Horn, 1885a: 132. Type locality: «Arizona» (original citation), herein restricted to Nogales, Santa Cruz County (see Madge 1967: 184). Holotype [by monotypy] (♀) in MCZ [# 34504].

**Distribution.** This species is found from Arizona (Madge 1967: 184) to western Texas (Graves and Suter 1979: 6).

**Records.** USA: AZ, NM, TX

[viridipennis group]

***Lebia viridipennis* Dejean, 1826**

*Lebia viridipennis* Dejean, 1826: 452. Type locality: «Amérique septentrionale» (original citation), restricted to «Brookline [Norfolk County], Mass[achusetts]» by Lindroth (1969a: 1025). One syntype in MHNP (Lindroth 1955b: 23).

*Lebia borea* Hentz, 1830: 255. Type locality: «Massachusetts» (original citation). Syntype(s) lost. Synonymy established by LeConte (1846b: 193).

*Lebia abrupta* Casey, 1920: 250. Type locality: «Indiana» (original citation). One syntype in USNM [# 47624]. Synonymy established by Madge (1967: 170).

*Lebia viridipennis frontalis* Casey, 1920: 251. Type locality: «Keokuk [Lee County], Iowa» (original citation). One syntype in USNM [# 47625]. Synonymy established by Madge (1967: 170).

*Lebia rhodeana* Casey, 1920: 251. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). One syntype in USNM [# 47626]. Synonymy established by Madge (1967: 170).

**Distribution.** The range of this species extends from southwestern Maine (Majka et al. 2011: 47) and southwestern Quebec (LeSage 1996: 22) to southeastern South Dakota (Kirk and Balsbaugh 1975: 37), including southernmost Ontario (Pettit 1869: 107; CNC), south to southeastern Texas along the Rio Grande and southern Florida [see Madge 1967: Fig. 122]. The record from “North Dakota” (Bousquet and Larochelle 1993: 278) needs confirmation.

**Records.** CAN: ON, QC USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [ND]

[**viridis group**]

***Lebia arizonica* Schaeffer, 1910**

*Lebia arizonica* Schaeffer, 1910: 398. Type locality: «Huachuca M[oun]t[ain]s [Cochise County], Arizona» (original citation). Lectotype (♂), designated by Erwin and House (1978: 239), in USNM [# 42506].

**Distribution.** The range of this species extends from southern Arizona to western Texas (Madge 1967: 175). The record from “Nevada” (Bousquet and Larochelle 1993: 276) needs confirmation.

**Records.** USA: AZ, NM, TX [NV]

***Lebia cyanipennis* Dejean, 1831**

*Lebia cyanipennis* Dejean, 1831: 385. Type locality: «Californie» (original citation), restricted to «San Diego [San Diego County]» by Lindroth (1969a: 1026). Holotype [by monotypy] in MHNP (Lindroth 1955b: 22).

*Lebia ruficollis* LeConte, 1851: 178. Type locality: «San Diego [San Diego County, California]» (original citation). Two syntypes in MCZ [# 68] and at least one in MHNP (collection Chaudoir). Synonymy established by Casey (1920: 251), confirmed by Madge (1967: 170).

*Lebia montana* G.H. Horn, 1885a: 131. Type locality: «Montana» (original citation). Two syntypes in MCZ [# 34503]. Synonymy established by Madge (1967: 176).

*Lebia barbarae* Casey, 1920: 242. Type locality: «S[an]ta Barbara [Santa Barbara County], California» (original citation). One syntype in USNM [# 47637]. Synonymy established by Madge (1967: 176).

*Lebia melaena* Hatch, 1953: 152. Type locality: «Pullman [Whitman County], Wash[ington]» (original citation). Holotype (♂) in USNM. Synonymy established by Madge (1967: 176).

**Distribution.** This species ranges from southern Saskatchewan to south-central British Columbia, south to southern California along the Mexican border and northern New Mexico [see Madge 1967: Fig. 129]. At least one specimen is known from “Texas” (Madge 1967: 177). The record from “North Dakota” (Bousquet and Larochelle 1993: 276) needs confirmation.

**Records.** CAN: AB, BC, SK USA: AZ, CA, CO, ID, MT, NM, OR, UT, WA, WY [ND, TX]

***Lebia marginicollis* Dejean, 1825**

*Lebia marginicollis* Dejean, 1825: 271. Type locality: «Géorgie» (original citation), herein restricted to Tifton, Tift County (see Madge 1967: 181). One syntype in MHNP (Lindroth 1955b: 22).

*Lebia cyanea* Dejean, 1831: 386. Type locality: «île de Cuba; Cayenne [French Guiana]» (original citation), restricted to «Cuba» by Madge (1967: 180). Syntype(s) apparently lost (Lindroth 1969a: 1030). Synonymy established by Madge (1967: 180). NOTE. Lindroth (1969a: 1030) stated that the sole specimen in Chaudoir's collection under this name cannot be a syntype since its structural features do not match those reported in the original description. He agreed with Madge (1967: 180) that the syntypes were probably conspecific with members of *L. marginicollis* Dejean.

*Lebia affinis* Dejean, 1831: 387. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] in MHNP (Lindroth 1955b: 22). Synonymy established by LeConte (1869b: 248), confirmed by Lindroth (1955b: 22).

*Lamprias limbicollis* Motschulsky, 1859a: 145. Type locality: «Canada» (original citation), which is likely incorrect. Lectotype (probably ♀), designated by Bousquet (1997b: 334), in ZMMU. Synonymy established, under the name *L. affinis* Dejean, by LeConte (1863b: 5), confirmed by Bousquet (1997b: 334).

**Distribution.** The range of this species extends from New Jersey (Smith 1890: 87; Smith 1910: 210) to Arizona, north to northwestern Ohio (Hancock County, Foster F. Purrington pers. comm. 2009), southern Michigan, and northern Illinois, south to Brazil (Chaudoir 1871a: 185) and southern Florida [see Madge 1967: Fig. 125]; also found “on all the Greater Antilles” (Darlington 1953: 11, as *L. cyanea*) and Dominica (Peck 2006: 176). The record from Montana (Hatch 1933a: 9) is probably in error.

**Records.** USA: AL, AR, AZ, DC, FL, GA, IL, IN, LA, MI, MO, MS, NC, NJ, NM, OH, OK, SC, TN, TX, VA – Bahamas, Brazil, Cuba, Dominica, French Guiana, Guatemala, Jamaica, Mexico, Nicaragua, Puerto Rico

***Lebia moesta* LeConte, 1850**

*Lebia moesta* LeConte, 1850: 203. Type locality: «Michipicotin [Ontario]» (original citation). Syntype(s) in MCZ [# 5811].

*Lebia cynica* Casey, 1920: 241. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). Lectotype (♂), designated by Lindroth (1975: 144), in USNM [# 47634]. Synonymy established by Lindroth (1969a: 1028).

**Distribution.** This species ranges from Newfoundland (Larson and Langor 1982: 594) and southern Labrador to Vancouver Island (Lindroth 1969a: 1028-1029), south at least to northern Oregon (Tillamook and Umatilla Counties, CNC), southern Wyoming (Lavigne 1977: 46; Lincoln County, CNC), eastern Nebraska (Cuming County,



Foster F. Purrington pers. comm. 2009), east-central Ohio (Usis and MacLean 1998: 67), and the District of Columbia (Ulke 1902: 7). The record from east-central Missouri (Summers 1873: 134) needs confirmation.

**Records.** CAN: AB, BC (VCI), LB, MB, NB, NF, NS, ON, PE, QC, SK USA: DC, ID, IL, MA, ME, MI, MN, MT, NE, NH, NJ, NY, OH, OR, RI, SD, VT, WA, WI, WY [MO]

**Note.** Madge (1967: 177) listed this form as synonym of *L. viridis* Say.

### ***Lebia perita* Casey, 1920**

*Lebia perita* Casey, 1920: 241. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). One syntype in USNM [# 47636].

**Distribution.** This species occurs from southern British Columbia, including Vancouver Island, south to southern California along the Mexican border, east to southwestern Idaho [see Madge 1967: Fig. 140].

**Records.** CAN: BC (VCI) USA: CA, ID, OR, WA

### ***Lebia pleuritica* LeConte, 1846**

*Lebia pleuritica* LeConte, 1846b: 193. Type locality: «Lacum Superiorem» (original citation), herein restricted to Eagle Harbor, Keweenaw County, Michigan (see Hubbard and Schwarz 1878: 627). Two syntypes in MCZ [# 5806].

**Distribution.** This species extends from southwestern Quebec (LeSage 1996: 22) to south-central Saskatchewan (Hooper 1977: 51), south to northeastern Kansas (Madge 1967: 174), central Missouri (Cooper County, CMNH), and northwestern North Carolina (Watauga County, CMNH). The records from the Organ Mountains in southern New Mexico (Fall and Cockerell 1907: 160) and “Mexico” (Blackwelder 1944: 55) are probably in error.

**Records.** CAN: ON, QC, SK USA: DC, IA, IL, IN, KS, MA, MI, MN, MO, NC, NE, NJ, NY, PA, SD, VT, WI

### ***Lebia rufopleura* Schaeffer, 1910**

*Lebia rufopleura* Schaeffer, 1910: 398. Type locality: «Brownsville [Cameron County], Texas» (original citation). Lectotype (♂), designated by Erwin and House (1978: 239), in USNM [# 42505].

**Distribution.** This species is known only from a few localities in southeastern Texas (Madge 1967: 173).

**Records.** USA: TX

### ***Lebia tuckeri* (Casey, 1920)**

*Loxopeza tuckeri* Casey, 1920: 237. Type locality: «Tucson [Pima County], Arizona» (original citation). Five syntypes [5 originally cited] in USNM [# 47621].

**Distribution.** This species is found from southern California to western Texas, north to Mesa County in Colorado (Madge 1967: 175).

**Records. USA:** AZ, CA, CO, NM, TX

### *Lebia viridis* Say, 1823

*Lebia viridis* Say, 1823a: 14. Type locality: «Camp Hill [Cumberland County], P[ennsylvania]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 349), in MCZ [# 33006].

*Lebia viridis* Dejean, 1825: 271 [primary homonym of *Lebia viridis* Say, 1823]. Type locality: «Kentucki» (syntype label). One syntype in MHNP (Lindroth 1955b: 22). Synonymy established with doubt by Say (1830a: 135), confirmed by Lindroth (1955b: 22).

*Lebia smaragdula* Dejean, 1831: 387. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 23). Synonymy established by LeConte (1880a: 88).

*Lamprias cyanellus* Motschulsky, 1850a: 42. Type locality: «California» (original citation), cited from «St. Francisco [San Francisco County]» by Motschulsky (1859a: 145). Lectotype, designated by Bousquet (1997b: 331), in ZMMU. Synonymy established, under the name *L. smaragdula* Dejean, by LeConte (1869b: 248), confirmed by Bousquet (1997b: 331).

*Lebia viridis* var. *violaceipennis* Chaudoir, 1871a: 193. Type locality: «Guatemala» (original citation). Syntype(s) in MHNP. Synonymy established by Bates (1883a: 223).

*Lebia viridis* var. *subopaca* Schaeffer, 1910: 397. Type locality: «Huachuca M[ount] t[ain]s [Cochise County], Arizona» (original citation). Lectotype (♀), designated by Erwin and House (1978: 239), in USNM [# 42504]. Synonymy established by Madge (1967: 177).

*Lebia truckeensis* Casey, 1920: 241. Type locality: «Reno [Washoe County], Nevada» (original citation). Holotype [by monotypy] in USNM [# 47635]. Synonymy established by Madge (1967: 178).

*Lebia castigata* Casey, 1920: 242. Type locality: «Placer Co[unty], California» (original citation). One syntype in USNM [# 47638]. Synonymy established by Madge (1967: 178).

*Lebia adolescens* Casey, 1920: 242. Type locality: «Boston Neck, Rhode Island; Southern Pines, North Carolina» (original citation), restricted to «Boston Neck [Washington County]» by Madge (1967: 178). Four syntypes in USNM [# 47639]. Synonymy established by Madge (1967: 178).

*Lebia evoluta* Casey, 1920: 243. Type locality: «Las Vegas, New Mexico; Kansas» (original citation), restricted to «Las Vegas [San Miguel County]» by Madge (1967: 178). Two syntypes in USNM [# 47640]. Synonymy established by Madge (1967: 178).

*Lebia histrica* Casey, 1920: 243. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). One syntype in USNM [# 47641]. Synonymy established by Madge (1967: 178).

- Lebia braccata* Casey, 1920: 243. Type locality: «probably Indiana» (original citation). Holotype [by monotypy] (♀) in USNM [# 47642]. Synonymy established by Madge (1967: 178).
- Lebia magica* Casey, 1920: 244. Type locality: «S[ain]t Louis, Missouri» (original citation). One syntype in USNM [# 47643]. Synonymy established by Madge (1967: 178).
- Lebia incitata* Casey, 1920: 244. Type locality: «Hoopa Valley, Humboldt Co[unty], California» (original citation). One syntype in USNM [# 47644]. Synonymy established by Madge (1967: 178).
- Lebia subaffinis* Casey, 1920: 244. Type locality: «Fort Wingate [McKinley County], New Mexico» (original citation). Two syntypes in USNM [# 47645]. Synonymy established by Madge (1967: 178).
- Lebia vermiculina* Casey, 1920: 245. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). One syntype in USNM [# 47628]. Synonymy established by Madge (1967: 178).
- Lebia prominens* Casey, 1920: 245. Type locality: «probably Indiana» (original citation). Holotype [by monotypy] in USNM [# 47627]. Synonymy established by Madge (1967: 178).
- Lebia planifera* Casey, 1920: 246. Type locality: «Tucson [Pima County], Arizona» (original citation). Six syntypes in USNM [# 47629]. Synonymy established by Madge (1967: 178).
- Lebia cobaltina* Casey, 1920: 246. Type locality: «Colonia Garcia, Sierra Madre M[oun]t[ain]s, Chihuahua, Mexico» (original citation). One syntype in USNM [# 47630]. Synonymy established by Madge (1967: 178).
- Lebia papago* Casey, 1920: 247. Type locality: «Tucson [Pima County], Arizona» (original citation). One syntype in USNM [# 47631]. Synonymy established by Madge (1967: 178).
- Lebia papago trajecta* Casey, 1920: 247. Type locality: «Arizona» (original citation). One syntype in USNM [# 47632]. Synonymy established by Madge (1967: 178).
- Lebia duluthiana* Casey, 1920: 247. Type locality: «Duluth [Saint Louis County], Minnesota» (original citation). One syntype in USNM [# 47633]. Synonymy established by Madge (1967: 178).

**Distribution.** This widely distributed species ranges from Nova Scotia to northwestern Yukon Territory, south to southern California along the Mexican border, Guatemala (Chaudoir 1871a: 192), and southern Florida [see Madge 1967: Fig. 139]; also reported from some islands of the Greater Antilles (Blackwelder 1944: 56). According to Shimonoya (2004), this species has been recently found in Fukui Prefecture, Japan.

**Records.** **CAN:** AB, BC (VCI), MB, NB, NS (CBI), NT, ON, PE, QC, SK, YT **USA:** AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY – Cuba, Dominican Republic, Guatemala, Mexico, Puerto Rico

**[vittata group]*****Lebia histrionica* Bates, 1883**

*Lebia histrionica* Bates, 1883a: 240. Type locality: «Mexico; Guatemala» (original citation). Syntype(s) probably in BMNH.

*Lebia histrionica* var. *scutellata* Bates, 1883a: 241. Type locality: «Playa Vicente [Veracruz], Mexico» (original citation). Syntype(s) probably in BMNH. Synonymy established by Madge (1967: 193).

*Lebia histrionica* var. *nigrosignata* Bates, 1883a: 241. Type locality: «Guanajuato, Mexico» (original citation). Syntype(s) probably in BMNH. Synonymy established by Madge (1967: 193).

**Distribution.** This species ranges from southern Arizona (Madge 1967: 194) to Guatemala (Bates 1883a: 240).

**Records. USA:** AZ – Guatemala, Mexico

***Lebia miranda* (Horn, 1872)**

*Dianchomena miranda* G.H. Horn, 1872a: 139. Type locality: «Camp Grant [Pinal County], Arizona» (original citation). Syntype(s) in MCZ [# 8325].

**Distribution.** This species is found in southern Arizona (Madge 1967: 189). At least one specimen labeled from “Texas” is known.

**Records. USA:** AZ [TX]

**Note.** Madge (1967: 189) retained this name only for the Arizona (and possibly Texas) populations but pointed out that populations, probably representing the same species but with different color patterns, were seen from Mexico and Colombia.

***Lebia nigricapitata* Madge, 1967**

*Lebia nigricapitata* Madge, 1967: 195. Type locality: «Oak C[ree]k Canyon [Coconino County], Ariz[ona]» (original citation). Holotype (♂) in CAS [# 8162].

**Distribution.** This species is known only from a few localities in Arizona (Madge 1967: 196).

**Records. USA:** AZ

***Lebia pectita* Horn, 1885**

*Lebia pectita* G.H. Horn, 1885a: 133. Type locality: «Pennsylvania to Texas» (original citation for *L. vittata* Fabricius *sensu* Horn, 1872), herein restricted to Jacksonville, Duval County, Florida (see Madge 1967: 195). Syntype(s) in MCZ [# 34507]. NOTE. This name was proposed for *Lebia vittata* (Fabricius, 1777) *sensu* Horn (1872a: 140). Horn’s collection in MCZ contains three specimens under this name: two are labeled “N.M.” (one of which has a type label) and the other one “Fla.”

**Distribution.** This species is found from New Hampshire to northeastern Kansas (Knaus 1903: 188), south to eastern Texas and northern Florida [see Madge 1967: Fig. 121]. The state record of “New Mexico” (Bousquet and Laroche 1993: 277), based on two specimens in Horn collection (MCZ) labeled “N.M.,” needs confirmation.

**Records. USA:** AL, AR, CT, DC, FL, GA, IL, IN, KS, KY, LA, MA, MD, MI, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA [NM]

### *Lebia solea* Hentz, 1830

*Lebia solea* Hentz, 1830: 256. Type locality: «Massachusetts» (original citation), herein restricted to Framingham, Middlesex County (see Madge 1967: 188). Syntype(s) lost.

*Lebia scapularis* Dejean, 1831: 377. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 23). Synonymy established by LeConte (1859c: 31), confirmed by Lindroth (1955b: 23).

*Lebia conjungens* LeConte, 1846b: 194. Type locality: «NovEboraci [= New York]» (original citation). Two syntypes in MCZ [# 5809]. Synonymy established, under the name *L. scapularis* Dejean, by Horn (1872a: 138). NOTE. Madge (1967: 190) listed this name in synonymy with *L. vittata* Fabricius. Horn (1872a: 138) referred it to this species and the original description clearly suggests that his interpretation is correct. The specimen labeled as type in MCZ is not a syntype since it bears the label “N.J.”

*Lebia flavolineata* Motschulsky, 1864: 227. Type locality: «Am[érique] bor[éale]» (original citation). Lectotype (♀), designated by Bousquet (1997b: 339), in ZMMU. Synonymy established with doubt by Horn (1872a: 142), confirmed by Bousquet (1997b: 339).

*Lebia scapularis* var. *limbigera* Chaudoir, 1871b: 54. Type locality: «Louisiane» (original citation). Holotype [by monotypy] probably in MHNP. **New synonymy.** NOTE. This name has been forgotten in the literature. The elytral color of the sole specimen seen by Chaudoir (1871b: 54), which was the reason for proposing the new taxon, falls within the variability of *L. solea* as expressed by Madge (1967: 187).

*Lebia websteri* Casey, 1920: 260. Type locality: «Indiana» (original citation). Lectotype (♀), designated by Lindroth (1975: 144), in USNM [# 47664]. Synonymy established by Madge (1967: 187). Etymology. The specific name honors Francis Marion Webster [1849-1916], a self-made entomologist who worked as a special field agent to the United States Department of Agriculture under Charles Valentine Riley before joining the U.S. Bureau of Entomology.

**Distribution.** This species is found east of the Rocky Mountains from southern Nova Scotia to southwestern Saskatchewan, south to southeastern Texas along the Rio Grande and southern Florida [see Madge 1967: Fig. 131]; also recorded from Cuba (Darlington 1934: 113) and “Mexico” (Lindroth 1969a: 1031). The record from southwestern New Mexico (Fall and Cockerell 1907: 160, as *L. scapularis*) needs confirmation.



**Records.** CAN: MB, NS, ON, QC, SK USA: AL, AR, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV [NM] – Cuba, Mexico

***Lebia vittata* (Fabricius, 1777)**

*Carabus vittatus* Fabricius, 1777: 240. Type locality: «America boreali» (original citation), restricted to «Elkhart [Elkhart County], Ind[iana]» by Lindroth (1969a: 1031). Syntype(s) apparently lost (Lindroth 1969a: 1031).

*Lebia flavovittata* Chevrolat, 1836a: [no. 161]. Type locality: «environs de Mexico» (original citation). Syntype(s) [2 originally cited] location unknown (possibly in UMO). Synonymy established by Chaudoir (1871b: 40).

*Lebia furcata* LeConte, 1846b: 193. Type locality: «ad flumen Platte, et ad Lacum Superiorem» (original citation), restricted to «Eagle Harbor [Keweenaw County], Mich[igan]» by Lindroth (1969a: 1031). Syntype(s) in MCZ [# 5808]. Synonymy established by Madge (1967: 189).

*Aphelogenia vittata* var. *connecta* Chaudoir, 1871b: 40. Type locality: Etats de l'Union américaine (inferred from text on page 41). Syntype(s) in MHNP. Synonymy established by Madge (1967: 190).

*Aphelogenia spraguei* G.H. Horn, 1872a: 139. Type locality: «Texas» (original citation). Holotype [by monotypy] (♀) in MCZ [# 34506]. Synonymy established by Horn (1885a: 133).

*Lebia depicta* G.H. Horn, 1885a: 133. Type locality: «Montana» (original citation). Two syntypes in MCZ [# 34505]. Synonymy established by Madge (1967: 190).

*Lebia sonomae* Casey, 1913: 191. Type locality: «Mendocino Co[unty], California» (original citation). Two syntypes in USNM [# 47662]. Synonymy established by Madge (1967: 190).

*Lebia debiliceps* Casey, 1913: 192. Type locality: «Indiana» (original citation). Lectotype (♂), designated by Lindroth (1975: 144), in USNM [# 47660]. Synonymy established, under the name *L. furcata* LeConte, by Hatch (1953: 153), confirmed by Lindroth (1969a: 1032).

*Lebia amnicola* Casey, 1913: 192. Type locality: «Brownsville [Cameron County], Texas» (original citation). One syntype in USNM [# 47661]. Synonymy established by Madge (1967: 190).

*Lebia tempeana* Casey, 1924: 92. Type locality: «Tempe [Maricopa County], Arizona» (original citation). One syntype in USNM [# 47663]. Synonymy established by Madge (1967: 190).

**Distribution.** This species is found from Nova Scotia to southeastern British Columbia (Lindroth 1969a: 1033), south to southern California, southwestern New Mexico (Fall and Cockerell 1907: 160), southeastern Texas, and southern Florida [see Madge 1967: Fig. 118]; also recorded from “Mexico” (Bates 1883a: 240) and the state of Tabasco (Bates 1891a: 274, as *L. furcata*).

**Records.** CAN: AB, BC, MB, NS, ON, QC, SK USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WY – Mexico

### Genus *HYBOPTERA* Chaudoir, 1873

*Hyboptera* Chaudoir, 1873b: 161. Type species: *Hyboptera angulicollis* Chaudoir, 1873 designated by Reichardt (1973: 48). Etymology (original). From Greek *hybos* (hump, tubercle) and *pteron* (wing, by extension elytron), alluding to the presence of linear series of tubercles on the elytra (“*elytra ... supra seriatim tuberculata*”) of the adult [feminine].

**Diversity.** Seven species are known (Erwin 2004: 33) in the Neotropical Region, one of which extends into southern Texas.

**Identification.** Reichardt (1973) reviewed the species then known and published a key for their identification. Subsequently, two new species were described by Erwin (2004).

### *Hyboptera auxiliadora* Erwin, 2004

*Hyboptera auxiliadora* Erwin, 2004: 35. Type locality: «Bentsen State Park, Mission, Hidalgo County, Texas» (original citation). Holotype (♂) in USNM.

**Distribution.** This species ranges from southern Texas to Costa Rica (Erwin 2004: 37).

**Records.** USA: TX – Costa Rica, Mexico

### Subtribe CALLEIDINA Chaudoir, 1873

Callidides Chaudoir, 1873b: 97. Type genus: *Callida* Agassiz, 1846 (unjustified emendation of *Calleida* Latreille, 1824, not in prevailing usage) (= *Calleida* Latreille, 1824).

Plochionidae des Gozis, 1875: 3. Type genus: *Plochionus* Dejean, 1821.

Anomotarina Habu, 1967: 117. Type genus: *Anomotarus* Chaudoir, 1875. Synonymy established by Ball and Hilchie (1983: 173).

**Diversity.** Worldwide, with about 660 species arrayed in 46 genera (Lorenz 2005: 491–498). The North American fauna is represented by 24 species (about 3.5 % of the world fauna).

**Taxonomic Note.** Erwin (2004: 6) advocated combining calleidines with agrines into one subtribe (Agrina) but did not provide any justification. In a cladistic analysis of lebiine exemplars performed by Casale (1998: Fig. 91), calleidines turned out as the sister-group to metallicines and agrines as the sister-group to physoderines. In this work, agrines are retained as a distinct subtribe. In the analysis of Ball et al. (1995), calleidines showed up as the sister-group to gallerucidiines. Jeannel (1949a: 946) listed the gallerucidiines and thysanotines (currently considered as pericalines) with the calleidines (including trichines).

**Genus *PLOCHIONUS* Dejean, 1821**

*Plochionus* Dejean, 1821: 5. Type species: *Lebia bonfilsii* Audinet-Serville, 1821 (= *Carabus pallens* Fabricius, 1775) by monotypy. Etymology (see Dejean 1825: 250). From the Greek *plochion* (chain), alluding to the moniliform antennomeres 4-11 of the adult which reminded Dejean of a pearl necklace (“*antennes ... dont les sept derniers articles sont ... arrondis comme des perles formant un collier*”) [masculine].

*Plocionus* Agassiz, 1846: 299. Unjustified emendation of *Plochionus* Dejean, 1821.

**Diversity.** Seventeen species (Lorenz 2005: 495) in the Nearctic (four species), Neotropical (14 species), and Australian (one species from New Caledonia) Regions. One species, *P. pallens*, has become subcosmopolitan through commerce.

**Identification.** Horn (1882: 145) provided a key for the identification of the North American species. Since then, one new species (*P. bicolor*) has been described by Notman (1919b: 234). A taxonomic revision of the species would be useful.

**Subgenus *Menidius* Chaudoir, 1872**

*Menidius* Chaudoir, 1872b: 170. Type species: *Plochionus timidus* Haldeman, 1843 designated by Lindroth (1969a: 1066). Etymology (original). From the Greek *mene* (moon) and *eidos* (form), alluding to the semicircular (i.e., half-moon) shape of the pronotum (“*thorax ... fere semicircularis*”) of the adult [masculine].

**Diversity.** Fourteen species in the temperate, subtropical, and tropical areas of the Nearctic (four species, all of them extending into the West Indies or Mexico) and Neotropical Regions.

***Plochionus amandus* Newman, 1840**

*Plochionus amandus* Newman, 1840: 32. Type locality: «S[ain]t John's Bluff [Duval County], East Florida» (original citation). Syntype(s) probably in BMNH.

*Plochionus vittatus* LeConte, 1844: 48. Type locality: «Florida» (original citation). One syntype in MCZ. Synonymy established by LeConte (1863b: 5).

**Distribution.** This species ranges from southeastern Georgia (Fattig 1949: 40; McIntosh County, CNC) to southern Florida (Peck and Thomas 1998: 24), west to southwestern Alabama (Leng 1915: 588; Mobile County, MCZ, USNM); also recorded from the Bahamas (Turnbow and Thomas 2008: 13). The record from Guana Island (Valentine and Ivie 2005: 275) in the British Virgin Islands needs confirmation.

**Records. USA:** AL, FL, GA – Bahamas

***Plochionus bicolor* Notman, 1919**

*Plochionus bicolor* Notman, 1919b: 234. Type locality: «Key Largo [Monroe County], Fl[orid]a» (original citation). One syntype [2 ♂ originally cited] in SIM (Hennessey 1990: 466).

**Distribution.** This species is known only from southern Florida (Peck and Thomas 1998: 24), Cuba (Darlington 1934: 117), and Navassa (Steiner 2008: 132).

**Records. USA:** FL – Cuba, Navassa

**Note.** According to Ball (in Peck 2005: 39), *Plochionus rubrofasciatus* Zayas, 1988, described from Cuba, is probably a synonym of this species.

### ***Plochionus discoideus* LeConte, 1880**

*Plochionus amandus* var. *discoideus* LeConte, 1880a: 86. Type locality: «Fl[orid]a» (original citation). Five syntypes in MCZ.

*Plochionus dorsalis* G.H. Horn, 1882: 146. Type locality: «Florida» (original citation). Six syntypes in MCZ [# 8186]. Synonymy established by Leng (1915: 588).

**Distribution.** This species is known from northern Georgia (Fattig 1949: 40), the Florida Peninsula, as far south as Dade County (Peck and Thomas 1998: 24), and the Bahamas (Darlington 1953: 13).

**Records. USA:** FL, GA – Bahamas

### ***Plochionus timidus* Haldeman, 1843**

*Plochionus timidus* Haldeman, 1843b: 298. Type locality: «Alabama» (original citation). One possible syntype, a ♀ labeled “[orange disc] / *Plochionus timidus* Hald. [handwritten],” in MCZ (collection LeConte).

**Distribution.** The range of this species extends from southeastern New Hampshire (Strafford County, Ross T. Bell pers. comm. 2008) to southern Wisconsin (Messer 2010: 44) and northern Iowa (Wickham 1911b: 7), including southern Ontario (Pettit 1869: 107), south to central Texas (Haldeman 1852: 373; Blanco County, CMNH), southern Louisiana (East Baton Rouge, Iberville, Saint Martin, and Saint Tammany Parishes, Igor M. Sokolov pers. comm. 2009), and central Florida (Pinellas County, CMNH; Schwarz 1878: 435), west along southwestern United States to southern California (Moore 1937: 12; Kern and Fresno Counties, CNC) and the Baja California Peninsula (Horn 1894: 310).

**Records. CAN:** ON **USA:** AL, AR, AZ, CA, CT, DC, DE, FL, GA, IA, IL, IN, KS, LA, MA, MD, MI, MO, MS, NC, NH, NJ, NM, NV, NY, OH, PA, RI, SC, TN, TX, VA, WI, WV – Mexico

### **Subgenus *Plochionus* Dejean, 1821**

*Plochionus* Dejean, 1821: 5. Type species: *Lebia bonfilsii* Audinet-Serville, 1821 (= *Carabus pallens* Fabricius, 1775) by monotypy.

**Diversity.** Two Neotropical species, one of them subcosmopolitan, and one New Caledonian species (*P. niger* Fauvel).

***Plochionus pallens* (Fabricius, 1775)**

*Carabus pallens* Fabricius, 1775: 244. Type locality: «Dresdae [Germany]» (original citation). Syntype(s) apparently lost (Lindroth 1969a: 1066).

*Lebia bonfilsii* Audinet-Serville, 1821: 11. Type locality: «Bordeaux [France]» (original citation). Syntype(s) probably lost. Synonymy established by Chevrolat (1863: 189). NOTE. LeConte's collection holds a specimen labeled "P. Bonfilsii Dej. type! [handwritten] / pallens 2 [handwritten]."

*Plochionus valens* LeConte, 1863c: 5. Type locality: «Pennsylvania; Tampico, Mexico» (original citation), restricted to «Penns[ylvania]» by Lindroth (1969a: 1066). Two syntypes in MCZ [# 5823]. Synonymy established, under the name *P. bonfilsii* (Audinet-Serville), by LeConte (1880a: 86).

**Distribution.** Lindroth (1969a: 1066) stated that this species is almost cosmopolitan and probably of South American origin. In North America, it is known from "Massachusetts" (Harris 1833: 566, as *P. bonfilsii?*), "Pennsylvania" (LeConte 1846b: 192; Lindroth 1969a: 1066), Maryland (Charles County, USNM), District of Columbia (USNM), northern Georgia (Rabun County, USNM), eastern Florida (Leng 1915: 588), Missouri (Summers 1873: 133, as *P. bonfilsii*), Kansas (Douglas County, USNM), and Indiana (Alien County, USNM). The record from "California" (Csiki 1932b: 1451) needs confirmation.

**Records. USA:** DC, FL, GA, IN, KS, MA, MD, MO, PA [CA] – **Adventive**

**Genus *TECNOPHILUS* Chaudoir, 1877**

*Tecnophilus* Chaudoir, 1877: 239. Type species: *Calleida croceicollis* Ménétriés, 1843 designated by Larson (1969: 44). Etymology. Anagram of the generic name *Philotecnus*, derived from the Greek *tecnon* (child, young) and *philos* (beloved), although Chaudoir was aware that there was no data suggesting that adults of these species care for their young ("quoique l'amour de ces insectes pour leur progéniture ne soit rien moins que prouvé") [masculine].

**Diversity.** Two Nearctic species, one of them extending into northern Mexico.

**Identification.** Larson (1969) revised the species.

***Tecnophilus croceicollis croceicollis* (Ménétriés, 1843)**

*Calleida croceicollis* Ménétriés, 1843: 53. Type locality: «Californie» (original citation), herein restricted to Bay Farm Island, Alameda County (see Larson 1969: 61). Syntype(s) location unknown (Lindroth 1969a: 1064).

*Callida chloridipennis* Motschulsky, 1850a: 39. Type locality: «California» (original citation), cited from «Col[onie] Ross [farming community about 75 miles north of San Francisco along the coast]» by Motschulsky (1859a: 140). One syntype in ZMMU (Keleinikova 1976: 191). Synonymy established by Horn (1882: 161).



*Philotecnus nigricollis* LeConte, 1851: 176. Type locality: «San Jose [Santa Clara County, California]» (original citation). Syntype(s) in MCZ [# 63] and MHNP (collection Chaudoir). Synonymy established by Horn (1882: 161).

*Philotecnus ruficollis* LeConte, 1851: 176. Type locality: «San Diego [San Diego County, California]» (original citation). Holotype [by monotypy] (♀) in MCZ [# 62]. Synonymy established by LeConte (1853c: 379).

*Tecnophilus glabripennis* Chaudoir, 1877: 242. Type locality: «Nevada» (original citation). Holotype [by monotypy] in MHNP. Synonymy established by Horn (1882: 161).

**Distribution.** This subspecies occurs from northern California to eastern Colorado, south to southeastern Texas, Durango and Sinaloa in Mexico, and southern California [see Larson 1969: Fig. 63]. The record from “Oregon” (Bousquet and Laroche 1993: 280) needs confirmation.

**Records. USA:** AZ, CA, CO, NM, NV, TX, UT [OR] – Mexico

### *Tecnophilus croceicollis peigani* Larson, 1969

*Tecnophilus croceicollis peigani* Larson, 1969: 61. Type locality: «Milk River near junction with Lost River, Lost River Ranch, Alberta» (original citation). Holotype (♂) in CNC [# 10540].

**Distribution.** The range of this subspecies extends from southern Saskatchewan (several localities, CNC) and southern Alberta south to southwestern Idaho, northern Utah, and “Colorado” [Larson 1969: 62, Fig. 63].

**Records. CAN:** AB, SK **USA:** CO, ID, MT, UT, WY

### *Tecnophilus pilatei* Chaudoir, 1877

*Tecnophilus pilatei* Chaudoir, 1877: 239. Type locality: «Texas» (original citation), herein restricted to Goose Island State Park, Aransas County (see Larson 1969: 46). Holotype [by monotypy] (♀) in MHNP.

**Distribution.** This species is restricted to the Gulf Coast of Texas [see Larson 1969: Fig. 62].

**Records. USA:** TX

## Genus *CALLEIDA* Latreille, 1824

*Calleida* Latreille [in Latreille and Dejean], 1824: 132. Type species: *Carabus decorus* Fabricius, 1801 designated by Desmarest (1851: 72). Etymology. From the Greek *callos* (beauty) and *eidos* (form), alluding to the elegant form of adults of the two species known to Latreille [feminine].

*Callida* Agassiz, 1846: 58. Unjustified emendation of *Calleida* Latreille, 1824.

*Caloidea* Maindron, 1905: 331. Unjustified emendation of *Calleida* Latreille, 1824.

*Caloida* Bedel, 1907: 265. Unjustified emendation of *Calleida* Latreille, 1824.

**Diversity.** About 275 species primarily in tropical areas of the Neotropical, Oriental, and Afrotropical Regions (over 95 % of the world fauna) with a few elements found in the Nearctic (11 species) and Palaearctic (ten species in Asia) Regions. The species are arrayed in three subgenera: *Calleida s.str.* (about 175 species), *Callidiola* Jeannel (60 species), and *Stenocallida* Jeannel (40 species), though some authors (e.g., Casale 2008) treat *Callidiola* and *Stenocallida* as distinct genera.

### Subgenus *Calleida* Latreille, 1824

*Calleida* Latreille [in Latreille and Dejean], 1824: 132. Type species: *Carabus decorus* Fabricius, 1801 designated by Desmarest (1851: 72).

*Spongoloba* Chaudoir, 1873b: 152. Type species: *Calleida fulgida* Dejean, 1831 designated by Habu (1960: 157). Synonymy established by Horn (1882: 139). Etymology (original). From the Greek *spongos* (sponge) and *lobos* (lobe), alluding to the bilobed, with spongy pubescence underneath, of the male fourth protarsomere (“*tarsi ... anteriores articulo ... quarto fortiter bilobo, lobis ovatis latis, subtus dense spongiosis*”) [feminine].

*Lecalida* Casey, 1920: 288. Type species: *Lecalida pimalis* Casey, 1920 (= *Callida platynoides* Horn, 1882) by original designation. Synonymy established by Bousquet and Laroche (1993: 280). Etymology. Anagram of the generic name *Calleida* [q.v.] [feminine].

**Diversity.** About 175 species confined to the Western Hemisphere. Only 11 species are endemic (five species) or extends (six species) into the Nearctic Region.

**Identification.** There is no key for the identification of the North American species.

### *Calleida circumcincta* Bates, 1883

*Calleida circumcincta* Bates, 1883a: 212. Type locality: «Jalapa [Veracruz], Mexico» (original citation). Syntype(s) location unknown (possibly in BMNH). NOTE. The type series was collected by Höge. According to Bates (1884: 256), Höge, on his return to Europe, mislabeled many specimens collected in the city of Oaxaca as “Jalapa” and vice versa.

**Distribution.** This species is known from southeastern Texas (Schaeffer 1905: 142; MCZ) south at least to Veracruz, Mexico (Bates 1883a: 212); it may occur much further south, as far as Venezuela (Schaeffer 1910: 397).

**Records. USA:** TX – Mexico

### *Calleida decora* (Fabricius, 1801)

*Carabus decorus* Fabricius, 1801: 181 [primary homonym of *Carabus decorus* Panzer, 1799]. Type locality: «Carolina» (original citation). Syntype(s) location unknown (Zimsen 1964: 53), though according to Motschulsky (1855a: 51) in ZMUC. NOTE. This name is a junior primary homonym of *Carabus decorus* Panzer, 1799 (= *Bembidion decorum* (Panzer, 1799)). Since both names apply to taxa not considered

- congeneric since 1899, the case is to be referred to the Commission and meanwhile prevailing usage of both names must be maintained (ICZN 1999: Article 23.9.5).
- Calleida cordicollis* Putzeys, 1845a: 21. Type locality: «Oaxaca, Mexique» (original citation). Holotype [by monotypy] location unknown. Synonymy established by Horn (1882: 161).
- Calleida cyanoptera* LeConte, 1858b: 59 [primary homonym of *Calleida cyanoptera* Solier, 1849]. Type locality not stated. Three syntype(s) in MCZ [# 5819]. Synonymy established by Horn (1882: 161).
- Callida coeruleipennis* Gemminger and Harold, 1868a: 115. Replacement name for *Calleida cyanoptera* LeConte, 1858.

**Distribution.** This species ranges from south-central North Dakota (Burleigh County, Donald P. Schwert pers. comm. 1989) to southeastern Virginia (Hoffman and Roble 2000: 40), south to southern Florida (Peck and Thomas 1998: 24), the Bahamas (Darlington 1953: 11), and Nicaragua (CMNH), west to southern Arizona (Santa Cruz and Pima Counties, CMNH, UASM).

**Records. USA:** AL, AR, AZ, FL, GA, IA, IL, IN, KS, LA, MS, NC, ND, NE, OK, SC, SD, TN, TX, VA – Bahamas, Belize, Mexico, Nicaragua

### *Calleida fimbriata* Bates, 1883

*Calleida fimbriata* Bates, 1883a: 212. Type locality: «Jalapa [Veracruz], Mexico» (original citation). Syntype(s) location unknown (possibly in BMNH).

**Distribution.** This species is found in southern Texas (Bousquet and Laroche 1993: 334) south at least to Veracruz (Bates 1883a: 212) in Mexico.

**Records. USA:** TX – Mexico

### *Calleida fulgida* Dejean, 1831

*Calleida fulgida* Dejean, 1831: 330. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 24).

*Calleida striata* Casey, 1913: 177. Type locality: «Florida» (original citation). Two syntypes in USNM [# 47675]. **New synonymy.**

**Distribution.** This species ranges from southern South Carolina (Ciegler 2000: 126) to southern Florida (Peck and Thomas 1998: 24), west to “Texas” (Leng 1915: 587) and central Oklahoma (Hatch and Ortenburger 1930: 11). The records from Colorado (Wickham 1902: 240) and northeastern Kansas (Knaus 1901: 110) need confirmation.

**Records. USA:** AL, FL, GA, OK, SC, TX [CO, KS]

### *Calleida obrieni* Mateu, 1995

*Calleida obrieni* Mateu, 1995: 146. Type locality: «Myakka R[iver] St[ate] Park, Sarasota Co[unty], Florida» (original citation). Holotype (♀) in Mateu’s collection (Almería, Spain).

**Distribution.** This species is known only from the holotype collected in central Florida.

**Records. USA:** FL

### *Calleida planulata* LeConte, 1858

*Calleida planulata* LeConte, 1858b: 59. Type locality not stated. Holotype [by monotypy] (♂) in MCZ [# 34515]. NOTE. Horn (1882: 140) stated that the specimen upon which LeConte described this species “may have been taken in Mexico or Texas.” It was described by LeConte in a paper on new species chiefly collected by the United States and Mexican Boundary Commission.

*Callida metallescens* Chaudoir, 1873b: 120. Type locality: «Vera-Cruz, Mexique» (original citation). Holotype [by monotypy] (♀) probably in MHNP. Synonymy established with doubt by Horn (1882: 140).

**Distribution.** This species ranges from the Rio Grande Valley in southern Texas (Wickham 1897: 111) south to Guatemala and Belize (Bates 1883a: 208, as *C. metallescens*).

**Records. USA:** TX – Belize, Guatemala, Mexico

### *Calleida platynoides* Horn, 1882

*Callida platynoides* G.H. Horn, 1882: 139. Type locality: «mountains east of Visalia, California; southwestern Utah» (original citation). Two syntypes in MCZ [# 8185].

*Lecalida pimalis* Casey, 1920: 288. Type locality: «Tucson [Pima County], Arizona» (original citation). Seven syntypes [7 originally cited] in USNM [# 47676]. Synonymy established by Ball (in Bousquet and Laroche 1993: 281).

*Lecalida nigritula* Casey, 1920: 289. Type locality: «Tucson [Pima County], Arizona» (original citation). Holotype [by monotypy] (♀) in USNM [# 47677]. Synonymy established by Ball (in Bousquet and Laroche 1993: 281).

**Distribution.** This species ranges from southwestern California (Moore 1937: 12) to southeastern Texas (Cameron County, CNC), including northern Sonora (Bates 1884: 298); also known from Baja California Sur (Santa Rosa, MCZ).

**Records. USA:** AZ, CA, NM, NV, TX, UT – Mexico

### *Calleida punctata* LeConte, 1846

*Calleida punctata* LeConte, 1846b: 189. Type locality: «ad flumen Kansas [Kansas]» (original citation). Two syntypes in MCZ [# 5820].

**Distribution.** The range of this species extends from Maine (Dearborn and Donahue 1993: 8; Foss 2001: 14) to southern Manitoba (Bousquet 1987a: 133), south to “Kansas” (Horn 1882: 141) and northwestern South Carolina (Anderson County, Robert L. Davidson pers. comm. 2012). The records from “Texas,” “Florida” (Erwin et al. 1977: 4.59), “Louisiana” (Chaudoir 1873b: 153), “Arkansas” (Bousquet and La-



rochelle 1993: 281), northern Alabama (Löding 1945: 22), and southwestern Georgia (Fattig 1949: 40) need confirmation.

**Records.** **CAN:** MB, ON, QC **USA:** CT, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NC, ND, NE, NH, NJ, NY, OH, PA, SC, SD, TN, VA, VT, WI, WV [AL, AR, FL, GA, LA, TX]

### *Calleida punctulata* Chaudoir, 1848

*Calleida punctulata* Chaudoir, 1848: 86. Type locality: Mexique (inferred from text on page 87). Syntype(s) in MHNP.

*Callida rugicollis* G.H. Horn, 1894: 361. Type locality: «Coral de Piedra, Sierra El Taste, Pescadero and San José del Cabo [Mexico]» (original citation). Two syntypes in CAS [# 4, 5]. Synonymy established by Schaeffer (1910: 396).

**Distribution.** This species is known from the Baja California Peninsula (Horn 1894: 361, as *C. rugicollis*) and southern Texas (Wickham 1897: 111; Cameron County, CNC), south at least to Nicaragua (CMNH). The record from “California” (Bousquet and Laroche 1993: 281) is probably in error.

**Records.** **USA:** TX – Guatemala, Mexico, Nicaragua

### *Calleida purpurea* (Say, 1823)

*Cymindis purpureus* Say, 1823a: 10. Type locality: «Neb[raska]» (neotype label). Neotype (♂), designated by Lindroth and Freitag (1969: 349), in MCZ [# 33003]. NOTE. «the Missouri» was the area originally cited by Say (1823a: 10).

*Calleida smaragdina* Dejean, 1825: 225. Type locality: «Géorgie» (original citation). Two syntypes in MHNP (Lindroth 1955b: 24). Synonymy established by Horn (1882: 161), confirmed by Lindroth (1955b: 24).

*Calleida cyanipennis* Chaudoir, 1844: 467. Type locality: «Amérique» (original citation). Syntype(s) probably in MHNP. Synonymy established, under the name *C. smaragdina* Dejean, by LeConte (1869b: 248).

**Distribution.** This species ranges from “New Hampshire” (Lindroth 1969a: 1062) to northeastern South Dakota (Kirk and Balsbaugh 1975: 38), north to southern Manitoba (Lindroth 1969a: 1062; Bousquet 1987a: 133), south to eastern Kansas (Popenoe 1877: 23), central Louisiana (Rapides Parish, Igor M. Sokolov pers. comm. 2009), and northern Florida (Peck and Thomas 1998: 24). The records from Colorado (LeConte 1846b: 188; Snow 1877: 17) need confirmation.

**Records.** **CAN:** MB **USA:** AL, CT, FL, GA, IA, IL, KS, LA, MA, MI, MO, MN, NC, NE, NH, NJ, NY, OH, PA, RI, SC, SD, WI [CO]

### *Calleida viridipennis* (Say, 1823)

*Cymindis viridipennis* Say, 1823a: 9. Type locality: «Wash[ington] Co[unty], P[ennsylvania]» (neotype label). Neotype (♀), designated by Lindroth and Freitag (1969: 349), in MCZ [# 33004].



*Calleida marginata* Dejean, 1825: 222. Type locality: «Géorgie» (original citation). One syntype in MHNP (Lindroth 1955b: 24). Synonymy established by Dejean (1826: 450), confirmed by Lindroth (1955b: 24).

**Distribution.** This species ranges from southwestern New York (Notman 1928: 239) to eastern New Mexico (Chaves and De Baca Counties, CMNH), including southwestern Iowa (Fremont County, Doug A. Veal pers. comm. 2009), south to southeastern Texas (Wickham 1897: 111), southern Louisiana (East Baton Rouge, Iberville, Pointe Coupee, Saint Martin, and Saint Tammany Parishes, Igor M. Sokolov pers. comm. 2009), and southern Florida (Peck and Thomas 1998: 24). The records from “Utah,” “Arizona,” and “California” (Csiki 1932b: 1449) are likely in error.

**Records. USA:** AL, AR, DC, DE, FL, GA, IA, IL, KY, LA, MD, MO, MS, NM, NY, OH, OK, PA, SC, TN, TX, VA, WV

### Genus *PHILOPHUGA* Motschulsky, 1859

*Philophuga* Motschulsky, 1859a: 140. Type species: *Calleida cyanea* Motschulsky, 1850 (= *Cymindis viridis* Dejean, 1831) designated by Larson (1969: 29). Etymology. From the Greek *philos* (beloved) and *phyge* or *pheuge* (escape) [feminine].

*Philophyga* Gemminger and Harold, 1868a: 118. Unjustified emendation of *Philophuga* Motschulsky, 1859.

*Philopheuga* Bates, 1883a: 202. Unjustified emendation of *Philophuga* Motschulsky, 1859.

**Diversity.** Four species comprised this genus: one (*P. brachinoides* Bates) is found in Mexico only, another one (*A. viridis*) in Canada and United States, and the other two in United States and Mexico.

**Identification.** Larson (1969) revised the species.

**Taxonomic Note.** This taxon is ranked as a subgenus of *Calleida* by some authors.

### *Philophuga caerulea* Casey, 1913

*Calleida viridis* Chevrolat, 1836a: [no. 155] [secondary homonym of *Calleida viridis* (Dejean, 1831)]. Type locality: «Las Vigas [Veracruz, Mexico]» (original citation). Syntype(s) [2 originally cited] location unknown (possibly in UMO).

*Philophuga caerulea* Casey, 1913: 174. Type locality: «Arizona» (original citation). Lectotype [as holotype] (♀), designated by Larson (1969: 33), in USNM [# 47668]. Synonymy established by Larson (1969: 33).

**Distribution.** This species ranges from Arizona south to the Isthmus of Tehuantepec [see Larson 1969: Fig. 58].

**Records. USA:** AZ – Mexico

***Philophuga viridicollis* (LeConte, 1846)**

*Cymindis viridicollis* LeConte, 1846b: 188. Type locality: «Long's Peak [Boulder County, Colorado], Rocky Mountains» (original citation). Lectotype (♀), designated by Larson (1969: 31), in MCZ [# 5821].

*Philopheuga subcordata* Chaudoir, 1877: 246. Type locality: «Mexique» (original citation). Syntype(s) [2 originally cited] in MHNP. Synonymy established by Horn (1882: 161).

**Distribution.** This species ranges from eastern Colorado and Kansas south to north-eastern Mexico and southwestern Texas [see Larson 1969: Fig. 58]. The record from South Dakota (Kirk and Balsbaugh 1975: 38) needs confirmation. One specimen labeled from “Alabama” and two specimens from California seen by Larson (1969: 32) are probably mislabeled.

**Records. USA:** CO, KS, NM, OK, TX [SD] – Mexico

***Philophuga viridis amoena* (LeConte, 1846)**

*Cymindis amoena* LeConte, 1846b: 188. Type locality: «Long's Peak [Boulder County, Colorado], Rocky Mountains» (original citation). Lectotype (♀), designated by Larson (1969: 42), in MCZ [# 5822].

*Philophuga canora* Casey, 1913: 174. Type locality: «Texas» (original citation). Lectotype [as holotype] (♀), designated by Larson (1969: 42), in USNM [# 47669]. Synonymy established by Larson (1969: 42).

*Philophuga puella* Casey, 1913: 176. Type locality: «Boulder Co[unty], Colorado» (original citation). Lectotype [as holotype] (♂), designated by Larson (1969: 42), in USNM [# 47671]. Synonymy established by Larson (1969: 42).

*Philophuga obscura* Casey, 1924: 91. Type locality: «Lake George, New York» (original citation), which is incorrect. Lectotype [as holotype] (♀), designated by Larson (1969: 42), in USNM [# 47674]. Synonymy established by Larson (1969: 42).

**Distribution.** The range of this subspecies extends from southern Manitoba to south-central British Columbia, south to northern Oregon, Colorado (Larson 1969: 42–43), and east-central Kansas (Knaus 1907: 233). The records from “New Mexico” and “Utah” (Bousquet and Laroche 1993: 281), based on misplaced dots on Larson's (1969) figure 59, are in error; those from “Oklahoma” (Arnold 2008) and “Texas” (Casey 1913: 174, as *P. canora*) need confirmation.

**Records. CAN:** AB, BC, MB, SK **USA:** CO, ID, KS, MT, ND, NE, OR, WA, WY [OK, TX]

***Philophuga viridis horni* Chaudoir, 1877**

*Philopheuga horni* Chaudoir, 1877: 245. Type locality: «Nevada» (original citation), herein restricted to Winnemucca, Humboldt County (see Larson 1969: 41). Syntype(s) [2 originally cited] in MHNP.

*Philophuga cobaltina* Casey, 1924: 91. Type locality: «Trout Creek, Juab Co[unty], Utah» (original citation). Lectotype [as holotype] (♂), designated by Larson (1969: 41), in USNM [# 47672]. Synonymy established by Larson (1969: 41).

*Philophuga uteana* Casey, 1924: 92. Type locality: «Stockton [Tooele County], Utah» (original citation for the lectotype). Lectotype [as holotype] (♂), designated by Larson (1969: 41), in USNM [# 47673]. Synonymy established by Larson (1969: 41).

**Distribution.** This subspecies ranges from northern Washington to eastern Wyoming (Lavigne 1977: 45, as *Calleida viridis viridis*), south to northeastern New Mexico, south-central Arizona, and northeastern California (Larson 1969: 41, Fig. 59).

**Records. USA:** AZ, CA, CO, ID, NM, NV, OR, UT, WA, WY

### *Philophuga viridis klamathea* Larson, 1969

*Philophuga viridis klamathea* Larson, 1969: 40. Type locality: «Klamath Falls [Klamath County], Oregon» (original citation). Holotype (♂) in CAS [# 9812].

**Distribution.** This subspecies is known only from south-central Oregon and northern California [see Larson 1969: Fig. 59].

**Records. USA:** CA, OR

### *Philophuga viridis viridis* (Dejean, 1831)

*Cymindis viridis* Dejean, 1831: 325. Type locality: «Californie» (original citation), herein restricted to Lake Merced, San Francisco County (see Larson 1969: 38). Syntype(s) presumably lost (Lindroth 1955b: 24).

*Calleida cyanea* Motschulsky, 1850a: 39. Type locality: «California» (original citation), cited from «St. Francisco [San Francisco County]» by Motschulsky (1859a: 144). One syntype, described as “destructum,” in ZMMU (Keleinikova 1976: 194). Synonymy established by Horn (1882: 161).

*Philophuga lauta* Casey, 1913: 175. Type locality: «California» (original citation). Lectotype [as holotype] (♂), designated by Larson (1969: 38), in USNM [# 47670]. Synonymy established by Larson (1969: 38).

**Distribution.** This subspecies is known only from the San Francisco Bay area in California [see Larson 1969: Fig. 59].

**Records. USA:** CA

### Genus *INFERNOPHILUS* Larson, 1969

*Infernophilus* Larson, 1969: 43. Type species: *Philophuga castanea* Horn, 1882 by original designation. Etymology (original). From the Latin *infernus* (hell) and the Greek *philos* (beloved), alluding to the hot desert region where the sole species is found [masculine].

**Diversity.** One Nearctic species extending into northern Mexico.

**Identification.** The character states of the sole species are described in detail by Larson (1969: 43–44).

***Infernophilus castaneus* (Horn, 1882)**

*Philophuga castanea* G.H. Horn, 1882: 144. Type locality: «high mountains in Kern Co[unty], California» (original citation). Two syntypes [2 originally cited] in MCZ [# 34516].

**Distribution.** This species is known from “Nevada” and the Lake Tahoe region in the Sierra Nevada south to the Mexican border in California [see Larson 1969: Fig. 61]. According to Ball and Bousquet (2000: 114), the species is also found in northwestern Mexico.

**Records. USA:** CA, NV – Mexico

**Genus *Onota* Chaudoir, 1873**

*Onota* Chaudoir, 1873b: 165. Type species: *Onota bicolor* Chaudoir, 1873 designated by Bousquet and Laroche (1993: 280). Etymology (original). From the Greek *onos* (donkey, ass) and *otos* (ear), alluding to the shape of the paraglossae (*paraglossae membranaceae, parallelae, glabrae, utroque angulo antico late subproducto-rotundato (inde nom. gen.)*) of the adults [feminine].

**Diversity.** Ten species in Central America and South America, of which two reach southern United States.

**Identification.** This genus has not been revised in modern times and such work is needed.

***Onota angulicollis* (Reiche, 1842)**

*Lebia angulicollis* Reiche, 1842: 312. Type locality: «Provincia novae Granatae [= present day Panama and Colombia]» (original citation). On syntype in MHNP (see Erwin 2004: 38).

**Distribution.** This species ranges from southeastern Texas (Cameron County, Edward G. Riley pers. comm. 2009) south to the Amazonia (Chaudoir 1873b: 166). This is a **new record** for America north of Mexico.

**Records. USA:** TX – Brazil, Colombia, Costa Rica, Guatemala, Nicaragua, Panama, Peru, Surinam.

***Onota floridana* Horn, 1881**

*Onota floridana* G.H. Horn, 1881: 159. Type locality: «near Lake Poinsett [Brevard County], Florida» (original citation). Syntype(s) [3 originally cited] in MCZ [# 8187].

**Distribution.** This species is known only from Brevard County in central Florida (Peck and Thomas 1998: 24).

**Records. USA:** FL

### Genus *CYLINDRONOTUM* Putzeys, 1845

*Cylindronotum* Putzeys, 1845a: 22. Type species: *Cylindronotum aeneum* Putzeys, 1845 by monotypy. Etymology. From the Greek *cylindros* (roller, cylinder) and *notos* (back, upper surface), probably alluding to the cylindrical pronotum (“*corselet ... presque cylindrique*”) of the adult [neuter].

*Stenonotum* Lacordaire, 1854: 107. Unnecessary replacement name for *Cylindronotum* Putzeys, 1845. Etymology. From the Greek *stenos* (narrow) and *notos* (back, dorsum) [neuter].

*Micragra* Chaudoir, 1873b: 155. Unnecessary replacement name for *Cylindronotum* Putzeys, 1845. Etymology (original). From the Greek *micros* (small) and the generic name *Agra* [*q.v.*], alluding to the resemblance of adults of these small insects to those of *Agra* (“*ces petits insectes, qui ont le facies des Agra*”) [feminine].

*Pseudometabletus* Liebke, 1930: 722. Type species: *Pseudometabletus nevermanni* Liebke, 1930 by original designation. Synonymy established by Erwin (2004: 22). Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Metabletus* [*q.v.*] [masculine].

**Diversity.** Seven Neotropical species, of which one reaches southeastern Texas.

**Identification.** This genus has not been revised in modern times and such work would be useful.

### *Cylindronotum aeneum* Putzeys, 1845

*Cylindronotum aeneum* Putzeys, 1845a: 22. Type locality: «Cayenne [French Guiana]» (original citation). Lectotype, designated by Erwin (2004: 22), in MHNP.

**Distribution.** This species is found from southeastern Texas (Wickham 1897: 108; Snow 1906a: 141 as “*Micragra brunnea* Putzeys”) south to Panama and French Guiana (Bates 1883a: 199).

**Records. USA:** TX – Belize, French Guiana, Guatemala, Mexico, Nicaragua, Panama.

### Subtribe AGRINA Kirby, 1837

Agridae Kirby, 1837: 13. Type genus: *Agra* Fabricius, 1801.

**Diversity.** About 585 species (Lorenz 2005: 498-502) belonging to the Western Hemisphere genus *Agra*.



### Genus *AGRA* Fabricius, 1801

*Agra* Fabricius, 1801: 224. Type species: *Agra aenea* Fabricius, 1801 designated by Latreille (1810: 426). Etymology. From the Greek *agra* (catch, booty, prey, seizure) [feminine]. *Agrana* Rafinesque, 1815: 109. Unjustified emendation of *Agra* Fabricius, 1801. *Agridia* Chaudoir, 1861d: 109. Type species: *Agridia platyscelis* Chaudoir, 1861 designated by Erwin (1982a: 45). Synonymy established by Erwin (1982a: 45).

**Diversity.** About 585 species in the Neotropical Region, one of them extending into southeastern Texas.

**Taxonomic Note.** 1. Erwin (1982a: 45) postulated that *Agra* is the putative sister-group of *Callidiola* Jeannel of Africa and Asia, currently recognized as a subgenus of *Calleida*. Casale (1998: 401) challenged this hypothesis and postulated that *Agra* could be the sister-group to physoderines which are found in Australia, some Pacific islands, eastern Asia, and central and south Africa. 2. According to Erwin (in Ball and Bousquet 2000: 115), two species, both undescribed, reach southeastern Texas. Therefore, the species currently recorded from United States is probably not a resident of North America.

### *Agra oblongopunctata oblongopunctata* Chevrolat, 1836

*Agra oblongopunctata* Chevrolat, 1836b: [no. 183]. Type locality: «environs de la Vera-Cruz [Mexico]» (original citation). Syntype(s) location unknown (possibly in UMO).

**Distribution.** This subspecies ranges from southeastern Texas (Wickham 1897: 106) to Guatemala (Bates 1883a: 247). As mentioned previously, the Texas specimens actually belong to an undescribed species.

**Records. USA:** TX – Guatemala, Mexico

**Note.** The subspecies *A. oblongopunctata hypsophila* Straneo is found in Costa Rica.

### Subtribe METALLICINA Basilewsky, 1984

Metallicini Basilewsky, 1984: 534, 542. Type genus: *Metallica* Chaudoir, 1873.

**Diversity.** About 70 species (Lorenz 2005: 490) in the Nearctic (three species), Neotropical (16 species of *Euproctinus*), Oriental, Palaearctic (31 species), and Afrotropical Regions. These species are arrayed in four genera: *Parena* Motschulsky (47 species), *Metallica* Chaudoir (six species), *Pachycallida* Jeannel (three species), and *Euproctinus* (16 species).

**Taxonomic Note.** This subtribe came out as the sister-group to {Calleidina + Gallerucidiina} in the phylogenetic analysis of Ball et al. (1995).

### Genus *EUPROCTINUS* Leng and Mutchler, 1927

*Euproctus* Solier, 1849: 131 [junior homonym of *Euproctus* Gené, 1839]. Type species: *Euproctus fasciatus* Solier, 1849 by monotypy. Etymology. Uncertain, possibly from the Greek *eu* (well, by extension large) and *proctos* (anus, tail) [masculine].

*Euproctinus* Leng and Mutchler, 1927: 14. Replacement name for *Euproctus* Solier, 1849. Etymology. From the generic name *Euproctus* [*q.v.*] and the Latin suffix *-inus* (pertaining to) [masculine].

*Andrewesella* Csiki, 1932b: 1456. Replacement name for *Euproctus* Solier, 1849. Etymology. Although not specified, this name probably originates from the surname of Herbert Edward Andrewes [1863-1950] who devoted a large part of his life to the study of Carabidae of the Oriental Region.

**Diversity.** Sixteen species restricted to the Western Hemisphere, currently arrayed in two subgenera: *Euproctinus s.str.* (one species, *E. fasciatus* Solier from Chile and Argentina) and *Neoeuproctus* (15 species).

**Identification.** Shpeley (1986) revised the species and provided a key for their identification.

### Subgenus *Neoeuproctus* Shpeley, 1986

*Neoeuproctus* Shpeley, 1986: 284. Type species: *Euproctus sigillatus* Bates, 1883 by original designation. Etymology. From the Greek prefix *neo-* (new) and the generic name *Euproctus* [*q.v.*] [masculine].

**Diversity.** Fifteen species in the Neotropical Region, of which three extend into southern United States.

#### [abjectus group]

#### *Euproctinus abjectus* (Bates, 1883)

*Euproctus abjectus* Bates, 1883a: 196. Type locality: «Almolonga [Veracruz], Mexico» (original citation for the lectotype). Lectotype (♂), designated by Shpeley (1986: 291), in BMNH.

*Euproctus texanus* Wickham, 1897: 109. Type locality: «Brownsville [Cameron County] Texas» (lectotype label). Lectotype (♀), designated by Shpeley (1986: 292), in USNM. Synonymy established by Shpeley (1986: 292).

**Distribution.** This species is found from southern California and southeastern Texas south to Guatemala and southern Baja California [see Shpeley 1986: map 4].

**Records. USA:** CA, TX – Guatemala, Mexico

#### *Euproctinus balli* Shpeley, 1986

*Euproctinus balli* Shpeley, 1986: 286. Type locality: «21.8 miles north of Juchatengo (7100'), Oaxaca, México» (original citation). Holotype (♂) in USNM.

**Distribution.** This species ranges from southeastern Arizona south to southern Mexico [see Shpeley 1986: map 3].

**Records. USA:** AZ – Mexico

## [trivittatus group]

***Euproctinus trivittatus* (LeConte, 1878)**

*Onota trivittata* LeConte, 1878b: 373. Type locality: «Florida» (original citation), restricted to «F[or]t Capron [Saint Lucie County]» by Shpeley (1986: 295). Lectotype (♀), designated by Shpeley (1986: 295), in MCZ [# 5818].

**Distribution.** This species is found along the east coast of Florida, including the Keys, and in Cuba [see Shpeley 1986: map 6].

**Records. USA:** FL – Cuba

**Subtribe NEMOTARSINA Bates, 1883**

Nemotarsinae Bates, 1883a: 173. Type genus: *Nemotarsus* LeConte, 1853.

**Diversity.** One genus endemic to the Western Hemisphere.

**Taxonomic Note.** Jeannel (1949a: 860) and Basilewsky (1984: 527) considered this taxon as a masoreimorph (i.e., masoreines and cyclosomines). Ball and Bousquet (2000: 113–114) retained it as a lebiines, as previously done by Ball (1960b: 158) and Lindroth (1969a: 1014), but recognized that its position remains to be determined.

**Genus NEMOTARSUS LeConte, 1853**

*Nemotarsus* LeConte, 1853c: 377. Type species: *Nemotarsus elegans* LeConte, 1853 by monotypy. Etymology. From the Greek *nema* (thread) and *tarsos* (tarsus), alluding to the filiform tarsi (“*tarsi filiformes*”) of the adult [masculine].

*Nematotarsus* Gemminger and Harold, 1868a: 145. Unjustified emendation of *Nemotarsus* LeConte, 1853.

**Diversity.** Nine species in the temperate and tropical areas of the Nearctic (two species) and Neotropical (eight species) Regions.

**Identification.** This genus has not been revised in modern times and such work is needed.

***Nemotarsus elegans* LeConte, 1853**

*Nemotarsus elegans* LeConte, 1853c: 378. Type locality: «Illinois; Upper Georgia» (original citation), restricted to «Illin[ois]» by Lindroth (1969a: 1014). Two syntypes [2 originally cited] in MCZ [# 5799].

**Distribution.** The range of this species extends from the District of Columbia (CMNH) to “Illinois” (LeConte 1853c: 378), including southwestern Pennsylvania (Westmoreland County, Robert L. Davidson pers. comm. 2008), south to southern Texas (Cameron, Colorado, and Sabine Counties, USNM, Brian Raber pers. comm. 2010) and northern Florida (Peck and Thomas 1998: 24). The record from “Iowa” (Bousquet and Larochelle 1993: 279) needs confirmation.

**Records. USA:** AL, AR, DC, FL, GA, IL, LA, MD, MS, NC, OK, PA, SC, TX, VA [IA]

***Nemotarsus rhombifer* Bates, 1883**

*Nemotarsus rhombifer* Bates, 1883a: 173. Type locality: «Jalapa, Mexico; Dueñas, Guatemala» (original citation). Syntype(s) probably in BMNH.

**Distribution.** This species ranges from southern Texas (Cameron and Hidalgo Counties, Edward G. Riley pers. comm. 2009; Brian Raber pers. comm. 2010) south to Guatemala (Bates 1883a: 173). This is a **new record** for America north of Mexico.

**Records. USA:** TX – Guatemala, Mexico

**Tribe ZUPHIINI Bonelli, 1810**

Zuphietae Bonelli, 1810: Tabula Synoptica. Type genus: *Zuphium* Latreille, 1805.

**Diversity.** Worldwide, with about 290 species (Lorenz 2005: 504-507, excluding Planetina) arrayed in 20 genera. The tribe is represented in the Northern Hemisphere by about 65 species (22% of the world fauna). Three subtribes are recognized: Leleupidiina (about 90 species in the Old World and the Australian Region), Zuphiina (about 200 species), and Dicrodontina (three species endemic to the Canary Islands).

**Taxonomic Note.** The planetines are included in this tribe by Lorenz (2005: 507). However Basilewsky (1963b), Reichardt (1967), Ball (1985), and Baehr (1986) presented arguments suggesting that planetines are probably more closely related to galeritines than to zuphiines.

**Subtribe ZUPHIINA Bonelli, 1810**

Zuphietae Bonelli, 1810: Tabula Synoptica. Type genus: *Zuphium* Latreille, 1805.

Patriziini Basilewsky, 1953b: 266. Type genus: *Patrizia* Alluaud, 1931.

**Diversity.** Worldwide, with about 200 species placed in 14 genera. The North American fauna is represented by 18 species (about 9% of the world fauna).

**Genus ZUPHIUM Latreille, 1805**

*Zuphium* Latreille, 1805: 198. Type species: *Carabus olens* Rossi, 1790 designated by Latreille (1810: 426). Etymology. Uncertain, possibly from the Greek *zoyphion* (small animal) or *zophos* (obscure, dark) [neuter].

*Zophium* Gistel, 1840: 112. Unjustified emendation of *Zuphium* Latreille, 1805.

*Zoyphium* Agassiz, 1846: 393. Unjustified emendation of *Zuphium* Latreille, 1805.

**Diversity.** Worldwide, with about 75 species of which six are found in the temperate and subtropical areas of North America.

**Identification.** Mateu (1981) reviewed the North American species and provided a key for their identification.

***Zuphium americanum* Dejean, 1831**

*Zuphium americanum* Dejean, 1831: 298. Type locality: «Amérique septentrionale» (original citation), restricted to «Brownsville [Cameron County], Tex[as]» by Lindroth (1969a: 1090). Holotype [by monotypy] (♂) in MHNP (Lindroth 1955b: 22).

**Distribution.** This species ranges from New Jersey (Morris County, USNM) to southern South Dakota (Kirk and Balsbaugh 1975: 39), including southernmost Ontario (Lindroth 1969a: 1090), south to southeastern Texas (Snow 1906a: 141; Cameron, Kleberg, and Gonzales Counties, CMNH, MCZ) and the Florida Keys (Peck and Thomas 1998: 25), west to southern Arizona (Mateu 1981: 118); seemingly isolated in western Oregon (Malkin 1943: 52).

**Records.** CAN: ON USA: AL, AR, AZ, FL, GA, IA, IL, IN, KS, LA, MD, MI, MO, MS, NC, NE, NJ, NM, OH, OK, OR, PA, SC, SD, TN, TX, VA, WV

***Zuphium delectum* Liebke, 1933**

*Zuphium delectum* Liebke, 1933: 469. Type locality: «Framingham [Middlesex County], Massachusetts» (original citation). Syntype(s) [2 originally cited] in DEI (Döbler 1975: 110) and IZWP [# 1704] (Mroczkowski 1960: 399).

**Distribution.** This species is known only from the original two specimens.

**Records.** USA: MA

***Zuphium longicolle* LeConte, 1879**

*Zuphium longicolle* LeConte, 1879c: 62. Type locality: «San Joaquin Co[unty], Cal[ifornia]; Texas» (original citation), restricted to «San Joaquín Co[unty]» by Mateu (1981: 123). Two syntypes in MCZ [# 5795].

**Distribution.** This species is known from western Arkansas (Polk and Hempstead Counties, CMNH, MCZ), Texas, as far south as the Rio Grande in the southeast (Mateu 1981: 125; Dajoz 2007: 18-19), southern Arizona (Pima County, MCZ), and central California (LeConte 1879c: 62). The record from “Oklahoma” (Arnold 2008) needs confirmation.

**Records.** USA: AR, AZ, CA, TX [OK]

***Zuphium magnum* Schaeffer, 1910**

*Zuphium magnum* Schaeffer, 1910: 396. Type locality: «Brownsville [Cameron County], Texas» (original citation). Holotype (♀) in USNM [# 42503].

**Distribution.** This species is known from “Louisiana” (USNM) and from Cameron (Schaeffer 1910: 396) and Zapata Counties (CMNH) in southern Texas.

**Records.** USA: LA, TX



***Zuphium mexicanum* Chaudoir, 1863**

*Zuphium mexicanum* Chaudoir, 1863: 314. Type locality: «Veracruz?, Mexique» (original citation). Lectotype (♀), designated by Mateu (1985: 330), in MHNP.

*Zuphium vicinum* Liebke, 1933: 471. Type locality: «Mexiko» (original citation). Holotype [by monotypy] in IZWP [# 1711] (Mroczkowski 1960: 400). Synonymy established by Mateu (1985: 330).

**Distribution.** This species ranges from southwestern Arizona to southeastern Texas (Mateu 1981: 127). It was also reported from “Mexico” (Chaudoir 1863: 314; Liebke 1933: 471).

**Records. USA:** AZ, NM, TX – Mexico

***Zuphium pseudamericanum* Mateu, 1981**

*Zuphium pseudamericanum* Mateu, 1981: 118. Type locality: «Fort Yuma [Imperial County, California], Arizona» (original citation). Holotype (♂) in USNM. NOTE. Mateu (1981) used two different original spellings for this species: *pseudoamericanum* (page 115) and *pseudamericanum* (page 118). I am acting as First Reviser (see ICZN 1999: Article 24.2.3) and select *pseudamericanum* to have precedence over *pseudoamericanum*.

**Distribution.** This species is known from a few scattered localities from southern California to southeastern Texas (Mateu 1981: 119).

**Records. USA:** AZ, CA, TX

**Genus *PSEUDAPTINUS* Laporte, 1834**

*Diaphorus* Dejean, 1831: 300 [junior homonym of *Diaphorus* Meigen, 1824]. Type species: *Diaphorus lecontei* Dejean, 1831 by monotypy. Etymology (original). From the Greek *diaphoros* (different) [masculine].

*Pseudaptinus* Laporte, 1834: 56. Type species: *Polistichus albicornis* Klug, 1834 by monotypy. Synonymy established by Laporte (1840: 33). Etymology. From the Greek *pseudos* (fallacy, lie) and the generic name *Aptinus* [*q.v.*], alluding to the resemblance of the adults to those of *Aptinus pigmaeus* (“*le petit insecte sur lequel je forme ce genre a le faciès de l’Aptinus Pigmaeus*”) [masculine].

*Tiphys* Gistel, 1848a: ix [junior homonym of *Tiphys* Koch, 1837]. Replacement name for *Diaphorus* Dejean, 1831.

**Diversity.** About 55 species in temperate, subtropical, and tropical areas of the Nearctic (12 species but only four endemic), Neotropical (about 40 species), and Australian (nine species in Australia) Regions.

### Subgenus *Pseudaptinus* Laporte, 1834

*Pseudaptinus* Laporte, 1834: 56. Type species: *Polistichus albicornis* Klug, 1834 by monotypy.

**Diversity.** Eighteen species (Lorenz 2005: 505, as *Pseudaptinus s.str.*) in the Nearctic (three species) and Neotropical (16 species) Regions.

**Identification.** Two of the North American species are included in Liebke's (1934: 372–373) key to the species of this genus. A taxonomic revision is needed.

### *Pseudaptinus lecontei* (Dejean, 1831)

*Diaphorus lecontei* Dejean, 1831: 301. Type locality: «Amérique septentrionale» (original citation), herein restricted to Florence, Florence County, South Carolina (see Ciegler 2000: 127). Holotype [by monotypy] (♀) in MHNP (Lindroth 1955b: 22). Etymology. The specific name was proposed for Major John Eatton LeConte [1784–1860] who devoted most of his time after his early retirement from the army to the education of his only child, John Lawrence LeConte [1825–1883]. Himself a naturalist, the Major was interested in botany, Lepidoptera, and Coleoptera. In 1845 he published the first taxonomic revision of the North American Histeridae for which some of the nice plates were drew by his son. To my knowledge, this is the first revision of a North American beetle family ever published. The LeContes came from a wealthy and prominent family in France of Huguenot ancestry. They fled to the United States to escape the intolerance of Louis XIV and the revocation of the Edict of Nantes (Mallis 1971: 243).

**Distribution.** This Coastal Plain species ranges from southeastern Virginia (Davidson 1995: 18) to central Florida (Peck and Thomas 1998: 25), west to southeastern Texas (Cameron County, USNM).

**Records. USA:** AL, AR, FL, GA, LA, MS, NC, SC, TX, VA

### *Pseudaptinus oviceps* Van Dyke, 1926

*Pseudaptinus oviceps* Van Dyke, 1926a: 121. Type locality: «Griffith Park [Los Angeles, Los Angeles County], California» (original citation). Holotype (♀) in CAS [# 1863].

**Distribution.** This species is known only from the type locality in southwestern California.

**Records. USA:** CA

### *Pseudaptinus tenuicollis* (LeConte, 1851)

*Diaphorus tenuicollis* LeConte, 1851: 173. Type locality: «San Jose [Santa Clara County, California]» (original citation). Holotype [by monotypy] in MCZ [# 665].

*Diaphorus tenuicornis* Chaudoir, 1872b: 106. Type locality: «intérieur du Mexique» (original citation). Syntype(s) in MHNP. Synonymy established by LeConte (1880a: 85).

**Distribution.** The range of this species extends from southern Washington (Zack et al. 2003) to southern California (Fall 1901a: 47), east along the southwest to western Arkansas (Polk County, Robert L. Davidson pers. comm. 2008) and southern Texas (Zapata County, CMNH; Liebke 1934: 373), north to central Kansas (Knaus 1905a: 218), south at least to Oaxaca (Bates 1883a: 166).

**Records. USA:** AR, AZ, CA, KS, NM, OK, OR, TX, WA – Mexico

### Subgenus *Thalpius* LeConte, 1851

*Thalpius* LeConte, 1851: 174. Type species: *Helluo pygmaeus* Dejean, 1826 by monotypy. Etymology. Probably from the Greek *thalpos* (warmth, heat), possibly alluding to the climatic region where the sole species then known lived [masculine].

*Enaphorus* LeConte, 1851: 174. Type species: *Enaphorus rufulus* LeConte, 1851 by monotypy. Synonymy established by LeConte (1853c: 373).

*Zuphiosoma* Laporte, 1867: 103. Type species: *Zuphiosoma fulva* Laporte, 1867 by monotypy. Synonymy established by Csiki (1932b: 1561). Etymology. From the generic name *Zuphium* [*q.v.*] and the Greek *soma* (body) [neuter].

**Diversity.** Thirty-four species (Lorenz 2005: 505) in the Nearctic (nine species but only two endemic), Neotropical (23 species), and Australian (nine species in Australia) Regions.

**Identification.** Messer (2011: 422-423) published a key to all species found in the United States and Mexico.

**Taxonomic Note.** This taxon is considered as a distinct genus by some authors (e.g., Ball and Bousquet 2000: 115) but Baehr (1985: 36) found out that the character states between *Thalpius* and *Pseudaptinus* were “very few and rather weak.” I am following him and treat *Thalpius* as a subgenus of *Pseudaptinus*.

### *Pseudaptinus cubanus* (Chaudoir, 1877)

*Diaphorus cubanus* Chaudoir, 1877: 252. Type locality: «Cuba» (original citation). Holotype [by monotypy] in MHNP.

**Distribution.** This species is found in central and southern Florida (Darlington 1935a: 161; Peck and Thomas 1998: 25), the Bahamas (Turnbow and Thomas 2008: 15), Cuba (Chaudoir 1877: 252; Peck 2005: 39), and the Dominican Republic (CMNH).

**Records. USA:** FL – Bahamas, Cuba, Dominican Republic

### *Pseudaptinus deceptor* Darlington, 1934

*Pseudaptinus deceptor* Darlington, 1934: 128. Type locality: «Soledad (near Cienfuegos), Cuba» (original citation). Holotype in MCZ [# 19545].

**Distribution.** This species is known from Hidalgo and Cameron Counties in southern Texas (Peter W. Messer pers. comm. 2011), from southern Florida (Bousquet and Laroche 1993: 334), and from Cuba (Darlington 1934: 128), the Cayman Islands, and Dominican Republic (Messer 2011: 422).

**Records. USA:** FL, TX – Cayman Islands, Cuba, Dominican Republic

***Pseudaptinus dorsalis* (Brullé, 1834)**

*Diaphorus dorsalis* Brullé, 1834b: 181. Type locality: «Amérique septentrionale» (original citation). Syntype(s) location unknown (possibly in MHNP).

*Pseudaptinus bierigi* Liebke, 1934: 387. Type locality: «Habana, Kuba» (original citation). Holotype [by monotypy] in IZWP [# 1704]. Synonymy established by Darlington (1937: 117). Etymology. The specific name was proposed for Alexander Bierig [1884–1963]. Born in Germany, Bierig moved with his family after World War I to Cuba and finally in 1939 to Costa Rica where he became professor of entomology at the University of Costa Rica in San José. Although he published quite extensively on Staphylinidae, most of his publications as professional dealt with the biology and control of insects injurious to tropical crops. His collection of about 26,000 specimens was purchased in 1966 by the Field Museum of Natural History.

**Distribution.** The range of this species extends from the District of Columbia (Ulke 1902: 7) to western South Dakota (Kirk and Balsbaugh 1975: 39), south to southern Texas (Johnson 1978: 68) and southern Florida (Peck and Thomas 1998: 25); also recorded from the Bahamas (Turnbow and Thomas 2008: 15), Cuba (Darlington 1934: 128), Jamaica (Darlington 1941a: 14), Guana Island in the British Virgin Islands (Valentine and Ivie 2005: 275), Dominican Republic, and Mexico (Messer 2011: 423). The record from Arizona (Snow 1906b: 162) is probably in error.

**Records. USA:** AL, AR, DC, FL, GA, KY, LA, MS, OH, OK, SC, SD, TN, TX, VA – Bahamas, British Virgin Islands, Cuba, Dominican Republic, Jamaica, Mexico

***Pseudaptinus hoegei* (Bates, 1883)**

*Diaphorus högei* Bates, 1883a: 166. Type locality: «Maltrata [Veracruz], Mexico» (original citation). Syntype(s) in MCZ [# 1668]. Etymology. The specific name was proposed for Carl Friedrich [Frederik] Höge [1834–1908], an insect dealer in Hamburg. Höge travelled several times to Mexico between 1878 and 1889 for collecting. He left his Mexican collection of tiger beetles, *Calosoma*, and *Pasimachus* to the Zoological Museum in Hamburg.

**Distribution.** This species is known from Horn Island in southeastern Mississippi (Drew A. Hildebrandt pers. comm. 2010), “Texas” (Liebke 1934: 374), and Veracruz in Mexico (Bates 1883a: 166).

**Records. USA:** MS, TX – Mexico

***Pseudaptinus horni* (Chaudoir, 1872)**

*Diaphorus horni* Chaudoir, 1872b: 107. Type locality: «Californie» (original citation). Syntype(s) location unknown (possibly in MHNP).

**Distribution.** This species ranges from southeastern California (Fall 1901a: 47; Andrews et al. 1979: 28) and west-central Nevada (Storey County, David H. Kavanaugh pers. comm. 2008) east to southeastern Texas (Cameron County, CMNH, MCZ; LeConte 1880a: 85; Snow 1906a: 141), south to the states of Veracruz and Nayarit in Mexico (Peter W. Messer pers. comm. 2011); also recorded from “Oklahoma” (Messer 2011: 423).

**Records. USA:** AZ, CA, NM, NV, OK, TX – Mexico

***Pseudaptinus microcephalus* (Van Dyke, 1926)**

*Thalpius microcephalus* Van Dyke, 1926a: 122. Type locality: «Griffith Park, Los Angeles [Los Angeles County], California» (original citation). Holotype (♀) in CAS [# 1864].

**Distribution.** This species is known only from the type locality in southwestern California.

**Records. USA:** CA

***Pseudaptinus nobilis* Liebke, 1934**

*Pseudaptinus nobilis* Liebke, 1934: 380. Type locality: «Mexiko» (original citation). Holotype [by monotypy] in IZWP [# 1655] (Mroczkowski 1960: 397).

**Distribution.** This species is known from Veracruz in Mexico and from two specimens collected in Live Oak County in southern Texas (Messer 2011: 420).

**Records. USA:** TX – Mexico

***Pseudaptinus pygmaeus* (Dejean, 1826)**

*Helluo pygmaeus* Dejean, 1826: 460. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 22).

**Distribution.** This species ranges from southeastern Virginia (Davidson 1995: 18) to eastern Missouri (Anonymous 2007), south to southern Texas (Johnson 1978: 68) and central Florida (Peck and Thomas 1998: 25); also recorded from Cuba (Liebke 1934: 373; Peck 2005: 39).

**Records. USA:** AL, AR, FL, GA, LA, MO, MS, NC, OK, SC, TN, TX, VA – Cuba

***Pseudaptinus rufulus* (LeConte, 1851)**

*Enaphorus rufulus* LeConte, 1851: 174. Type locality: «San Jose [Santa Clara County, California]» (original citation). Two syntypes in MCZ [# 60].



**Distribution.** This species ranges from southeastern Oregon (LaBonte 1996: 357) to the Baja California Peninsula (Horn 1897: 367) and southern Arizona (Maricopa and Pima Counties, MCZ); its is also known from western Texas (El Paso and Brewster Counties, Robert L. Davidson pers. comm. 2012).

**Records. USA:** AZ, CA, OR, TX – Mexico

### Tribe GALERITINI Kirby, 1825

Galeritae Kirby, 1825: 564. Type genus: *Galerita* Fabricius, 1801. NOTE. This family-group name is a homonym of Galeritidae Gray, 1825 (based on *Galerites* Lamark, 1801), a valid family of fossil Echinodermata.

**Diversity.** Worldwide (though not represented in Europe), with about 130 species (Lorenz 2005: 507-509, as Planetina and Galeritini). The group is underrepresented in the Northern Hemisphere with only 17 species (about 12.5% of the world fauna). Two subtribes are recognized: Galeritina (about 105 species) and Planetina (27 species in the Eastern Hemisphere).

### Subtribe GALERITINA Kirby, 1825

Galeritidae Kirby, 1825: 564. Type genus: *Galerita* Fabricius, 1801.

Galeritinini Jeannel, 1949a: 1057. Type genus: *Galeritina* Jeannel, 1949 (= *Galerita* Fabricius, 1801). NOTE. This name has been placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology (ICZN 1968: 98).

Galeritulini Jedlička, 1963: 279. Type genus: *Galeritula* Strand, 1936 (= *Galerita* Fabricius, 1801). NOTE. This name has been placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology (ICZN 1968: 98).

**Diversity.** About 105 species in the temperate, subtropical, and tropical areas of the Nearctic (eight species of *Galerita*), Neotropical (64 species), Oriental (seven species of *Galerita*), Palaearctic (five species of *Galerita*), and Afrotropical (31 species) Regions. The species are placed in four genera: *Ancystroglossus* Chaudoir (six Neotropical species), *Eunostus* Laporte (14 Afrotropical species), *Galerita* (82 species), and *Trichognathus* Latreille (one Neotropical species).

### Genus GALERITA Fabricius, 1801

*Galerita* Fabricius, 1801: 214. Type species: *Carabus americanus* Linnaeus, 1758 designated by Latreille (1810: 426). Etymology. Uncertain, most likely from the Latin adjective *galeritus*, -a, -um (wearing a hood) but possibly also from the Greek *galeros* (cheerful) [feminine]. According to Latreille (1804: 260), the name *galerite* was used formerly to designate a bird or a fish with some kind of crest. NOTE. The name *Galerita* Gouan, 1770 has been suppressed for the purposes of the Principles of Priority and Homonymy and the name *Galerita* Fabricius, 1801 placed on the Official List of Generic Names in Zoology (ICZN 1968: 98).

*Galeritula* Strand, 1936: 168. Replacement name for *Galerita* Fabricius, 1801.

*Galeritina* Jeannel, 1949a: 1057. Replacement name for *Galerita* Fabricius, 1801.

**Diversity.** Eighty-two species in the Western Hemisphere (58 species) and the Old World (24 species) currently arrayed in two subgenera, both represented in the Nearctic Region. Only eight species are found in North America and a single one (*G. bicolor*) is endemic.

**Identification.** Reichardt (1967) revised the Western Hemisphere species and provided keys for their identification.

### Subgenus *Progaleritina* Jeannel, 1949

*Progaleritina* Jeannel, 1949a: 1058. Type species: *Carabus janus* Fabricius, 1792 by original designation. Etymology. From the Latin prefix *pro-* (before) and the generic name *Galeritina* [*q.v.*] [feminine].

**Diversity.** Seven species in North America (seven species), Middle America (six species), and the West Indies (one species).

**Identification.** Subsequent to Reichardt's (1967) revision, Ball and Nimmo (1983) published a synopsis of the species of *Progaleritina* leading to two new species-group taxa (*G. reichardti* and *G. lecontei veracruzis*) and subspecific status for two of Reichardt's species (*G. tenebricosa* Klug and *G. bicoloripes* Reichardt).

### *Galerita atripes* LeConte, 1858

*Galerita atripes* LeConte, 1858b: 59. Type locality: «Fort Riley [junction of Republican and Smoky Hill Rivers], Kansas» (original citation). Lectotype (♂), designated by Reichardt (1967: 28), in MCZ [# 5793].

*Galerita decipiens* G.H. Horn, 1885a: 131. Type locality: «Arizona» (original citation). Lectotype (♀), designated by Reichardt (1967: 28), in MCZ [# 34500]. Synonymy established by Reichardt (1967: 28).

**Distribution.** This species is known from southeastern Louisiana (Saint Tammany Parish, Igor M. Sokolov pers. comm. 2009), Missouri, southeastern Nebraska (Nemaha County, Foster F. Purrington pers. comm. 2011), eastern Kansas (Popenoe 1877: 23; Horn 1872c: 385), eastern Texas, several mountain ranges in southern Arizona, and from the Sierra Huachinera of eastern Sonora and western Chihuahua in northern Mexico [see Ball and Nimmo 1983: Fig. 10]; it is also listed from "Oklahoma" by Arnold (2008). The record from eastern Iowa (Wickham 1911b: 7) needs confirmation.

**Records.** USA: AZ, KS, LA, MO, NE, OK, TX [IA] – Mexico

### *Galerita bicolor* (Drury, 1773)

*Carabus bicolor* Drury, 1773: [index]. Type locality: «Virginie» (original citation, see Drury 1770: 95). Syntype(s) lost (Reichardt 1967: 41).

*Galerita longicollis* Chaudoir, 1843b: 700. Type locality: «environs de la Nouvelle Orléans [Orleans Parish, Louisiana]» (original citation). Lectotype (♂), designated by Reichardt (1967: 41), in MHNP. Synonymy established by LeConte (1863b: 5), confirmed by Reichardt (1967: 41).

*Galerita dubia* LeConte, 1844: 48. Type locality: «Georgia» (original citation). Lectotype [as type] (♂), designated by Reichardt (1967: 41), in MCZ [# 5794]. Synonymy established by LeConte (1863b: 5), confirmed by Reichardt (1967: 41).

*Galerita bicolor obliqua* Casey, 1897: 350. Type locality: «Lake Worth [Palm Beach County], Florida» (original citation). Two syntypes in USNM [# 47582]. Synonymy established by Reichardt (1967: 41).

*Galerita bicolor iowensis* Casey, 1920: 230. Type locality: «Iowa» (original citation). One syntype in USNM [# 47580]. Synonymy established by Reichardt (1967: 41).

*Galerita bicolor rhombiceps* Casey, 1920: 230. Type locality: «Indiana» (original citation). One syntype in USNM [# 47579]. Synonymy established by Reichardt (1967: 41).

**Distribution.** The range of this eastern species extends from Rhode Island (Sikes and Webster 2005: 317) to southeastern South Dakota (Kirk and Balsbaugh 1975: 39), south to southeastern Texas and southern Florida [see Ball and Nimmo 1983: Fig. 14].

**Records. USA:** AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, NJ, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, WI, WV

### *Galerita forreri* Bates, 1883

*Galerita forreri* Bates, 1883a: 165. Type locality: «Presidio [either the Río Presidio or the village on the river, Sinaloa], Mexico» (original citation). Lectotype (♀), designated by Reichardt (1967: 37), in BMNH.

**Distribution.** This species ranges from southern Arizona southwards along the Pacific Coast to Guerrero [see Ball and Nimmo 1983: Fig. 7].

**Records. USA:** AZ – Mexico

### *Galerita janus* (Fabricius, 1792)

*Carabus janus* Fabricius, 1792: 136. Type locality: «Carolina» (original citation). Lectotype (♂), designated by Lindroth (1969a: 1093), in ZMUC.

*Galerita cyanipennis* Dejean, 1831: 293. Type locality: «Amérique septentrionale» (original citation). Lectotype (♂), designated by Reichardt (1967: 24), in MHNP. Synonymy established by Mannerheim (1843: 183), confirmed by Lindroth (1955b: 22).

*Galerita borealis* Laporte, 1840: 35. Type locality: «Amérique boréale» (original citation). Syntype(s) probably in MHNP (collection Oberthür). Synonymy established by Reichardt (1967: 24).

*Galerita cordicollis* Chaudoir, 1843b: 699. Type locality: environs de Nouvelle Orleans [Orleans Parish, Louisiana] (lectotype label according to Reichardt 1967: 24). Lectotype (♂), designated by Reichardt (1967: 24), in MHNP. Synonymy established by Melsheimer (1853: 3), confirmed by Reichardt (1967: 24).

*Galerita thoracica* Casey, 1897: 350 [primary homonym of *Galerita thoracica* Chevrolat, 1834]. Type locality: «Florida» (original citation). One syntype in USNM [# 47578]. Synonymy established by Reichardt (1967: 24).

*Galerita bicolor intermedia* Casey, 1897: 351 [primary homonym of *Galerita intermedia* Fairmaire, 1887]. Type locality: «Iowa» (original citation). Holotype [by monotypy] (♂) in USNM [# 47577]. Synonymy established by Reichardt (1967: 24).

*Galerita caseyi* Leng, 1919b: 203. Replacement name for *Galerita thoracica* Casey, 1897.

*Galerita angusticeps* Casey, 1920: 227. Type locality: «S[ain]t Louis, Missouri» (original citation). Lectotype (♂), designated by Bousquet and Laroche (1993: 14), in USNM [# 47586]. Synonymy established by Bousquet and Laroche (1993: 14).

*Galerita occipitalis* Casey, 1920: 228. Type locality: «Boston Neck [Washington County], Rhode Island» (original citation). One syntype in USNM [# 47576]. Synonymy established by Reichardt (1967: 24).

*Galerita caseyi* Liebke, 1928: 129 [primary homonym of *Galerita caseyi* Leng, 1919]. Replacement name for *Galerita intermedia* Casey, 1897.

*Galerita ahasverus* Liebke, 1929: 297. Replacement name for *Galerita caseyi* Liebke, 1928.

**Distribution.** This species is found from southern Quebec to southeastern South Dakota, north to southern Manitoba (Bousquet 1987a: 134), south to east-central Texas and central Florida; isolated populations are known from southwestern New Mexico (Grant County, Robert L. Davidson pers. comm. 2008), southeastern Arizona, and Chihuahua in Mexico [see Ball and Nimmo 1983: Fig. 10].

**Records.** CAN: MB, ON, QC USA: AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV – Mexico

### *Galerita lecontei lecontei* Dejean, 1831

*Galerita lecontei* Dejean, 1831: 294. Type locality: «Amérique septentrionale» (original citation), herein restricted to Port Arthur, Jefferson County, Texas (see Reichardt 1967: 32). Lectotype (♂), designated by Reichardt (1967: 31), in MHNP.

*Galerita californica* Mannerheim, 1843: 183. Type locality: «California» (original citation). Syntype(s) location unknown (possibly in ZMH). Synonymy established by LeConte (1879c: 61).

*Galerita infirma* Casey, 1897: 350. Type locality: «Yuma [Yuma County], Arizona» (original citation). One syntype in USNM [# 47585]. Synonymy established by Reichardt (1967: 31).

*Galerita crinicornis* Casey, 1920: 229. Type locality: «near El Paso [El Paso County], Texas» (original citation). One syntype in USNM [# 47581]. Synonymy established by Reichardt (1967: 31).

*Galerita californica arizonica* Casey, 1920: 231. Type locality: «Arizona and Texas» (original citation). Three syntypes in USNM [# 47583]. Synonymy established by Reichardt (1967: 31).

**Distribution.** The range of this subspecies is disjunct: there is an eastern component ranging from Virginia to southwestern Kentucky (Trigg County, Foster F. Purrington pers. comm. 2011) southwards to southern Florida and South Bimini Island in the Bahamas, westwards to eastern Texas; the western population ranges from central California southeastwards to the state of Durango in Mexico [see Ball and Nimmo 1983: Fig. 17]. The record from east-central Missouri (Summers 1873: 133) needs confirmation.

**Records. USA:** AL, AR, AZ, CA, FL, GA, KY, LA, MS, NC, NM, SC, TN, TX, VA [MO] – Bahamas, Mexico

**Note.** The subspecies *G. lecontei bicoloripes* Reichardt is found in central Mexico, that of *G. lecontei veracruzis* Ball and Nimmo along the Gulf states of Mexico, and that of *G. lecontei tenebricosa* Klug in several islands of the Greater Antilles.

### *Galerita mexicana* Chaudoir, 1872

*Galerita mexicana* Chaudoir, 1872b: 103. Type locality: «Mexique» (original citation), herein restricted to Ciudad Victoria, Tamaulipas (see Reichardt 1967: 29). Lectotype (♀), designated by Reichardt (1967: 29), in MHNP.

*Galerita melanopus* Casey, 1920: 232. Type locality: «Amarillo [Potter County], Texas» (original citation). One syntype in USNM [# 47584]. Synonymy established by Reichardt (1967: 29).

**Distribution.** This species ranges from southeastern Nebraska (Lancaster County, Foster F. Purrington pers. comm. 2011) to south-central Arizona, south to Costa Rica [see Ball and Nimmo 1983: Fig. 12].

**Records. USA:** AZ, KS, NE, NM, OK, TX – Costa Rica, El Salvador, Guatemala, Honduras, Mexico

### *Galerita reichardti* Ball and Nimmo, 1983

*Galerita reichardti* Ball and Nimmo, 1983: 304. Type locality: «3.5 km e[ast] Jaltipan, Veracruz, Mexico» (original citation). Holotype (♂) in USNM. Etymology. The specific name was proposed for Hans Reichardt [1939-1976], Brazilian taxonomist with an interest in the South American carabid fauna. Reichardt tragically died in a car accident.

**Distribution.** This species is known from a few localities from eastern Texas southwards along the Gulf and Caribbean Coasts to Honduras [see Ball and Nimmo 1983: Fig. 7].



**Records. USA:** TX – Honduras, Mexico

**Subgenus *Galerita* Fabricius, 1801**

*Galerita* Fabricius, 1801: 214. Type species: *Carabus americanus* Linnaeus, 1758 designated by Latreille (1810: 426).

**Diversity.** Seventy-five species in the Western Hemisphere (51 species) and the Old World (24 species). One Neotropical species extends into southern Texas.

***Galerita aequinoctialis* Chaudoir, 1852**

*Galerita aequinoctialis* Chaudoir, 1852: 37 (as *aeguinoctialis*). Type locality: «Mexique» (original citation), herein restricted to Jalapa Enríquez, Veracruz (see Reichardt 1967: 90). Syntype(s) probably in MHNP. NOTE. The fact that Chaudoir's name is spelled *aeguinoctialis* in "Table des Matières" of the original publication (page 103) should be regarded as a clear indication of an inadvertent error in the original spelling *aeguinoctialis* (page 37).

**Distribution.** This species ranges from the Rio Grande in southeastern Texas south to Colombia (Martínez 2003: 7) [see Reichardt 1967: Fig. 76]. The record from "Arkansas" (Bousquet and Laroche 1993: 285) is in error.

**Records. USA:** TX – Colombia, Mexico, Panama

**Tribe HELLUONINI Hope, 1838**

Helluonidae Hope, 1838: 110. Type genus: *Helluo* Bonelli, 1813.

**Diversity.** Worldwide (though absent from Europe) with about 180 species (Lorenz 2005: 510-512) arrayed in 26 genera: five of these genera (about 60 species) are represented in the Western Hemisphere and 21 (about 120 species) in the Eastern Hemisphere. The group is underrepresented in the Northern Hemisphere with 14 species (about 8% of the world fauna), only five of them being endemic (about 3%). Two subtribes are recognized: Helluonina, with 40 species in the Australian Region, and Omphrina with about 140 species.

**Subtribe OMPHRINA Jedlička, 1941**

Omphrini Jedlička, 1941: 6, 26. Type genus: *Omphra* Dejean, 1825.

Helluomorphina Reichardt, 1974: 224, 226. Type genus: *Helluomorpha* Laporte, 1834.

**Diversity.** About 140 species in the Nearctic (seven species of *Helluomorphoides*), Neotropical (about 55 species), Australian (two species of *Creagris* Nietner, one of them endemic), Oriental (27 species), Palearctic (seven Asian species but only two endemic, both in the Middle East), and Afrotropical (about 50 species) Regions.

## Genus *HELLUOMORPHOIDES* Ball, 1951

*Helluomorphoides* Ball, 1951: 136. Type species: *Helluomorpha texana* LeConte, 1853 by original designation. Etymology. From the generic name *Helluomorpha* and the Greek suffix *-oides* (resembling, having the form of), alluding to the resemblance of adults to those of *Helluomorpha* [masculine].

**Diversity.** Twenty-three species in temperate, subtropical, and tropical areas of the Nearctic (seven species) and Neotropical (20 species) Regions.

**Identification.** Ball (1956a) revised the North American species. The taxonomy and nomenclature of these species have not changed since.

### *Helluomorphoides clairvillei* (Dejean, 1831)

*Helluo clairvillei* Dejean, 1831: 406. Type locality: «Amérique septentrionale» (original citation), herein restricted to Lucedale, George County, Mississippi (see Lindroth 1955b: 25). One syntype in MHNP.

**Distribution.** This species is found along the Coastal Plain and Piedmont from southern New Jersey to southern Florida (Peck and Thomas 1998: 25), west to southeastern Mississippi (Ball 1956a: 85, Fig. 34). The record from south-central Kansas (Knaus 1901: 110) is probably in error.

**Records. USA:** AL, FL, GA, MS, NC, NJ, SC

### *Helluomorphoides ferrugineus* (LeConte, 1853)

*Helluomorpha ferruginea* LeConte, 1853c: 373. Type locality: «Texas» (original citation), herein restricted to Brownsville, Cameron County (see Ball 1956a: 77). Lectotype [as type], designated by Ball (1956a: 78), in MCZ [# 5838].

*Helluomorpha languida* Casey, 1913: 190. Type locality: «Brownsville [Cameron County], Texas» (original citation). Four syntypes [4 originally cited] in USNM [# 47589]. Synonymy established by Ball (1956a: 75).

**Distribution.** This species ranges from New Jersey (Smith 1890: 90; Smith 1910: 212) to northwestern South Carolina (Ciegler 2000: 130), west to the Baboquivari Mountains in southern Arizona, north to southwestern Utah (Washington County, CMNH) and northeastern Kansas, south to Sinaloa in Mexico (Ball 1956a: 78). The records from New York City and vicinity (Leng and Beutenmüller 1893: 143) and “Florida” (Leng 1920: 67) need confirmation.

**Records. USA:** AL, AR, AZ, GA, KS, NC, NJ, NM, OK, SC, TX, UT, VA [FL, NY] – Mexico

### *Helluomorphoides latitarsis* (Casey, 1913)

*Helluomorpha latitarsis* Casey, 1913: 189. Type locality: «Arizona» (original citation), herein restricted to Baboquivari Mountains, Pima County (see Ball 1956a: 83). Lectotype [as type] (♂), designated by Ball (1956a: 84), in USNM [# 47590].

**Distribution.** This species is found from western Texas to south-central Arizona, south at least to Durango in Mexico (Ball 1956a: 84, Fig. 34). The record from “Oklahoma” (Arnold 2008) needs confirmation.

**Records. USA:** AZ, NM, TX [OK] – Mexico

***Helluomorphoides nigripennis* (Dejean, 1831)**

*Helluo nigripennis* Dejean, 1831: 408. Type locality: «Amérique septentrionale» (original citation), herein restricted to Raleigh, Wake County, North Carolina (CNC). Two possible syntypes in MHNP (Lindroth 1955b: 25).

**Distribution.** This species is found from Massachusetts to west-central Georgia (Fattig 1949: 41), west to eastern Texas (Ball 1956a: 75), and north to central Illinois (Purrlington et al. 2002: 200) and western Michigan (Newaygo County, CMNH).

**Records. USA:** AL, AR, DC, GA, IL, LA, MA, MD, MI, MS, NC, NJ, NY, OK, SC, TX, VA

***Helluomorphoides papago* (Casey, 1913)**

*Helluomorpha papago* Casey, 1913: 190. Type locality: «Arizona» (original citation), herein restricted to Ramsey Canyon, 15 miles south Sierra Vista, Cochise County (CNC). Lectotype [as type] (♂), designated by Ball (1956a: 86), in USNM [# 47588].

**Distribution.** This species ranges from the mountains of southern Arizona to southwestern Texas, south at least to Durango (Ball 1956a: 86, Fig. 34).

**Records. USA:** AZ, TX – Mexico

***Helluomorphoides praeustus bicolor* (Harris, 1828)**

*Zuphium bicolor* T.W. Harris, 1828b: 117. Type locality: «vicinity of Salem [Essex County, Massachusetts]» (original citation). Holotype [by monotypy] (♂) in MCZ [# 28191].

*Helluo laticornis* Dejean, 1831: 407. Type locality: «Amérique septentrionale» (original citation). Holotype [by monotypy] presumably lost (Lindroth 1955b: 25). Synonymy established by LeConte (1863b: 5).

*Helluo pubescens* Klug, 1834: 77. Type locality not stated. Syntype(s) location unknown. Synonymy established by LeConte (1879c: 61).

**Distribution.** This subspecies occurs from southeastern New Hampshire (Cooper 1976: 165) to southeastern Wyoming (Platte County, CMNH) and northern Colorado (Ball 1956a: Fig. 33), south to Oklahoma (French et al. 2001: 228; Grady County, CMNH), west-central Arkansas (Garland County, Robert L. Davidson pers. comm. 2012), and northeastern Georgia (Fattig 1949: 42). The record from southwestern Alabama (Löding 1945: 23) needs confirmation.

**Records. USA:** AR, CO, CT, DC, DE, GA, IA, IL, IN, KS, MA, MD, MI, MN, MO, ND, NE, NH, NJ, NY, OH, OK, PA, SD, TN, VA, WI, WV, WY [AL]

***Helluomorphoides praeustus floridanus* Ball, 1956**

*Helluomorphoides praeustus floridanus* Ball, 1956a: 80. Type locality: «Ormond, Volusia County, Florida» (original citation). Holotype (♂) in USNM [# 75438].

**Distribution.** This subspecies is endemic to the Florida Peninsula (Peck and Thomas 1998: 25).

**Records. USA:** FL

***Helluomorphoides praeustus praeustus* (Dejean, 1825)**

*Helluo praeustus* Dejean, 1825: 289. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Lindroth 1955b: 25).

**Distribution.** This subspecies is known for sure only from Mississippi (Harrison and Lafayette Counties, Drew A. Hildebrandt pers. comm. 2008), “New Jersey,” and “Alabama” (Ball 1956a: 79) where Löding (1945: 23) recorded it from Colbert and Mobile Counties. The record from southwestern Ohio (Blatchley 1910: 155) is probably in error; those from Sand Point and Tampa in Florida (Leng 1915: 589) need confirmation.

**Records. USA:** AL, NJ, MS [FL]

***Helluomorphoides texanus* (LeConte, 1853)**

*Helluomorpha texana* LeConte, 1853c: 374. Type locality: «Texas» (original citation), herein restricted to Tyler, Smith County (CNC). Holotype [by monotypy] (♂) in MCZ [# 5837].

**Distribution.** This species ranges from southwestern Kentucky (Trigg County, Foster F. Purrington pers. comm. 2010) and central Tennessee to southeastern New Mexico (Lea and Chaves Counties, CMNH), north to southwestern Iowa (Fremont County, Doug A. Veal pers. comm. 2009) and southeastern Nebraska (Jefferson County, Foster F. Purrington pers. comm. 2010), south to northeastern Mexico (Ball 1956a: 82–83, Fig. 34) and southwestern Georgia (Fattig 1949: 42). The records from southern Arizona (Snow 1907: 142) and Indiana (Blatchley 1910: 156) need confirmation.

**Records. USA:** AL, AR, CO, GA, IA, KS, KY, MO, MS, NE, NM, OK, TN, TX [AZ, IN] – Mexico

**Tribe PSEUDOMORPHINI Hope, 1838**

Pseudomorphidae Hope, 1838: 108 (as Heteromorphidae). Type genus: *Pseudomorpha* Kirby, 1823 (as *Heteromorpha* Kirby, 1823). NOTE. This family-group name is based on an incorrect original spelling of the name of its type genus (*Heteromorpha*) and must be corrected (ICZN 1999: Article 35.4.1). Therefore Heteromorphidae is corrected to Pseudomorphidae Hope, 1838.

**Diversity.** About 325 species (Lorenz 2005: 388–390) in the Western Hemisphere (35 species) and the Australian (285 species, close to 90% of the world fauna), Oriental





**Figure 43.** *Pseudomorpha* sp. Members of *Pseudomorpha* are among the most unusual North American carabids. The body shape of the adults is very characteristic. In addition, contrary to other Nearctic carabids that lay eggs, they are ovoviviparous. The females carry hatched larvae in their bursa copulatrix, vagina, and lateral oviducts. Such behavior probably greatly reduces egg mortality.



(four species of *Cryptocephalomorpha*), and Afrotropical (one species of *Cryptocephalomorpha* in South Africa) Regions. These species are arrayed in 12 genera: *Adelotopus* Hope (123 Australian species), *Cainogenion* Notman (11 Australian species), *Cryptocephalomorpha* Ritsema (seven species in the Eastern Hemisphere), *Manumorpha* Erwin and Geraci (one South American species), *Notopseudomorpha* Baehr (two species in South America), *Paussotropus* Waterhouse (one Australian species), *Procaionogenion* Baehr (one Australian species), *Pseudomorpha* (30 species), *Samiriamorpha* Erwin and Geraci (one species in Peru), *Sphallomorpha* Westwood (145 Australian species), *Tuxtlamorpha* Erwin and Geraci (one species in Middle America), and *Yasunimorpha* Erwin and Geraci (one species from Ecuador).

### Genus *PSEUDOMORPHA* Kirby, 1823

*Pseudomorpha* Kirby, 1823a: 98. Type species: *Pseudomorpha excrucians* Kirby, 1823 by monotypy. Etymology. From the Greek *pseudos* (fallacy, lie) and *morphe* (form), probably alluding to the fact that the shape of the adult is completely different from that of other Carabidae (“though it exhibits the characters, has not the aspect, of that tribe [i.e., Carabi]”) [feminine]. NOTE. Kirby (1823a) originally used two different names for this taxon, *Pseudomorpha* (in the description on page 98) and *Heteromorpha* (in the explanation of the figures on page 109). Both names are considered different original spellings of the same name. Kirby reissued the paper later the same year in another journal, without the plate, and so only *Pseudomorpha* was used. As such, Kirby (1823b) is the “First Reviser” and *Pseudomorpha* is the correct original spelling (ICZN 1999: Article 24.2.4).

*Axinophorus* Dejean [in Dejean and Boisduval], 1829: 60. Type species: *Axinophorus lecontei* Dejean, 1829 (= *Pseudomorpha excrucians* Kirby, 1823) designated by Notman (1925: 30). Etymology (original). From the Greek *axine* (ax) and *phero* (to carry), alluding to the markedly securiform last labial palpomere (“*dernier article ... des labiaux très fortement sécuriforme*”) of the adult [masculine].

*Drepanus* Dejean, 1831: 434. Type species: *Axinophorus lecontei* Dejean, 1829 (= *Pseudomorpha excrucians* Kirby, 1823) designated by Hope (1838: 109). Etymology. Uncertain, possibly from the Greek *drepane* (sickle, scimitar), or from Drepanum, the old name of the city of Trapani, in Sicily, or from Drepanus the surname of Saturne [masculine]. NOTE. This name was first used, but not made available, by Illiger (1807: 344).

**Diversity.** Thirty species in temperate, subtropical, and tropical areas of the Western Hemisphere (30 species) and southern Australia (three species) arrayed in two subgenera: *Pseudomorpha* (27 species) and *Austropseudomorpha* Baehr (three Australian species). The North American fauna has 19 known species (57.5% of the world fauna).

**Taxonomic Note.** According to Baehr (1994: Fig. 1), *Pseudomorpha* is the sister-group to a clade including *Adelotopus* Hope, *Cainogenion* Notman, *Paussotropus* Waterhouse, and *Cryptocephalomorpha* Ritsema.

**Subgenus *Pseudomorpha* Kirby, 1823**

*Pseudomorpha* Kirby, 1823a: 98. Type species: *Pseudomorpha excrucians* Kirby, 1823 by monotypy.

**Diversity.** Twenty-seven species in the Western Hemisphere.

**Identification.** Notman (1925) published a key to all species known at the time except *P. ruficollis* described the previous year. Since then, two new North American species have been described by Van Dyke (1943, 1953a). Species identification of the Nearctic fauna is almost impossible without recourse to type material. A thorough revision is needed.

***Pseudomorpha alleni* Van Dyke, 1953**

*Pseudomorpha alleni* Van Dyke, 1953a: 99. Type locality: «Tuba City [Coconino County], Arizona» (original citation). Holotype (♂) in CAS [# 8166].

**Distribution.** This species is known only from the type locality in northern Arizona.

**Records. USA:** AZ

***Pseudomorpha alutacea* Notman, 1925**

*Pseudomorpha alutacea* Notman, 1925: 17. Type locality: «Mesilla [Dona Ana County], New Mexico» (original citation). Holotype (♀) in USNM [# 26171].

**Distribution.** This species is known only from the type locality in southern New Mexico.

**Records. USA:** NM

***Pseudomorpha augustata* Horn, 1883**

*Pseudomorpha augustata* G.H. Horn, 1883b: 274. Type locality: «Arizona» (original citation). Syntype(s) in MCZ [# 7383].

**Distribution.** This species is known from central and southern Arizona (Griffith 1900: 566; Notman 1925: 22) and southwestern New Mexico (Fall and Cockerell 1907: 162; Notman 1925: 22).

**Records. USA:** AZ, NM

***Pseudomorpha behrensi* Horn, 1870**

*Pseudomorpha behrensi* G.H. Horn, 1870a: 76. Type locality: United States (inferred from title of the paper). Holotype [by monotypy] in MCZ [# 7382]. Etymology. The specific name honors James H. Behrens [1824-1898], an insect collector in San Francisco who sent many beetles from the western part of the continent to LeConte and Horn. Born in Germany, Behrens was elected resident member of the California Academy of Sciences. A few years prior to his death, he sent his collection to the Naturhistorisches Museum in Lübeck.

**Distribution.** This species has been cited from Butte County in southeastern Idaho (Stafford et al. 1986: 289), Churchill County in western Nevada (Bechtel et al. 1983: 474), Contra Costa County (Notman 1925: 21) and the San Joaquin Valley (Fall 1901a: 51) in California, and the state of Durango (Bates 1883a: 255) in Mexico.

**Records. USA:** CA, ID, NV – Mexico

***Pseudomorpha castanea* Casey, 1909**

*Pseudomorpha castanea* Casey, 1909: 278. Type locality: «Stockton [Tooele County], Utah» (original citation). Syntype(s) in USNM.

**Distribution.** This species is known from southeastern Oregon (Hatch 1953: 187), Sacramento County in California, and northwestern Utah (Notman 1925: 22).

**Records. USA:** CA, OR, UT

***Pseudomorpha champlaini* Notman, 1925**

*Pseudomorpha champlaini* Notman, 1925: 20. Type locality: «Paradise [Cochise County], Arizona» (original citation). Holotype (♂) in USNM [# 26173]. Etymology. The specific name was proposed for Alfred B. Champlain [1882-1957], entomologist for the U.S. Bureau of Entomology.

**Distribution.** This species is known from southeastern Arizona (Notman 1925: 20). The record from “California” (Csiki 1933a: 1638) needs confirmation.

**Records. USA:** AZ [CA]

***Pseudomorpha consanguinea* Notman, 1925**

*Pseudomorpha consanguinea* Notman, 1925: 18. Type locality: «Morena Dam, San Diego County, California» (original citation). Holotype (♂) in MCZ [# 27143].

**Distribution.** This species is known from San Diego County in southwestern California and Yavapai County in central Arizona (Notman 1925: 19).

**Records. USA:** AZ, CA

***Pseudomorpha cronkhitei* Horn, 1867**

*Pseudomorpha cronkhitei* G.H. Horn, 1867b: 151. Type locality: «Owen’s Valley [Inyo County], California» (original citation). Syntype(s) [3 originally cited] in MCZ [# 7381].

**Distribution.** This species is known from Inyo (Horn 1867b: 151) and Tulare (Notman 1925: 21) Counties in California.

**Records. USA:** CA

***Pseudomorpha cylindrica* Casey, 1889**

*Pseudomorpha cylindrica* Casey, 1889: 40. Type locality: «El Paso [El Paso County], Texas» (original citation). Holotype [by monotypy] (♂) in USNM.

**Distribution.** This species is known only from the type locality in westernmost Texas.

**Records. USA:** TX

***Pseudomorpha excrucians* Kirby, 1823**

*Pseudomorpha excrucians* Kirby, 1823a: 101. Type locality: «in Georgiae forsan aquaticis?» (original citation). One syntype in BMNH (Erwin and Geraci 2008: 84).

*Axinophorus lecontei* Dejean [in Dejean and Boisduval], 1830: 176. Type locality: «Amérique septentrionale» (original citation). One syntype in MHNP (Erwin and Geraci 2008: 85). Synonymy established with doubt by Dejean (1831: 435), confirmed by Erwin and Geraci (2008: 85).

*Pseudomorpha ruficollis* Casey, 1924: 148. Type locality: «Covington [Saint Tammany Parish], Louisiana» (original citation). One syntype in USNM [# 48078]. Synonymy established by Erwin and Geraci (2008: 84).

**Distribution.** This Coastal Plain species is found from northern South Carolina (Ciegler 2000: 130) to Louisiana (Notman 1925: 22; Erwin and Geraci 2008: 85).

**Records. USA:** AL, GA, LA, MS, SC

***Pseudomorpha falli* Notman, 1925**

*Pseudomorpha falli* Notman, 1925: 15. Type locality: «Jacumba, San Diego County, California» (original citation). Holotype (♂) in MCZ [# 27142].

**Distribution.** This species is known only from the holotype collected in southwestern California.

**Records. USA:** CA

***Pseudomorpha hubbardi* Notman, 1925**

*Pseudomorpha hubbardi* Notman, 1925: 15. Type locality: «Rincon Mountains [Pima County], Arizona» (original citation). Holotype (♂) in SIM (Hennessey 1990: 466).

**Distribution.** This species is known from Pima, Pinal (Notman 1925: 15), and Cochise (MCZ) Counties in southern Arizona.

**Records. USA:** AZ

***Pseudomorpha parallela* Van Dyke, 1943**

*Pseudomorpha parallela* Van Dyke, 1943: 30. Type locality: «Warners, San Diego County, California» (original citation). Holotype (♂) in CAS [# 5315].

**Distribution.** This species is known from southern California (Van Dyke 1943: 30; Andrews et al. 1979: 28).

**Records. USA:** CA

***Pseudomorpha schwarzi* Notman, 1925**

*Pseudomorpha schwarzi* Notman, 1925: 21. Type locality: «Santa Rita Mountains, Arizona» (original citation). Holotype (♂) in USNM [# 26174]. Etymology. The specific name was proposed for Eugene Amandus Schwarz [1844–1928], entomologist at the U.S. Department of Agriculture with a specialization in the taxonomy of Coleoptera, especially the more obscure groups.

**Distribution.** This species is known only from the holotype collected in southern Arizona.

**Records. USA:** AZ

***Pseudomorpha tenebroides* Notman, 1925**

*Pseudomorpha tenebroides* Notman, 1925: 16. Type locality: «Tucson [Pima County], Arizona» (original citation). Holotype (♂) in USNM [# 26170].

**Distribution.** This species is known only from the holotype collected in southern Arizona.

**Records. USA:** AZ

***Pseudomorpha vandykei* Notman, 1925**

*Pseudomorpha van dykei* Notman, 1925: 18. Type locality: «Santa Cruz Village (about 3,100 feet), Cobabi Mountains [= Ko Vaya Hills, Pima County], Arizona» (original citation). Holotype (♀) in AMNH [# 334].

**Distribution.** This species is known only from the holotype collected in southern Arizona.

**Records. USA:** AZ

***Pseudomorpha vicina* Notman, 1925**

*Pseudomorpha vicina* Notman, 1925: 17. Type locality: «Jacumba, San Diego County, California» (original citation). Holotype (♂) in MCZ [# 27141].

**Distribution.** This species has been reported from San Diego County in southwestern California and Lyon County in west-central Nevada (Notman 1925: 18).

**Records. USA:** CA, NV

***Pseudomorpha vindicata* Notman, 1925**

*Pseudomorpha vindicata* Notman, 1925: 19. Type locality: «Stockton [Tooele County], Utah» (original citation). Holotype (♂) in SIM (Hennessey 1990: 466).

**Distribution.** This species is known only from the holotype collected in northwestern Utah.

**Records. USA:** UT



## Acknowledgments

Several persons have contributed to this catalogue. Thomas C. Barr, Jr., Ross T. and Joyce Bell, James C. Bergdahl, Eric van den Berghe, Sydney G. Cannings, Donald S. Chandler, Robert L. Davidson, Garry A. Dunn, Kamal J.K. Gandhi, Vince Golia, Gerald J. Hilchie, Drew A. Hildebrandt, Richard L. Hoffman, Ronald R. Hooper, Ken Karns, David H. Kavanaugh, William L. Krinsky, James R. LaBonte, Paul K. Lago, David W. Langor, Serge Laplante, André Larochelle, Kirk J. Larsen, Harry J. Lee, Jr., David R. Maddison, Christopher G. Majka, Peter W. Messer, Steve Nanz, Robert E. Nelson, Darren A. Pollock, Foster F. Purrington, Brian Raber, Edward G. Riley, Donald P. Schwert, Derek S. Sikes, Igor M. Sokolov, Doug A. Veal, and Reginald P. Webster provided many new state or province records. George E. Ball, Robert L. Davidson, Serge Laplante, David R. Maddison, and Gerald R. Noonan granted permission to include unpublished nomenclatural findings (new synonymies) from their research. Philip D. Perkins and Hans Silfverberg provided information on T.W. Harris' and Mannerheim's collections respectively, Robert E. Acciavatti, George E. Ball, Shawn M. Clark, Lee H. Herman, Fritz Hieke, Stuart Hine, and Bernd Jaeger information on type specimens, and Shun-Ichi Uéno information about K. Shirahata. Nadine Dupérré provided label data of a holotype housed at AMNH and information from books and journals available at the AMNH. Paul Skelley and Boris Kataev sent photocopies of pages of books housed in the Division of Plant Industry Library (FSCA) and the Zoological Museum of Moscow University Library respectively. Warren E. Steiner, Jr. and Terry L. Erwin, Robert L. Davidson, and Philip D. Perkins assisted by arranging visits I made in 2008 to collections at the USNM, CMNH, and MCZ respectively. George E. Ball reviewed the manuscript section on the genus *Selenophorus*. Vasily V. Grebennikov and Aleš Smetana translated texts in Russian and German respectively. Anthony Davies, Patrice Bouchard, and Serge Laplante reviewed sections of the manuscript. I extend my sincere appreciation to all these individuals.

I wish to thank also Steve Gamman and Patricia Madaire of the Canadian Agricultural Library (Entomology) in Ottawa, Eileen Mathias of The Ewell Sale Stewart Library at The Academy of Natural Sciences in Philadelphia, Dana Fischer of the Ernst Mayr Library at the Museum of Comparative Zoology in Cambridge, Massachusetts, and Marty Schlabach at the Comstock Memorial Library of Entomology at Cornell University in Ithaca, New York, for their assistance in locating obscure and difficult-to-find works. I am indebted to my colleague Aleš Smetana for access to his impressive personal library.

Finally, I acknowledge Henri Goulet for the permission to use some of his nice color illustrations.

## References

Dates of publication are important for taxonomic purposes and searches have been made to find precise dates for all works cited in this catalogue. The dates are listed after the references, unless only the year was found. They were obtained either from the book or the journal itself (in such cases no reference is given), from library stamps, bibliographic works (abbreviated references given unless the work is listed in the “reference” section), or from the following recording journals and society journals:

### Recording journals

<i>Allg. Bibl.:</i>	Allgemeine Bibliographie
<i>Allg. Bibl. Deutsch.:</i>	Allgemeine Bibliographie für Deutschland
<i>Allg. Lit. Zeit.:</i>	Allgemeine Literatur-Zeitung
<i>Allg. Verz. Bücher:</i>	Allgemeines Verzeichniß neuer Bücher
<i>Anal. Mag.:</i>	The Analectic Magazine
<i>Athenaeum:</i>	The Athenaeum
<i>Bibl. Belg.:</i>	Bibliographie de Belgique
<i>Bibl. Fr.:</i>	Bibliographie de la France
<i>Critical Rev.:</i>	The Critical Review
<i>Feuil. J. Libr.:</i>	Feuilleton du Journal de la Librairie
<i>Foreign Quart. Rev.:</i>	The Foreign Quarterly Review
<i>Intel. Allg. Lit. Zeit.:</i>	Intelligenzbatt der Allgemeinen Literatur-Zeitung
<i>Journ. gén. Lit. Fr.:</i>	Journal général de la littérature de France
<i>Journ. Sçavans:</i>	Le Journal des Sçavans
<i>Lit. Gaz.:</i>	The Literary Gazette
<i>Lit. Zeit.:</i>	Literarische Zeitung
<i>Nat. Nov.:</i>	Naturae Novitates
<i>Pet. Nouv. Ent.:</i>	Petites Nouvelles Entomologiques
<i>Publ. Circular:</i>	The Publishers' Circular
<i>Serapeum:</i>	Intelligenz-Blatt zum Serapeum
<i>Spectator:</i>	The Spectator
<i>Svensk Bibl.:</i>	Svensk Bibliographi

### Society journals

<i>Acad. Nat. Sci. Phil.:</i>	Academy of Natural Sciences, Philadelphia (Proceedings)
<i>Acad. Sci.:</i>	Académie des Sciences [France] (Compte Rendus Hebdomadaires)
<i>Akad. Wiss. Münch.:</i>	Akademie der Wissenschaften zu München (Sitzungsberichte)
<i>Amer. Ent. Soc.:</i>	American Entomological Society (Proceedings of meetings)
<i>Amer. Phil. Soc.:</i>	American Philosophical Society (Proceedings)
<i>Bost. Soc. Nat. Hist.:</i>	Boston Society of Natural History (Proceedings)
<i>Ent. Soc. London:</i>	Entomological Society of London (Journal of Proceedings / Proceedings)

<i>Ent. Soc. Phil.:</i>	Entomological Society of Philadelphia (Proceedings)
<i>Ent. Ver. Stettin:</i>	Entomologischen Vereine zu Stettin (Vereinsangelegenheiten)
<i>Essex Inst.:</i>	Essex Institute (Bulletin)
<i>Soc. Ent. Belg.</i>	Société Entomologique de Belgique (Comptes-rendus)
<i>Soc. Ent. Fr.:</i>	Société Entomologique de France (Bulletin)
<i>Soc. Imp. Nat. Mosc.:</i>	Société Impériale des Naturalistes de Moscou (Séances)
<i>Soc. Linn. Normandie:</i>	Société Linnéenne de Normandie (Bulletin)
<i>Soc. roy. Belge Géog.:</i>	Société royale Belge de Géographie (Compte-Rendu des actes)

Dates of receipt (stamps) from several libraries were used to establish dates of publication of works in the absence of more precise dates. The year of publication was not changed if the stamp was dated in the month of January of the following year.

Months of issues for journal published at regular intervals (such as *The Canadian Entomologist*) were not considered as publication dates unless I have found evidence that the issue was indeed published in the month listed. Months of issues for journals published at irregular intervals (such as the *Boston Journal of Natural History*) were considered the publication dates unless I found evidence to the contrary. I have accepted as publication dates, dates listed as “mailed on,” “published on,” “issued on,” and “editum.”

In reference to the dates given, the following symbols and abbreviations are used:

>:	after
<:	before
c.:	<i>circa</i>
CAL:	Canadian Agriculture Library at Eastern Cereal and Oilseed Research Center, Ottawa, Ontario
CISTI:	Canada Institute for Scientific and Technical Information, Ottawa, Ontario
CML:	Canadian Museum of Natural History Library, Gatineau, Quebec
CUL:	Cornell University, Ithaca, New York
DP:	Date of publication
McD:	McDonald College, Sainte-Anne-de-Bellevue, Quebec
NRC:	National Research Council, Ottawa, Ontario
OTU:	University of Ottawa Library, Ottawa, Ontario
USNM:	Smithsonian Institution Library, Washington, D.C.

Acciavatti RE (1981) A review of *Cicindela praetextata* from the southwest United States (Coleoptera: Cicindelidae). *The Southwestern Entomologist* 5 [1980]: 231-244 [DP: 9 January 1981]

Acciavatti RE, Pearson DL (1989) The tiger beetle genus *Cicindela* (Coleoptera, Insecta) from the Indian subcontinent. *Annals of Carnegie Museum* 58: 77-353 [DP: 17 November 1989]

Acciavatti RE, Rotger B, Iselin WA (1980) Checklist of New Mexico *Cicindela* with regional distributions. *Cicindela* 11 [1979]: 27-32 [DP: 9 October 1980 (CUL stamp), 14 October 1980 (CAL stamp)]

- Acloque A (1896) *Faune de France contenant la description de toutes les espèces indigènes disposées en tableaux analytiques et illustrée de figures représentant les types caractéristiques des genres et des sous-genres. Coléoptères*. J.-B. Baillière et Fils, Paris. 466 pp. [DP: 8 January 1896 (Soc. Ent. Fr.)]
- Acorn JH, Ball GE (1991) The mandibles of some adult ground beetles: structure, function, and the evolution of herbivory (Coleoptera: Carabidae). *Canadian Journal of Zoology* 69: 638-650 [DP: 22 April 1991]
- Ádám L (1996) A check-list of the Hungarian caraboid beetles (Coleoptera). *Folia Entomologica Hungarica* 57: 5-64 [DP: 30 October 1996]
- Adams M (1812) Description de trois coléoptères inconnus de la Sibérie orientale. *Mémoires de la Société Impériale des Naturalistes de Moscou* 3: 165-172.
- Alfimov AV, Berman DI (2009) Possible errors of the Mutual Climatic Range (MCR) method in reconstructing the Pleistocene climate of Beringia. *Zoologicheskii Zhurnal* 88: 365-377. Note. An English translation was issued in *Entomological Review* 89: 487-499.
- Agassiz JLR (1846) *Nomenclatoris zoologici. Index universalis, continens nomina systematica classium, ordinum, familiarum et generum animalium omnium, tam viventium quam fossilium, secundum ordinem alphabeticum unicum disposita, adjectis homonymiis plantarum, nec non variis adnotationibus et emendationibus*. Jent et Gassmann, Soloduri. viii + 393 pp. [DP: 29 December 1846 (Evenhuis 1997a: 50)]
- Allen AA, Duff AG (1992) On the gender and derivation of the name *Omophron* (Col., Carabidae). *The Entomologist's Monthly Magazine* 128: 85-86 [DP: 30 April 1992]
- Allen RT (1965) A taxonomic study of Louisiana Carabidae (Insecta: Coleoptera). *The Proceedings of the Louisiana Academy of Sciences* 28: 56-85 [DP: 24 January 1966 (CML stamp)]
- Allen RT (1969) A synopsis of the tribe Morionini in the Western Hemisphere with descriptions of two new species (Coleoptera: Carabidae). *Caribbean Journal of Science* 8 [1968]: 141-163 [DP: 10 January 1969]
- Allen RT (1972) A revision of the genus *Loxandrus* LeConte (Coleoptera: Carabidae) in North America. *Entomologica Americana* (new series) 46: 1-184 [DP: 1 August 1972]
- Allen RT (1977) Designation of holotypes and lectotypes for species described by Thomas L. Casey in the subtribe Pterostichi (Coleoptera: Carabidae: Pterostichini). *The Coleopterists Bulletin* 31: 283-286 [DP: 28 October 1977]
- Allen RT (1980) A review of the subtribe Myadi: description of a new genus and species, phylogenetic relationships, and biogeography (Coleoptera: Carabidae: Pterostichini). *The Coleopterists Bulletin* 34: 1-29 [DP: 9 May 1980]
- Allen RT, Ball GE (1980) Synopsis of Mexican taxa of the *Loxandrus* series (Coleoptera: Carabidae: Pterostichini). *Transactions of the American Entomological Society* 105 [1979]: 481-576 [DP: 5 February 1980]
- Allen RT, Carlton CE (1988) Two new *Scaphinotus* from Arkansas with notes on other Arkansas species (Coleoptera: Carabidae: Cychrini). *Journal of the New York Entomological Society* 96: 129-139 [DP: 28 April 1988]
- Allen RT, Thompson RG (1977) Faunal composition and seasonal activity of Carabidae (Insecta: Coleoptera) in three different woodland communities in Arkansas. *Annals of the Entomological Society of America* 70: 31-34 [DP: 17 January 1977]

- Allen TJ, Acciavatti RE (2002) *Tiger beetles of West Virginia*. West Virginia Division of Natural Resources Wildlife Resources Section, Elkins (West Virginia). 31 pp.
- Alluaud C (1919) Contributions à l'étude des carabiques d'Afrique et de Madagascar [Col.] XXIII. Observations sur divers clivinides; descriptions d'une race, d'une espèce et d'un genre nouveaux. *Bulletin de la Société Entomologique de France* (année 1919): 99-102 [DP: 6 May 1919]
- Alluaud C (1926) Notes sur les carabiques III. Description d'un *Bembidion* des Açores et notes sur la faune des îles de l'Atlantique. *Bulletin de la Société Entomologique de France* (année 1926): 11-13 [DP: 10 March 1926]
- Alluaud C (1930) Etude sur le groupe des sphydrochléniens (Col. Carabidae - Chlaeniitae - Rhopalomelini). *Revue de Zoologie et de Botanique Africaines* 19: 105-122 [DP: 15 April 1930]
- Alluaud C (1935) Sur le parasitisme des Chaetodactylini du genre *Androyna* Tsch. éclos de coques nymphales de Cétonides. *Afra* 10: 28-31 [DP: 30 November 1935]
- Alonso-Zarazaga MA (2006) *Amphyginus* Haliday, 1841 has precedence over *Neocalathus* Ball & Nègre, 1972 (Coleoptera, Carabidae). *Graellsia* 62: 265 [DP: 29 December 2006]
- Alonso-Zarazaga MA (2007) Comment on the proposed fixation of the feminine gender of the genus and the form of derivation of family-group names based on *Trachys* Fabricius, 1801 (Insecta, Coleoptera). *Bulletin of Zoological Nomenclature* 64: 187-191 [DP: 28 September 2007]
- Andersen JH (1966) The larval stages of the genus *Bembidion* Latr. (Col. Carabidae) I. The larvae of the subgenus *Chrysobracteon* Net. and *B. dentellum* Thunb. *Norsk Entomologisk Tidsskrift* 13: 440-453 [DP: December 1966]
- Andersen JH (1968) The larva of *Miscodera arctica* Payk. (Col., Carabidae). *Norsk Entomologisk Tidsskrift* 15: 71-74 [DP: 7 November 1968 (CUL stamp)]
- Andersen JH (1970) The larvae of *Pelophila borealis* Payk., *Nebria gyllenhali* Schnh. and *N. nivalis* Payk. (Coleoptera, Carabidae). *Astarte* 3: 87-95.
- Andrewes HE (1919) On the types of Oriental Carabidae in the British Museum, and in the Hope Department of the Oxford University Museum. *The Transactions of the Entomological Society of London for the year 1919*: 119-217 [DP: 15 August 1919]
- Andrewes HE (1921) Notes on Oriental Carabidae.- II. *The Entomologist's Monthly Magazine* 57: 248-252 [DP: 15 November 1921 (CAL stamp)]
- Andrewes HE (1928) On the types of Oriental Carabidae described by V. de Motschulsky. *Transactions of the Entomological Society of London* 76: 1-24 [DP: 18 August 1928]
- Andrewes HE (1929) *Coleoptera. Carabidae. Vol. I. - Carabinae*. The fauna of British India, including Ceylon and Burma. Taylor & Francis, London. xviii + 431 pp. + 9 pls [DP: May 1929]
- Andrewes HE (1933) On the types of Oriental Carabidae described by V. de Motschulsky (Part II). *Transactions of the Royal Entomological Society of London* 81: 1-19 [DP: 30 June 1933]
- Andrewes HE (1934) On the genotypes of British Carabidae. *The Entomologist's Monthly Magazine* 70: 200-201 [DP: 10 September 1934 (CAL stamp)]
- Andrewes HE (1935) On the genotypes of British Carabidae. -II. *The Annals and Magazine of Natural History* (Tenth Series) 16: 12-25 [DP: 1 July 1935 (Evenhuis 2003, *Zootaxa* 385: 47)]



- Andrewes HE (1937) On some new species of Carabidae, chiefly from Java (III). *Treubia* 16 [1937-38]: 25-35 [DP: 18 August 1937 (CML stamp)]
- Andrewes HE (1938) Papers on Oriental Carabidae.-XXXV. On the types of some Indian genera. *The Annals and Magazine of Natural History* (Eleventh Series) 3: 128-139 [DP: 31 December 1938 (Evenhuis 2003, *Zootaxa* 385: 48)]
- Andrewes HE (1939) *The generic names of the British Carabidae, with a check list of the British species*. The generic names of British insects prepared by the committee on generic nomenclature of the Royal Entomological Society of London with the assistance of the Department of Entomology of the British Museum (Natural History). Part 6. Royal Entomological Society of London, London. Pp. 153-192.
- Andrews AW (1916) Results of the Mershon Expedition to the Charity Islands, Lake Huron: Coleoptera. Pp. 67-108 in Ruthnen AG (Ed). *Miscellaneous papers on the zoology of Michigan*. Michigan Geological and Biological Survey, Publication 20. Wynkoop Hallenbeck Crawford Co., Lansing (MI). 179 pp.
- Andrews FG, Hardy AR, Giuliani D (1979) *The coleopterous fauna of selected California sand dunes. A report*. California Department of Food and Agriculture, Sacramento. i + 142 pp. [DP: 15 March 1979]
- Aneshansley DJ, Eisner T, Widom JM, Widom B (1969) Biochemistry at 100°C: explosive secretory discharge of bombardier beetles (*Brachinus*). *Science* 165: 61-63 [DP: 4 July 1969]
- Aneshansley DJ, Jones TH, Alsop D, Meinwald J, Eisner T (1983) Thermal concomitants and biochemistry of the explosive discharge mechanism of some little known bombardier beetles. *Experientia* 39: 366-368 [DP: 15 April 1983]
- Angell GWJ (1914) *Carabus caseyi* Angell. *Journal of the New York Entomological Society* 22: 75 [DP: 13 April 1914 (CUL stamp)]
- Anichtchenko A (2010) The new species of genus *Eucheila* (s.str.) Dejean, 1829 (Coleoptera: Carabidae: Lebiini) from French Guayana. *Russian Entomological Journal* 18 [2009]: 189-190 [DP: March 2010]
- Anonymous (1960) Cereal and forage insects. *Cooperative Economic Insect Report* 10 (No 29): 639-646 [DP: 15 July 1960]
- Anonymous (2007) Cuivre River State Park Coleoptera inventory 2005-2006. Available at: <http://www.showmebeetles.com/CRSP/CRSP%20Checklist.htm> [accessed 18 November 2007]
- Antoine M (1955) Coléoptères carabiques du Maroc (première partie). *Mémoires de la Société des Sciences Naturelles et Physiques du Maroc, Zoologie* (nouvelle série) 1: 1-177 [DP: 30 December 1955]
- Antoine M (1959) Coléoptères carabiques du Maroc. Troisième partie. *Mémoires de la Société des Sciences Naturelles et Physiques du Maroc, Zoologie* (nouvelle série) 6: 315-465 [DP: 30 October 1959]
- Antonova EM (1991) Entomological collections. Pp. 69-115 in Rossolimo OL (Ed.) *Two centuries in the collection of Zoological Museum* [in Russian]. Moscow University, Moscow. 264 pp.
- Armin LC (1963) A study of the family Carabidae (Coleoptera) in Boulder County, Colorado. Ph.D. Thesis, University of Colorado. 465 pp.

- Arndt E (1985) Larvenbestimmungsschlüssel der *Carabus*-Arten Europas (Col., Carabidae). *Entomologische Nachrichten und Berichte* 29: 49-62 [DP: 15 April 1985]
- Arndt E (1988) Beschreibung der Larve von *Abacetus villiersianus* Straneo (Coleoptera, Carabidae, Pterostichini). *Entomologische Nachrichten und Berichte* 32: 169-173 [DP: 15 August 1988]
- Arndt E (1989) Die Larven der mitteleuropäischen *Abax* s.str.-Arten (Coleoptera, Carabidae: Pterostichini). *Beiträge zur Entomologie* 39: 255-270.
- Arndt E (1991a) Beschreibung der Larven mitteleuropäischer Stenolophina-Arten (Coleoptera, Carabidae, Harpalini). *Entomologische Nachrichten und Berichte* 35: 45-52 [DP: 31 March 1991]
- Arndt E (1991b) Familie: Carabidae. Pp. 45-141 in Klausnitzer B (Ed.) *Die Larven der Käfer mitteleuropas 1. Band Adephaga*. Goecke & Evers, Krefeld. 273 pp.
- Arndt E (1993) Phylogenetische Untersuchungen larvalmorphologischer Merkmale der Carabidae (Insecta: Coleoptera). Stuttgarter Beiträge zur Naturkunde Serie A (Biologie) Nr. 488. 56 pp. [DP: 15 April 1993]
- Arndt E (1998) Phylogenetic investigation of Carabidae (Coleoptera) using larval characters. Pp. 171-190 in Ball GE, Casale A, Vigna Taglianti A (Eds) *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Arndt E, Beutel RG (1995) Larval morphology of *Systolosoma* Solier and *Trachypachus* Motschulsky (Coleoptera: Trachypachidae) with phylogenetic considerations. *Entomologica Scandinavica* 26: 439-446 [DP: December 1995]
- Arndt E, Beutel RG, Will K (2005) Carabidae Latreille, 1802. Pp. 119-146 in Beutel RG, Leschen RAB (Eds) *Coleoptera, beetles. Volume 1: morphology and systematics (Archostemata, Adephaga, Myxophaga, Polyphaga partim)*. Walter de Gruyter & Co., Berlin. xi + 567 pp.
- Arndt E, Brückner M, Marciniak M, Mossakowski D, Prüser F (2003) Phylogeny. Pp. 307-325 in Turin H, Penev L, Casale A (Eds). *The genus Carabus in Europe: a synthesis*. Fauna Europaea Evertibrata No 2. Pensoft, Sofia-Moscow. xv + 511 pp. [DP: March 2003]
- Arndt E, Drechsel U (1998) Description of the larva of *Trichognathus marginipennis* Latreille, 1829 (Coleoptera, Carabidae). *Mitteilungen Münchener Entomologischen Gesellschaft* 88: 19-24 [DP: 1 November 1998]
- Arndt E, Hürka K (1992a) Beschreibung der Larven der mitteleuropäischen *Pterostichus*-Arten (Coleoptera, Carabidae, Pterostichini) (Teil 1). *Entomologische Nachrichten und Berichte* 36: 103-110 [DP: 30 June 1992]
- Arndt E, Hürka K (1992b) Beschreibung der Larven der mitteleuropäischen *Pterostichus*-Arten (Col., Carabidae, Pterostichini) (Teil 3). *Entomologische Nachrichten und Berichte* 36: 261-268 [DP: 31 December 1992]
- Arndt E, Hürka K (1993) Beschreibung der Larven der mitteleuropäischen *Pterostichus*-Arten (Col., Carabidae, Pterostichini) Teil 4. *Entomologische Nachrichten und Berichte* 37: 45-49 [DP: 30 April 1993]

- Arndt E, Putschkov AV (1997) Phylogenetic investigation of Cicindelidae (Insecta: Coleoptera) using larval morphological characters. *Zoologischer Anzeiger* 235 [1996/97]: 231-241 [DP: 20 June 1997]
- Arnett RH Jr. (1977) Family 1. Cupedidae, the reticulated beetles. Pp. 1.1 in Blackwelder RE, Arnett RH Jr. (Eds). *Checklist of the beetles of Canada, United States, Mexico, Central America, and the West Indies (yellow version)*. World Digest Publications, Kinderhook (NY) [DP: July 1977]
- Arnold D (2008) Checklist of the Coleoptera of Oklahoma. Available at: <http://entopl.ok-state.edu/museum/coleoptera.htm> [accessed 14 June 2008]
- Ashworth AC, Schwert DP (1991) On the occurrences of *Opisthius richardsoni* Kirby and *Asaphidion yukonense* Wickham (Coleoptera, Carabidae) as late Pleistocene fossils. *Proceedings of the Entomological Society of Washington* 93: 511-514 [DP: 11 June 1991]
- Ashworth AC, Schwert DP (1992) The Johns Lake site: a late Quaternary fossil beetle (Coleoptera) assemblage from the Missouri Coteau of North Dakota. Pp. 257-265 in Erickson JM, Hoganson JW (Eds). *Proceedings of the F.D. Holland, Jr., geological symposium*. North Dakota Geological Survey, Miscellaneous Series No. 76. v + 318 pp.
- Ashworth AC, Schwert DP, Watts WA, Wright HE Jr. (1981) Plant and insect fossils at Norwood in south-central Minnesota: a record of late-glacial succession. *Quaternary Research* 16: 66-79.
- Attygalle AB, Wu X, Ruzicka J, Rao S, Garcia S, Herath K, Meinwald J, Maddison DR, Will KW (2004) Defensive chemicals of two species of *Trachypachus* Motschulski. *Journal of Chemical Ecology* 30: 577-588 [DP: March 2004]
- Audinet-Serville JG (1821) *Faune Française ou histoire naturelle, générale et particulière des animaux qui se trouvent en France, constamment ou passagèrement, à la surface du sol, dans les eaux qui le baignent, et dans le littoral des mers qui le bornent. Coléoptères*. Paris. 96 pp. + 12 pls [DP: 31 March 1821 (Bibl. Fr.)]
- Audouin JV, Blanchard E, Doyère L, Milne Edwards H (1841) *Atlas. Les insectes: myriapodes, thysanoures, parasites, suceurs et coléoptères*. In: *Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux, et d'introduction à l'anatomie comparée, par Georges Cuvier. Edition accompagnée de planches gravées, représentant les types de tous les genres, les caractères distinctifs des divers groupes et les modifications de structure sur lesquelles repose cette classification*. Fortin, Masson et Cie, Paris. Pl. 25 [DP: November 1841 (Evenhuis 1997a: 179)]
- Audouin JV, Blanchard E, Doyère L, Milne Edwards H (1842) *Atlas. Les insectes: myriapodes, thysanoures, parasites, suceurs et coléoptères*. In: *Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux, et d'introduction à l'anatomie comparée, par Georges Cuvier. Edition accompagnée de planches gravées, représentant les types de tous les genres, les caractères distinctifs des divers groupes et les modifications de structure sur lesquelles repose cette classification*. Fortin, Masson et Cie, Paris. Pls 21-22 [DP: February 1842 (Evenhuis 1997a: 179)]
- Austin EP (1880) *Supplement to the check list of the Coleoptera of America, north of Mexico*. S.E. Cassino, Boston. 67 pp. [DP: 12 November 1880 (Amer. Ent. Soc.)]

- Baehr M (1979) Vergleichende Untersuchungen am Skelett und an der Coxalmuskulatur des Prothorax der Coleoptera. Ein Beitrag zur Klärung der phylogenetischen Beziehungen der Adephaga (Coleoptera, Insecta). *Zoologica, Originalabhandlungen aus dem Gesamtgebiet der Zoologie* 44 (130): 1-76.
- Baehr M (1982) *Atranopsis* n. gen., eine neue Laufkäfer-Gattung der Agonini aus Syrien (Insecta: Coleoptera: Carabidae). *Senckenbergiana Biologica* 62 [1981]: 261-266 [DP: 15 September 1982]
- Baehr M (1983) *Schizogenius freyi* sp. nov., die erste *Schizogenius*-Art außerhalb Amerikas (Coleoptera, Carabidae, Scaritinae). *Entomologische Arbeiten aus dem Museum G. Frey* 31/32: 91-95 [DP: 1 November 1983]
- Baehr M (1985) Revision of the Australian Zuphiinae 3. The genus *Pseudaptinus* Castelnau (Insecta, Coleoptera, Carabidae). *Spixiana* 8: 33-57 [DP: 1 March 1985]
- Baehr M (1986) Revision of the Australian Zuphiinae 6. The genus *Planetes* Macleay. Supplement to the other genera (Insecta, Coleoptera, Carabidae). *Spixiana* 9: 151-168 [DP: 30 November 1986]
- Baehr M (1994) Phylogenetic relations and biogeography of the genera of Pseudomorphinae (Coleoptera, Carabidae). Pp. 11-17 in Desender K, Dufrêne M, Loreau M, Luff ML, Maelfait JP (Eds). *Carabid beetles: ecology and evolution*. Series Entomologica, volume 51. Kluwer Academic Publishers, Dordrecht / Boston / London. xii + 474 pp. [DP: 7 April 1994 (CAL stamp)]
- Baehr M (1998) A preliminary survey of the classification of Psydrinae (Coleoptera: Carabidae). Pp. 359-368 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Baehr M (2004) The Amblytelini. A tribe of corticolous ground beetles from Australia. Taxonomy, phylogeny, biogeography. (Coleoptera: Carabidae: Psydrinae). *Coleoptera* 8: 1-286 [DP: September 2004]
- Baehr M (2008) The Australian Clivinini 1. The genera *Ancus* Putzeys, *Aspidoglossa* Putzeys, *Clivinarchus* Sloane, *Platysphyrus* Sloane, *Pseudoclivina* Kult, *Rhysocara* Sloane, *Syleter* Andrewes, the subgenera *Paraclivina* Kult, *Semiclivina* Kult, and the *atrata*-, *biplagiata*-, *brevicornis*-, *coronata*-, *coryzoides*-, *cribrosa*-, *debilis*-, *denticollis*-, *grandiceps*-, *incerta*-, *lobata*-, *obliquata*-, *obsoleta*-, *orbitalis*-, *planiceps*-, *sulcaticeps*-, *tranquebaria*-, and *wurargae*-groups of the genus *Clivina* Latreille. With a note on a record of the genus *Parathlibops* Basilewsky (Scapterini) (Carabidae, Scaritinae). *Coleoptera* 12: 1-220 [DP: December 2008]
- Baehr M, Schüle P, Lorenz W (2009) *Afrogehringia endroedyi*, a new genus and species of Gehringiini from southwestern Africa (Coleoptera: Carabidae). *Annals of the Transvaal Museum* 46: 101-107.
- Bailey RR, van den Berghe EP, McCarthy BC (1994) New records and activity patterns of carabid beetles (Coleoptera: Carabidae) in western Maryland. *The Coleopterists Bulletin* 48: 319-323 [DP: 22 December 1994]
- Bain A (1998) A seventeenth-century beetle fauna from colonial Boston. *Historical Archaeology* 32(4): 38-48.

- Bajc AF, Morgan AV, Warner BG (1997) Age and paleoecological significance of an early post-glacial fossil assemblage near Marathon, Ontario, Canada. *Canadian Journal of Earth Sciences* 34: 687-698 [DP: 26 May 1997 (CISTI stamp)]
- Baker RG, Rhodes II RS, Schwert DP, Ashworth AC, Frest TJ, Hallberg GR, Janssens JA (1986) A full-glacial biota from southeastern Iowa, USA. *Journal of Quaternary Science* 1: 91-107.
- Balestrazzi E, Valcurone Dazzini ML, Bernardi M de, Vidari G, Vita-Finzi P, Mellerio G (1985) Morphological and chemical studies on the pygidial defence glands of some Carabidae (Coleoptera). *Naturwissenschaften* 72: 482-484 [DP: 11 October 1985 (CISTI stamp)]
- Baliani A (1943) Studi sulle *Amara* asiatiche (Coleopt., Carabidae) XIV. *Memorie della Società Entomologica Italiana* 22: 38-50 [DP: >26 March 1943 (Poggi 2008, *Mem. Soc. entomol. Ital.* 87: 179)]
- Balkenohl MW (2003) Subfamily Scaritinae Bonelli, 1810. Pp. 219-234 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Balkenohl MW, Lompe A (2003) *Dyschirius breviphthalmus* n.sp., a mountainous species of this group from Portugal (Coleoptera, Carabidae, Scaritinae). *Coleoptera* 7: 97-101 [DP: December 2003]
- Ball GE (1951) A note concerning the correct application of the generic name *Helluomorpha* Castelnau, 1834, and proposal of a new name (Coleoptera: Carabidae: Helluonini). *Bulletin of the Brooklyn Entomological Society* 46: 135-136 [DP: 31 December 1951]
- Ball GE (1956a) A revision of the North American species of the genus *Helluomorphoides* Ball, 1951 (Coleoptera, Carabidae, Helluonini). *Proceedings of the Entomological Society of Washington* 58: 67-91 [DP: 6 March 1956]
- Ball GE (1956b) Notes on the genus *Zacotus* Le Conte, 1869, and on the classification of the tribe Broscini (= Broscidae sensu Jeannel, 1941. Coleoptera, Carabidae). *The Coleopterists Bulletin* 10: 33-52 [DP: 29 November 1956]
- Ball GE (1959) A taxonomic study of the North American Licinini with notes on the Old World species of the genus *Diplocheila* Brullé (Coleoptera). *Memoirs of the American Entomological Society* No. 16. i + 258 pp. + 15 pls + iv pp. [DP: 30 January 1959]
- Ball GE (1960a) A review of the taxonomy of the genus *Euryderus* Le Conte, 1848. With notes on the North American Dapti (of authors). (Carabidae: Harpalini). *The Coleopterists Bulletin* 14: 44-54 [DP: 21 June 1960]
- Ball GE (1960b) Carabidae (Latreille, 1810). Pp. 55-181 in Arnett RH Jr. *The beetles of the United States (a manual for identification). Part 1. Archestomata and Adephaga*. The Catholic University of America Press, Washington D.C. [DP: 23 December 1960]
- Ball GE (1962) Descriptions of eleven new species of the beetle subgenus *Cryobius* (*Pterostichus*, Col. Carabidae) from Alaska and northwestern Canada. *Opuscula Entomologica* 28 [1963]: 1-26 [DP: December 1962 (reprint)]
- Ball GE (1963) The distribution of the species of the subgenus *Cryobius* (Coleoptera, Carabidae, *Pterostichus*) with special reference to the Bering land bridge and Pleistocene refugia. Pp. 133-149 in Gressitt JL (Ed.). *Pacific Basin Biogeography. A symposium*. Bishop Museum Press, Honolulu. ix + 563 pp.



- Ball GE (1965) Two new subgenera of *Pterostichus* Bonelli from western United States, with notes on characteristics and relationships of the subgenera *Paraferonia* Casey and *Feronina* Casey (Coleoptera: Carabidae). *The Coleopterists Bulletin* 19: 104-112 [DP: 30 December 1965]
- Ball GE (1966a) A revision of the North American species of the subgenus *Cryobius* Chaudoir (*Pterostichus*, Carabidae, Coleoptera). Opuscula Entomologica Supplementum No. 28. 166 pp. [DP: 15 February 1966]
- Ball GE (1966b) *Bembidion* (*Amerizus*) *oblongulum* Mannerheim in New Mexico (Coleoptera: Carabidae) with notes on transcontinental dispersal in Pleistocene time. *The Coleopterists Bulletin* 20: 30-32 [DP: 26 April 1966]
- Ball GE (1966c) The taxonomy of the subgenus *Scaphinotus* Dejean with particular reference to the subspecies of *Scaphinotus petersi* Roeschke (Coleoptera: Carabidae: Cychrini). *Transactions of the American Entomological Society* 92: 687-722 [DP: 16 December 1966]
- Ball GE (1970) The species of the Mexican genus *Aztecarpalus*, new genus (Coleoptera: Carabidae: Harpalini). *The Coleopterists Bulletin* 24: 97-123 [DP: 1 December 1970]
- Ball GE (1972) Classification of the species of the *Harpalus* subgenus *Glanodes* Casey (Carabidae: Coleoptera). *The Coleopterists Bulletin* 26: 179-204 [DP: 29 December 1972]
- Ball GE (1973) A new name for *Harpalus* (*Glanodes*) *puncticeps* (Casey) (Coleoptera: Carabidae). *The Coleopterists Bulletin* 27: 74 [DP: 30 June 1973]
- Ball GE (1975) Pericaline Lebiini: notes on classification, a synopsis of the New World genera, and a revision of the genus *Phloeoxena* Chaudoir (Coleoptera: Carabidae). *Quaestiones Entomologicae* 11: 143-242 [DP: 4 June 1975 (CAL stamp), 6 June 1975 (CUL stamp)]
- Ball GE (1976a) *Aztecarpalus* Ball: new species from Oaxaca, Mexico, re-classification, and a reconstructed phylogeny of the *hebesens* group (Coleoptera: Carabidae: Harpalini). *The Coleopterists Bulletin* 30: 61-72 [DP: 12 April 1976]
- Ball GE (1976b) Notes about the species and relationships of *Hartonymus* Casey (Coleoptera: Carabidae: Harpalini). *Proceedings of the Entomological Society of Washington* 78: 417-430 [DP: 9 December 1976]
- Ball GE (1979) Conspectus of carabid classification: history, holomorphology, and higher taxa. Pp. 63-111 in Erwin TL, Ball GE, Whitehead DR, Halpern AL (Eds). *Carabid beetles: their evolution, natural history, and classification*. Proceedings of the First International Symposium of Carabidology Smithsonian Institution, Washington D.C. August 21, 23, and 25, 1976. Dr W. Junk bv Publishers, The Hague. 635 pp.
- Ball GE (1983) Evaluation of the Baron Maximilien de Chaudoir's contribution to classification of cymindine Lebiini and Masoreimorphi (Coleoptera: Carabidae). *The Coleopterists Bulletin* 36 [1982]: 513-530 [DP: 25 April 1983]
- Ball GE (1985) Reconstructed phylogeny and geographical history of genera of the tribe Galeritini (Coleoptera: Carabidae). Pp. 276-321 in Ball GE (Ed.). *Taxonomy, phylogeny and zoogeography of beetles and ants. A volume dedicated to the memory of Philip Jackson Darlington, Jr. (1904-1983)*. Series Entomologica, volume 33. Dr W. Junk Publishers, Dordrecht / Boston / Lancaster. 514 pp. [DP: 16 October 1985 (CAL stamp)]

- Ball GE (1992a) The tribe Licinini (Coleoptera: Carabidae): a review of the genus-groups and of the species of selected genera. *Journal of the New York Entomological Society* 100: 325-380 [DP: 1 April 1992]
- Ball GE (1992b) Geographical distribution and evolution of the Selenophori (Harpalini) and *Apenes* LeConte (Lebiini) in the Antilles (Coleoptera: Carabidae). Pp. 79-94 in Noonan GR, Ball GE, Stork N (Eds). *The biogeography of ground beetles of mountains and islands*. Intercept, Andover (UK). vii + 256 pp.
- Ball GE (2000) Notes about the genus *Tetragonoderus* Dejean with description of *T. (Peronoscelis) matilei* a new species from the Amazon Basin [Coleoptera, Carabidae, Cyclosomini]. *Revue Française d'Entomologie (nouvelle série)* 22: 189-196 [DP: 14 December 2000]
- Ball GE (2001) The subgenera of *Clivina* Latreille in the Western Hemisphere, and a revision of subgenus *Antroforceps* Barr (new status), with notes about evolutionary aspects (Coleoptera: Carabidae: Clivinini). *Special Publication of the Japan Coleopterological Society of Osaka* 1: 129-156 [DP: 11 June 2001]
- Ball GE, Anderson JN (1962) *The taxonomy and speciation of Pseudophonus (a subgenus of Harpalus: Harpalini: Carabidae, known to occur in North America)*. Studies on Speciation No. 1. The Catholic University of America Press, Washington D.C. xi + 94 pp.
- Ball GE, Bousquet Y (2000) Carabidae Latreille, 1810. Pp. 32-132 in Arnett RH Jr., Thomas MC (Eds). *American beetles. Volume 1. Archostemata, Myxophaga, Adephaga, Polyphaga: Staphyliniformia*. CRC Press, Boca Raton (Florida). xv + 443 pp. [DP: 28 December 2000 (CRC Press website)]
- Ball GE, Currie DC (1997) Ground beetles (Coleoptera: Trachypachidae and Carabidae) of the Yukon: geographical distribution, ecological aspects, and origin of the extant fauna. Pp. 445-489 in Danks HV, Downes JA (Eds). *Insects of the Yukon*. Biological Survey of Canada (Terrestrial Arthropods), Ottawa. 1034 pp. [DP: >1 March 1997]
- Ball GE, Erwin TL (1969) A taxonomic synopsis of the tribe Loricerini (Coleoptera: Carabidae). *Canadian Journal of Zoology* 47: 877-907 [DP: 23 September 1969]
- Ball GE, Hilchie GJ (1983) Cymindine Lebiini of authors: redefinition and reclassification of genera (Coleoptera: Carabidae). *Quaestiones Entomologicae* 19: 93-216 [DP: 20 July 1983 (CAL stamp), 25 July 1983 (CUL stamp)]
- Ball GE, Kavanaugh DH, Moore BP (1995) *Sugimotoa parallela* Habu (Coleoptera, Carabidae, Lebiini): redescription, geographical distribution, and relationships based on cladistic analysis of adult structural features. *Special Bulletin of the Japanese Society of Coleopterology* 4: 275-311 [DP: 28 March 1995]
- Ball GE, Maddison DR (1987) Classification and evolutionary aspects of the species of the New World genus *Amblygnathus* Dejean, with description of *Platymetopsis*, new genus, and notes about selected species of *Selenophorus* Dejean (Coleoptera: Carabidae: Harpalini). *Transactions of the American Entomological Society* 113: 189-307 [DP: 9 October 1987]
- Ball GE, McCleve S (1990) The Middle American genera of the tribe Ozaenini with notes about the species in southwestern United States and selected species from Mexico. *Quaestiones Entomologicae* 26: 30-116 [DP: 4 May 1990 (CAL stamp)]

- Ball GE, Nègre J (1972) The taxonomy of the Nearctic species of the genus *Calathus* Bonelli (Coleoptera: Carabidae: Agonini). *Transactions of the American Entomological Society* 98: 412-533 [DP: 29 December 1972]
- Ball GE, Nimmo AP (1983) Synopsis of the species of subgenus *Progaleritina* Jeannel, including reconstructed phylogeny and geographical history (Coleoptera: Carabidae: *Galerita* Fabricius). *Transactions of the American Entomological Society* 109: 295-356 [DP: 31 December 1983]
- Ball GE, Roughley RE (1982) The *Hypherpes*-like taxa of southern Mexico: classification, and evolutionary considerations (Coleoptera: Carabidae: *Pterostichus*). *Transactions of the American Entomological Society* 108: 315-399 [DP: 5 October 1982]
- Ball GE, Shpeley D (1983) The species of eucheiloid Pericalina: classification and evolutionary considerations (Coleoptera: Carabidae: Lebiini). *The Canadian Entomologist* 115: 743-806 [DP: 29 June 1983 (CAL stamp)]
- Ball GE, Shpeley D (1990) Synopsis of the Neotropical genus *Ozaena* Olivier: classification and reconstructed evolutionary history (Coleoptera: Carabidae: Ozaenini). *The Canadian Entomologist* 122: 779-815 [DP: 19 October 1990 (CAL stamp)]
- Ball GE, Shpeley D (1992a) The carabid beetles of la Reserva de la Biosfera La Michilia, Durango, Mexico (Coleoptera: Carabidae). *Folia Entomológica Mexicana* 81 [1991]: 21-65 [DP: 30 April 1992]
- Ball GE, Shpeley D (1992b) Appendix. Pp. 94-121 in Ball GE. Geographical distribution and evolution of the Selenophori (Harpalini) and *Apenes* LeConte (Lebiini) in the Antilles (Coleoptera: Carabidae). Pp. 79-121 in Noonan GR, Ball GE, Stork NE (Eds). *The biogeography of ground beetles of mountains and islands*. Intercept, Andover (UK). vii + 256 pp.
- Ball GE, Shpeley D (2002a) Ginemini, *Ginema thomasi*, new tribe, new genus and new species, from Amazonian Bolivia (Coleoptera: Carabidae: Harpalinae). *Transactions of the American Entomological Society* 128: 75-98 [DP: 28 April 2002 (CUL stamp)]
- Ball GE, Shpeley D (2002b) The neotropical subgenera and species of the pantropical genus *Anaulacus* MacLeay (*sensu novo*) (Coleoptera: Carabidae: Masoreini): a taxonomic revision, with notes about way of life, evolution, and geographical history. *Transactions of the American Entomological Society* 128: 265-343 [DP: 23 October 2002 (CAL stamp)]
- Ball GE, Shpeley D (2005) Taxonomic review of the tribe Melaenini (Coleoptera: Carabidae), with observations on morphological, ecological and chorological evolution. *Zootaxa* 1099: 1-120 [DP: 19 December 2005]
- Ball GE, Shpeley D (2009) A taxonomic review of the genus *Apenes* LeConte (Coleoptera: Carabidae: Lebiini) in the West Indies, with descriptions of new species and notes about classification and biogeography. *Annals of Carnegie Museum* 78: 79-191 [DP: 15 October 2009]
- Ball GE, Shpeley D, Currie DC (1991) The New World genus *Stenomorphus* Dejean (Coleoptera: Carabidae: Harpalini): classification, allometry, and evolutionary considerations. *The Canadian Entomologist* 123: 933-988 [DP: 31 October 1991 (CAL stamp)]
- Bänninger M (1921) Vierter Beitrag zur Kenntnis der Carabinae. (Col.). *Entomologische Mitteilungen* 10: 112-120 [DP: 1 July 1921], 151-156 [DP: 1 September 1921]

- Bänninger M (1923) Versuch einer Bestimmungstabelle der zentral- und ost-asiatischen *Nebria*-Arten ohne gelbe Flügeldeckenzeichnung, nebst Bemerkungen über einige andere Formen. (6. Beitrag zur Kenntnis der Carabinae). *Koleopterologische Rundschau* 10: 129-142 [DP: 30 October 1923]
- Bänninger M (1925) Neunter Beitrag zur Kenntnis der Carabinae: die Nebriini. *Entomologische Mitteilungen* 14: 180-195 [DP: 10 April 1925], 256-281 [DP: 20 July 1925], 329-343 [DP: 10 October 1925]
- Bänninger M (1927) Die Ozaenini (Col. Carab.). 10. Beitrag zur Kenntnis der Carabinae. *Deutsche Entomologische Zeitschrift* (Jahrgang 1927): 177-216 [DP: 1 December 1927]
- Bänninger M (1928) Ueber die Nebriini. 13. Beitrag zur Kenntnis der Carabinae. *Koleopterologische Rundschau* 14 [1928-29]: 1-7 [DP: 15 February 1928]
- Bänninger M (1930) Die Gattung *Pelophila* Dej. (Col. Carab.). *Notulae Entomologicae* 10: 95-102 [DP: 31 December 1930]
- Bänninger M (1932) Über Carabinae, Ergänzungen und Berichtigungen. (Col.) 17. Beitrag. *Deutsche Entomologische Zeitschrift* (Jahrgang 1931): 177-212 [DP: March 1932]
- Bänninger M (1933) Über Carabinae, Ergänzungen und Berichtigungen. (Col.) 19. Beitrag. *Deutsche Entomologische Zeitschrift* (Jahrgang 1933): 81-124 [DP: August 1933]
- Bänninger M (1938) Monographie der Subtribus Scaritina (Col. Carab.) II. *Deutsche Entomologische Zeitschrift* (Jahrgang 1938): 41-181 [DP: 1 June 1938]
- Bänninger M (1949) Ueber Carabinae (Col.). Ergänzungen und Berichtigungen III, mit Bemerkungen zu R. Jeannels neuer Einteilung der Carabiden. *Mitteilungen der Münchener Entomologischen Gesellschaft* 35-39 [1945-49]: 127-157 [DP: 1 August 1949]
- Bänninger M (1950) The subtribe Pasimachina (Coleoptera, Carabidae, Scaritini). *Revista de Entomología* 21: 481-511 [DP: 30 December 1950]
- Barber HS (1928) Two new cave-beetles related to *Anophthalmus pusio* Horn. *Journal of the Washington Academy of Sciences* 18: 194-196 [DP: 4 April 1928]
- Barnes JK (1988) Asa Fitch and the emergence of American entomology with an entomological bibliography and a catalog of taxonomic names and type specimens. New York State Museum Bulletin No. 461. viii + 120 pp.
- Barnosky AD, Barnosky CW, Nickmann RJ, Ashworth AC, Schwert DP, Lantz SW (1988) Late Quaternary paleoecology at the Newton site, Bradford Co., northeastern Pennsylvania: *Mammuthus columbi*, palynology, and fossil insects. *Bulletin of the Buffalo Society of Natural Sciences* 33: 173-184 [DP: 12 October 1988 (NRC stamp)]
- Barr TC Jr. (1959) New cave beetles (Carabidae, Trechini) from Tennessee and Kentucky. *Journal of the Tennessee Academy of Science* 34: 5-30 [DP: January 1959]
- Barr TC Jr. (1960a) A synopsis of the cave beetles of the genus *Pseudanophthalmus* of the Mitchell Plain in southern Indiana (Coleoptera, Carabidae). *The American Midland Naturalist* 63: 307-320 [DP: April 1960]
- Barr TC Jr. (1960b) The cavernicolous beetles of the subgenus *Rhadine*, genus *Agonum* (Coleoptera: Carabidae). *The American Midland Naturalist* 64: 45-65 [DP: July 1960]
- Barr TC Jr. (1960c) A new genus of cave beetle (Carabidae: Trechini) from southwestern Virginia with a key to the genera of the Trechini of North America north of Mexico. *The Coleopterists Bulletin* 14: 65-70 [DP: 7 September 1960]

- Barr TC Jr. (1962a) The genus *Trechus* (Coleoptera: Carabidae: Trechini) in the southern Appalachians. *The Coleopterists Bulletin* 16: 65-92 [DP: 18 September 1962]
- Barr TC Jr. (1962b) The *robustus* group in the genus *Pseudanophthalmus* (Coleoptera: Carabidae: Trechini). *The Coleopterists Bulletin* 16: 109-118 [DP: 11 December 1962]
- Barr TC Jr. (1964) Non-troglobitic Carabidae (Coleoptera) from caves in the United States. *The Coleopterists Bulletin* 18: 1-4 [DP: 22 April 1964]
- Barr TC Jr. (1965a) The *Pseudanophthalmus* of the Appalachian Valley (Coleoptera: Carabidae). *The American Midland Naturalist* 73: 41-72 [DP: January 1965]
- Barr TC Jr. (1965b) A new *Rhadine* from Canada and the United States (Col. Carabidae). *Opuscula Entomologica* 30: 140-142 [DP: 19 February 1965]
- Barr TC Jr. (1965c) A new cavernicolous sphodrine from Veracruz, Mexico (Coleoptera: Carabidae). *The Coleopterists Bulletin* 19: 65-72 [DP: 7 October 1965]
- Barr TC Jr. (1967a) *Antroforceps*, an eyeless cave scaritine from Mexico (Coleoptera: Carabidae). *The Coleopterists Bulletin* 21: 65-70 [DP: 14 October 1967]
- Barr TC Jr. (1967b) A new *Pseudanophthalmus* from an epigeal environment in West Virginia (Coleoptera: Carabidae). *Psyche* 74: 166-172 [DP: 30 November 1967]
- Barr TC Jr. (1969) Evolution of the (Coleoptera) Carabidae in the southern Appalachians. Pp. 67-92 in Holt PC, Hoffman RL, Hart CW Jr. (Eds). *The distributional history of the biota of the southern Appalachians. Part I. Invertebrates*. Research Division Monograph 1. Virginia Polytechnic Institute, Blacksburg (VA). viii + 295 + [1] pp. [DP: May 1969]
- Barr TC Jr. (1970) An annotated checklist of the ground beetles (Coleoptera: Carabidae) found in the vicinity of Highlands, North Carolina. Unpublished report. 21 pp.
- Barr TC Jr. (1971a) The North American *Pterostichus* of the subgenus *Cylindrocharis* Casey (Coleoptera, Carabidae). American Museum Novitates No. 2445. 14 pp. [DP: 21 January 1971]
- Barr TC Jr. (1971b) *Micratopus* Casey in the United States (Coleoptera: Carabidae: Bembidiinae). *Psyche* 78: 32-37 [DP: 30 December 1971]
- Barr TC Jr. (1972) *Trechoblemus* in North America, with a key to North American genera of Trechinae (Coleoptera: Carabidae). *Psyche* 78 [1971]: 140-149 [DP: 23 February 1972]
- Barr TC Jr. (1974a) [Synopsis of the genus *Sphaeroderus*]. Unpublished manuscript. 4 pp.
- Barr TC Jr. (1974b) Revision of *Rhadine* LeConte (Coleoptera, Carabidae) I. The *subterranea* group. American Museum Novitates No. 2539. 30 pp. [DP: 24 April 1974]
- Barr TC Jr. (1979a) The taxonomy, distribution, and affinities of *Neaphaenops*, with notes on associated species of *Pseudanophthalmus* (Coleoptera, Carabidae). American Museum Novitates No. 2682. 20 pp. [DP: 29 August 1979]
- Barr TC Jr. (1979b) Revision of Appalachian *Trechus* (Coleoptera: Carabidae). *Brimleyana* 2: 29-75 [DP: 30 November 1979]
- Barr TC Jr. (1980) New species groups of *Pseudanophthalmus* from the central basin of Tennessee (Coleoptera: Carabidae: Trechinae). *Brimleyana* 3: 85-96 [DP: 30 July 1980]
- Barr TC Jr. (1981) *Pseudanophthalmus* from Appalachian caves (Coleoptera: Carabidae): the *engelhardti* complex. *Brimleyana* 5: 37-94 [DP: 13 July 1981]
- Barr TC Jr. (1982a) The cavernicolous anchomenine beetles of Mexico (Coleoptera: Carabidae: Agonini). Pp. 161-192 in Reddell JR (Ed.). Further studies on the cavernicole fauna



- of Mexico and adjacent regions. Association for Mexican Cave Studies Bulletin no 8 and Texas Memorial Museum Bulletin no 28. [3] + 288 pp. [DP: March 1982]
- Barr TC Jr. (1982b) *Microplatynus*, a new subgenus from the mountains of New Mexico (Coleoptera: Carabidae). *The Coleopterists Bulletin* 36: 98-101 [DP: 29 November 1982]
- Barr TC Jr. (1985a) Pattern and process in speciation of trechine beetles in eastern North America (Coleoptera: Carabidae: Trechinae). Pp. 350-407 in Ball GE (Ed.). *Taxonomy, phylogeny and zoogeography of beetles and ants. A volume dedicated to the memory of Philip Jackson Darlington, Jr. (1904-1983)*. Series Entomologica, volume 33. Dr W. Junk Publishers, Dordrecht / Boston / Lancaster. 514 pp. [DP: 16 October 1985 (CAL stamp)]
- Barr TC Jr. (1985b) New trechine beetles (Coleoptera: Carabidae) from the Appalachian region. *Brimleyana* 11: 119-132 [DP: 25 November 1985]
- Barr TC Jr. (1995) Notes on some anillines (Coleoptera, Carabidae, Bembidiinae) from southeastern United States, with descriptions of a new genus and two new species. *Special Bulletin of the Japanese Society of Coleopterology* 4: 239-248 [DP: 28 March 1995]
- Barr TC Jr. (2004) A classification and checklist of the genus *Pseudanophthalmus* Jeannel (Coleoptera: Carabidae: Trechinae). Virginia Museum of Natural History Special Publication 11. 52 pp.
- Barr TC Jr. (2009) New and rare species of *Maronetus* (Coleoptera: Carabidae: Cychrini) from the Appalachian Valley and Cumberland Plateau. Pp. 313-316 in Roble SM, Mitchell JC (Eds). *A lifetime of contributions to myriapodology and the natural history of Virginia: a festschrift in honor of Richard L. Hoffman's 80th birthday*. Virginia Museum of Natural History Special Publication No. 16. Virginia Museum of Natural History, Martinsville (VA). xv + 458 pp.
- Barr TC Jr., Krekeler CH (1967) *Xenotrechus*, a new genus of cave trechines from Missouri (Coleoptera: Carabidae). *Annals of the Entomological Society of America* 60: 1322-1325 [DP: 23 November 1967 (McD stamp)]
- Barr TC Jr., Lawrence JF (1960) New cavernicolous species of *Agonum* (*Rhadine*) from Texas (Coleoptera: Carabidae). *The Wasmann Journal of Biology* 18: 137-145 [DP: 23 June 1960]
- Barr TC Jr., Peck SB (1966) Discovery of *Pseudanophthalmus* (Coleoptera: Carabidae) in southern Illinois. *The American Midland Naturalist* 76: 519-522 [DP: October 1966]
- Barr TC Jr., Reddell JR (1967) The arthropod cave fauna of the Carlsbad caverns region, New Mexico. *The Southwestern Naturalist* 12: 253-274 [DP: 31 October 1967]
- Barševskis A (1994) The beetle genus *Notiophilus* Duméril, 1806 (Col. Carabidae) in Latvia [in Latvian]. *Dabas Izpētes Vēstis* 1 (2): 1-13 [not seen]
- Barševskis A (2001) *Notiophilus solodovnikovi* sp.n. (Coleoptera: Carabidae) - new groundbeetle species from Far East of Russia. *Baltic Journal of Coleopterology* 1: 37-40 [DP: 17 September 2001]
- Barševskis A (2004) *Notiophilus rufipes* Curtis, 1829 (Coleoptera: Carabidae) - a new ground beetle species for North America. *Baltic Journal of Coleopterology* 4: 45-47 [DP: 10 May 2004]
- Barševskis A (2006) About *Notiophilus solodovnikovi* Barševskis, 2001 and *Notiophilus bodemeyeri* Roubal, 1916 (Coleoptera: Carabidae) taxonomic status. *Baltic Journal of Coleopterology* 6: 65-68 [DP: 30 June 2006]

- Barševskis A (2007) Biogeography of the genus *Notiophilus* Dumeril, 1806 (Coleoptera: Carabidae). *Baltic Journal of Coleopterology* 7: 121-135.
- Barševskis A (2009) Ground beetles of genus *Notiophilus* Dumeril, 1806 (Coleoptera: Carabidae) in the world entomological collections 2. University of Colorado Museum. *Acta Biologica Universitatis Daugavpiliensis* 9: 137-138 [DP: 29 December 2009]
- Basilewsky P (1937) Description de deux *Carabus* nouveaux de l'Alaska. *Bulletin de la Société Entomologique de France* 42: 63 [DP: 25 March 1937]
- Basilewsky P (1946) Monographie du genre *Tefflus* Latreille (Col., Carabidae, Panagaeinae). Étude morphologique, systématique et géographique. *Novitates Entomologicae Supplementum* 5: 1-56 [DP: November 1946]
- Basilewsky P (1949) Notes sur le genre *Geobaenus* Dejean (Col. Carabidae Pterostichinae). *Bulletin & Annales de la Société Entomologique de Belgique* 85: 65-70 [DP: 12 May 1949]
- Basilewsky P (1950) Etudes sur les chlaeniens d'Afrique (Col. Carabidae). *Bulletin & Annales de la Société Entomologique de Belgique* 86: 40-54 [DP: 5 March 1950]
- Basilewsky P (1951) Révision générale des Harpalinae d'Afrique et de Madagascar (Coleoptera Carabidae). Deuxième partie. *Annales du Musée du Congo Belge Tervuren (Belgique), Série in 8°, Sciences Zoologiques* 9: 1-333 + 6 pls.
- Basilewsky P (1953a) *Carabidae (Coleoptera Adephaga)*. Exploration du Parc National de l'Upemba. Mission G.F. de Witte en collaboration avec W. Adam, A. Janssens, L. Van Meel et R. Verheyen (1946-1949). Fascicule 10. Institut des Parcs Nationaux du Congo Belge, Bruxelles. 252 pp. + 10 pls [DP: 16 March 1953]
- Basilewsky P (1953b) Révision des Leleupidiini (Col. Carabidae Zuphiinae). *Revue de Zoologie et de Botanique Africaines* 47: 263-281.
- Basilewsky P (1960) Etude des Dryptinae d'Afrique (Coleoptera Carabidae). *Bulletin & Annales de la Société Royale d'Entomologie de Belgique* 96: 133-182 [DP: 31 August 1960]
- Basilewsky P (1962a) *Carabidae I (Coleoptera Adephaga)*. Exploration du Parc National de la Garamba. Mission H. De Saeger en collaboration avec Baert P, Demoulin G, Denisoff I, Martin J, Micha M, Noirfalise A, Schoemaker P, Troupin G, Verschuren J (1949-1952). Fascicule 29. Institut des Parcs Nationaux du Congo et du Rwanda, Bruxelles. 152 pp. + 1 pl. [DP: 14 August 1962]
- Basilewsky P (1962b) Mission zoologique de l'I.R.S.A.C. en Afrique orientale. (P. Basilewsky et N. Leleup, 1957). LX. Coleoptera Carabidae. *Annales du Musée Royal de l'Afrique Centrale, Série in-8°, Zoologie* 107: 48-337 [DP: August 1962]
- Basilewsky P (1963a) Révision des Promecognathinae d'Afrique (Coleoptera, Carabidae). *Annals of the Transvaal Museum* 24: 305-319 [DP: August 1963]
- Basilewsky P (1963b) Révision des Galeritininae d'Afrique et de Madagascar (Coleoptera Carabidae). *Annales du Musée Royal de l'Afrique Centrale, Série in 8°, Sciences Zoologiques* [Annalen Koninklijk Museum voor Midden-Afrika, Reeks in -8°, Zoologische Wetenschappen] 120: 1-93 [DP: November 1963]
- Basilewsky P (1972) La faune terrestre de l'île de Sainte-Hélène (deuxième partie). II. - Insectes. 9. Coleoptera. 1. Fam. Carabidae. *Annales du Musée Royal de l'Afrique Centrale, Série in 8°, Sciences Zoologiques* [Annalen van het Koninklijk Museum voor Midden-Afrika, Reeks in -8°, Zoologische Wetenschappen] 192: 11-84 [DP: March 1972]

- Basilewsky P (1973) *Insectes coléoptères Carabidae Scaritinae*. Faune de Madagascar 37. ORSTOM, CNRS, Paris. 322 pp. [DP: 30 November 1973]
- Basilewsky P (1984) Essai d'une classification supragénérique naturelle des carabides lébiens d'Afrique et de Madagascar (Coleoptera Carabidae Lebiinae). *Revue de Zoologie Africaine* 98: 525-559 [DP: 28 September 1984]
- Basilewsky P (1985) *Insectes coléoptères Carabidae Platyninae*. Faune de Madagascar 64. Muséum national d'Histoire naturelle, Paris. 543 pp. [DP: 4 December 1985]
- Basilewsky P (1986) Sur quelques genres de Masoreini africains (Coleoptera Carabidae). *Revue de Zoologie Africaine* 100: 237-258 [DP: 1 September 1986]
- Basilewsky P (1989) Révision des Perigonini d'Afrique (Coleoptera Carabidae). *Revue de Zoologie Africaine* 103: 413-452 [DP: 27 December 1989]
- Basilewsky P, Grundmann E (1954) Sur les espèces-types des genres et sous-genres de la sous-famille des Callistinae (Col. Carabidae). *Bulletin & Annales de la Société Royale d'Entomologie de Belgique* 90: 239-259 [DP: 30 October 1954]
- Basilewsky P, Grundmann E (1955) Contributions à l'étude systématique des chlénien (Coleoptera Carabidae) II. *Bulletin & Annales de la Société Royale d'Entomologie de Belgique* 91: 199-206 [DP: 31 August 1955]
- Bates HW (1869) On *Coptodera* and the allied genera. *The Entomologist's Monthly Magazine* 6 [1869-70]: 69-80 [DP: (pp. 69-73), August 1869; (pp. 74-80), September 1869]
- Bates HW (1871) Note sur la synonymie des espèces de coptodérides décrites par M. le baron de Chaudoir et M. H.W. Bates. *Annales de la Société Entomologique de Belgique* 13 [1869-70]: xvi-xvii [DP: 1 July 1871 (*Pet. Nouv. Ent.*)]
- Bates HW (1873) On the geodephagous Coleoptera of Japan. *The Transactions of the Entomological Society of London for the year 1873*: 219-322 [DP: 20 May 1873 (Wheeler 1912, *Trans. Entomol. Soc. London* 1911: 757)]
- Bates HW (1874) On the geodephagous Coleoptera of New Zealand. *The Annals and Magazine of Natural History* (fourth series) 13: 233-246, 270-277 [DP: 1 April 1874 (Evenhuis 2003, *Zootaxa* 385: 26)]
- Bates HW (1878a) On new genera and species of geodephagous Coleoptera from Central America. *Proceedings of the Scientific Meetings of the Zoological Society of London for the year 1878*: 587-609 [DP: September 1878 (Duncan 1937, *Proc. Zool. Soc. London* 107: 73)]
- Bates HW (1878b) On new species of coleopterous insects (Geodephaga and Longicornia) taken by Dr. Stoliczka during the Forsyth Expedition to Kashgar in 1873-74. *Proceedings of the Scientific Meetings of the Zoological Society of London for the year 1878*: 713-721 [DP: September 1878 (Duncan 1937, *Proc. Zool. Soc. London* 107: 73)]
- Bates HW (1881) Insecta. Coleoptera. Vol. I. Part 1. In Godman FD, Salvin O (Eds). *Biologia Centrali-Americana*. Taylor and Francis, London. Pp. 1-40 + pls i-ii [DP: (pp. 1-16), October 1881; (pp. 17-40), December 1881]
- Bates HW (1882a) Insecta. Coleoptera. Vol. I. Part 1. In Godman FD, Salvin O (Eds). *Biologia Centrali-Americana*. Taylor and Francis, London. Pp. 41-152 + pls iii-v [DP: (pp. 41-72), February 1882; (pp. 73-88), April 1882; (pp. 89-112), June 1882; (pp. 113-136), August 1882; (pp. 137-152), October 1882]

- Bates HW (1882b) New species of geodephagous Coleoptera from north-west Mexico. *The Annals and Magazine of Natural History* (fifth series) 9: 319-321 [DP: 1 April 1882 (Evenhuis 2003, *Zootaxa* 385: 29)]
- Bates HW (1883a) Insecta. Coleoptera. Vol. I. Part 1. In Godman FD, Salvin O (Eds). *Biologia Centrali-Americana*. Taylor and Francis, London. Pp. 153-255 + pls vi-xii [DP: (pp. 153-168), January 1883; (pp. 169-216), March 1883; (pp. 217-240), September 1883; (pp. 241-256), December 1883]
- Bates HW (1883b) Supplement to the geodephagous Coleoptera of Japan, chiefly from the collection of Mr. George Lewis, made during his second visit, from February, 1880, to September, 1881. *The Transactions of the Entomological Society of London for the year 1883*: 205-290 [DP: 14 August 1883 (Wheeler 1912, *Trans. Entomol. Soc. London* 1911: 758)]
- Bates HW (1884) Insecta. Coleoptera. Vol. I. Part 1. In Godman FD, Salvin O (Eds). *Biologia Centrali-Americana*. Taylor and Francis, London. Pp. 256-316 + pl. xiii [DP: (pp. 257-296), July 1884; (pp. 297-312), August 1884; (pp. 313-316 + [i]-x), December 1884]
- Bates HW (1890) Additions to the Cicindelidae fauna of Mexico, with remarks on some of the previously-recorded species. *The Transactions of the Entomological Society of London for the year 1890*: 493-510 [DP: 1 October 1890 (Wheeler 1912, *Trans. Entomol. Soc. London* 1911: 759)]
- Bates HW (1891a) Additions to the carabideous fauna of Mexico, with remarks on some of the species previously recorded. *The Transactions of the Entomological Society of London for the year 1891*: 223-278 [DP: 1 June 1891 (Wheeler 1912, *Trans. Entomol. Soc. London* 1911: 759)]
- Bates HW (1891b) Coleoptera. Pp. 7-39 in: *Supplementary appendix to travels amongst the Great Andes of the Equator by Edward Whymper with contributions by H.W. Bates, T.G. Bonney, G.A. Boulenger, Peter Cameron, F. Day, W.L. Distant, A.E. Eaton, F.D. Godman, H.S. Gorham, Martin Jacoby, E.J. Miers, A. Sidney Ollif, O. Salvin, David Sharp, T.R.R. Stebbing. Illustrated*. John Murray, London. xxii + [1 (Addenda)] + 147 pp. + 14 pls.
- Battoni F (1985) Una nuova specie di *Harpalus* Latreille, 1802 (subg. *Megapangus* Casey, 1914) degli U.S.A. (Coleoptera, Carabidae). *Giornale Italiano di Entomologia* 2 [1984-85]: 355-360 [DP: 31 December 1985]
- Beaton G (2008) Notes on tiger beetle distributions in the state of Georgia, U.S.A., with new county records (Coleoptera: Cicindelidae). *Cicindela* 40: 37-45 [DP: 6 November 2008 (CUL stamp), 12 November 2008 (CML stamp)]
- Beatty DR, Knisley CB (1984) A description of the larval stages of *Cicindela rufiventris* Dejean (Coleoptera: Cicindelidae). *Cicindela* 14 [1982]: 1-17 [DP: 1 February 1984 (CUL stamp); 9 February 1984 (CAL stamp)]
- Bechtel RC, Hanks LM, Rust RW (1983) Coleoptera of Sand Mountain and Blow Sand Mountains, Nevada. *The Southwestern Naturalist* 28: 473-478 [DP: 9 December 1983]
- Bedel L (1878) Notes pour servir à la nomenclature générale des coléoptères. *Annales de la Société Entomologique de France* (cinquième série) 8: 245-260 [DP: 27 November 1878]
- Bedel L (1879) Faune des coléoptères du bassin de la Seine et de ses bassins secondaires. 1<sup>er</sup> Sous-ordre. Carnivora. *Annales de la Société Entomologique de France* (cinquième série) 9

- [appendix]: 1-128 [DP: (pp. 1-32), 25 June 1879; (pp. 33-80), 27 August 1879; (pp. 81-128), 12 November 1879]
- Bedel L (1880) Faune des coléoptères du bassin de la Seine et de ses bassins secondaires. 1<sup>er</sup> Sous-ordre. Carnivora. *Annales de la Société Entomologique de France* (cinquième série) 10 [appendix]: 129-256 [DP: (pp. 129-160), 21 March 1880; (pp. 161-192), 9 June 1880; (pp. 193-224), 25 August 1880; (pp. 225-256), 8 December 1880]
- Bedel L (1881) *Faune des coléoptères du Bassin de la Seine. Première partie. Tome 1er avec planche*. Société Entomologique de France, Paris. xxiv + 359 + [1] pp. + 1 pl. Note. Pages 1-359 were first issued as appendices to the *Annales de la Société Entomologique de France* in 1879 (pp. 1-128), 1880 (pp. 129-256), and 1881 (pp. 257-359). Only pages i-xxiv and the unpaginated one at the end of the book were not previously issued.
- Bedel L (1896) *Catalogue raisonné des coléoptères du Nord de l'Afrique (Maroc, Algérie, Tunisie et Tripolitaine) avec notes sur la faune des îles Canaries et de Madère*. Société Entomologique de France, Paris. Pp. 49-84 [DP: (pp. 49-68), March 1896; (pp. 69-84), October 1896] Note. The entire work appeared from 1895 to 1914 and in 1925 and contained 402 pages; the first 320 pages were published in connection with *L'Abeille, Journal d'Entomologie*, with separate title-page and pagination.
- Bedel L (1897) *Catalogue raisonné des coléoptères du Nord de l'Afrique (Maroc, Algérie, Tunisie et Tripolitaine) avec notes sur la faune des îles Canaries et de Madère*. Société Entomologique de France, Paris. Pp. 85-124 [DP: (pp. 85-100), February 1897; (pp. 101-108), March 1897; (pp. 109-124), August 1897]
- Bedel L (1899) *Catalogue raisonné des coléoptères du Nord de l'Afrique (Maroc, Algérie, Tunisie et Tripolitaine) avec notes sur la faune des îles Canaries et de Madère*. Société Entomologique de France, Paris. Pp. 137-200 [DP: (pp. 137-152), February 1899; (pp. 153-160), March 1899; (pp. 161-168), June 1899; (pp. 169-200), October 1899]
- Bedel L (1900a) *Exploration scientifique de la Tunisie. Catalogue raisonné des coléoptères de Tunisie comprenant tous les documents déjà publiés ou obligeamment communiqués et spécialement le résultat des voyages de MM. Valéry Mayet et Maurice Sédillot. Première partie. Cicindelidae-Staphylinidae*. Imprimerie Nationale, Paris. xiv + 130 pp.
- Bedel L (1900b) Notes synonymiques d'après les types de la collection R. Oberthür [Col.]. *Bulletin de la Société Entomologique de France* (année 1900): 247-248.
- Bedel L (1902) *Catalogue raisonné des coléoptères du Nord de l'Afrique (Maroc, Algérie, Tunisie et Tripolitaine) avec notes sur la faune des îles Canaries et de Madère*. Société Entomologique de France, Paris. Pp. 209-220 [DP: November 1902]
- Bedel L (1906) *Catalogue raisonné des coléoptères du Nord de l'Afrique (Maroc, Algérie, Tunisie et Tripolitaine) avec notes sur la faune des îles Canaries et de Madère*. Société Entomologique de France, Paris. Pp. 253-264.
- Bedel L (1907) *Catalogue raisonné des coléoptères du Nord de l'Afrique (Maroc, Algérie, Tunisie et Tripolitaine) avec notes sur la faune des îles Canaries et de Madère*. Société Entomologique de France, Paris. Pp. 265-280.
- Bedel L (1910) Sur *Ophionea chaudiroides* Bohem. et sur quelques genres du groupe des *Colliuris* Degeer [Col. Carabidae]. *Bulletin de la Société Entomologique de France* (année 1910): 71-72 [DP: 7 March 1910]



- Beer FM (1971) A new species of *Scaphinotus* from Oregon (Coleoptera: Carabidae). *The Pan-Pacific Entomologist* 47: 257-259 [DP: 30 December 1971]
- Beier M, Strouhal H (1928) Käferlarven und Käferpuppen aus Maulwurfsnestern. *Zeitschrift für Wissenschaftliche Insektenbiologie* 23: 1-34 [DP: 31 January 1928]
- Belaoussoff S, Kevan PG, Murphy S, Swanton C (2003) Assessing tillage disturbance on assemblages of ground beetles (Coleoptera: Carabidae) by using a range of ecological indices. *Biodiversity and Conservation* 12: 851-882.
- Beling KWT (1877) Beitrag zur Metamorphose der Käfer. *Archiv für Naturgeschichte* 43(1): 41-54.
- Bell R Jr. (1859) Catalogue of animals and plants collected and observed, on the south-east side of the St. Lawrence from Quebec to Gaspé, and in the counties of Rimouski, Gaspé and Bonaventure. Pp. 243-263 in: *Geological survey of Canada. Report of progress for the year 1858*. John Lovell, Montreal. 263 pp. [DP: >1 May 1859]
- Bell RT (1959) A new species of *Scaphinotus* Dej., intermediate between *Scaphinotus* s.str. and *Irichroa* Newman (Coleoptera, Carabidae). *Proceedings of the Entomological Society of Washington* 61: 11-13 [DP: 6 March 1959]
- Bell RT (1960) A revision of the genus *Chlaenius* Bonelli (Coleoptera, Carabidae) in North America. *Miscellaneous Publications of the Entomological Society of America* 1: 97-166 [DP: 27 July 1960]
- Bell RT (1966a) *Chlaenius patruelis* LeConte a valid species (Coleoptera: Carabidae). *Proceedings of the Entomological Society of Washington* 68: 321-322 [DP: 19 December 1966]
- Bell RT (1966b) *Trachypachus* and the origin of the Hydradephaga (Coleoptera). *The Coleopterists Bulletin* 20: 107-112 [DP: 22 December 1966]
- Bell RT (1967) Coxal cavities and the classification of the Adephaga (Coleoptera). *Annals of the Entomological Society of America* 60: 101-107 [DP: 30 January 1967 (McD stamp)]
- Bell RT (1970) The Rhysodini of North America, Central America, and the West Indies (Coleoptera: Carabidae or Rhysodidae). *Miscellaneous Publications of the Entomological Society of America* 6 [1968-70]: 289-324 [DP: 17 February 1970]
- Bell RT (1971) Carabidae (Ground beetles). Grassland Biome, U.S. International Biological Program, Technical Report No. 66. iv + 58 pp. [DP: January 1971]
- Bell RT (1985a) *Pentagonica* of the West Indies (Coleoptera: Carabidae). *The Coleopterists Bulletin* 39: 321-327 [DP: 7 November 1985]
- Bell RT (1985b) A catalog of the Coleoptera of America north of Mexico. Family Rhysodidae. US Department of Agriculture, Agriculture Handbook No. 529-4. vii + 6 pp. [DP: November 1985]
- Bell RT (1987) A new species of *Pentagonica* Schmidt-Goebel (Coleoptera: Carabidae) from the southwestern United States. *The Coleopterists Bulletin* 41: 373-376 [DP: 22 December 1987]
- Bell RT (1989a) Distribution of *Pentagonica felix* Bell (Coleoptera: Carabidae) in Mexico. *The Coleopterists Bulletin* 43: 156 [DP: 30 June 1989]
- Bell RT (1989b) *Asaphidion flavipes* Linnaeus in New Hampshire (Coleoptera: Carabidae). *The Coleopterists Bulletin* 43: 204 [DP: 30 June 1989]

- Bell RT (1998) Where do the Rhysodini (Coleoptera) belong? Pp. 261-271 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Bell RT, Bell JR (1962) The taxonomic position of the Rhysodidae (Coleoptera). *The Coleopterists Bulletin* 16: 99-106 [DP: 11 December 1962]
- Bell RT, Bell JR (1975) Two new taxa of *Clinidium* (Coleoptera: Rhysodidae or Carabidae) from the eastern U.S., with a revised key to U.S. *Clinidium*. *The Coleopterists Bulletin* 29: 65-68 [DP: 2 July 1975]
- Bell RT, Bell JR (1978) Rhysodini of the world. Part I. A new classification of the tribe, and a synopsis of *Omoglymmius* subgenus *Nitiglymmius*, new subgenus (Coleoptera: Carabidae or Rhysodidae). *Quaestiones Entomologicae* 14: 43-88 [DP: 24 April 1978 (CUL stamp)]
- Bell RT, Bell JR (1983) Rhysodini of the world. Part III. Revision of *Omoglymmius* Ganglbauer (Coleoptera: Carabidae or Rhysodidae) and substitutions for preoccupied generic names. *Quaestiones Entomologicae* 18 [1982]: 127-259 [DP: 23 February 1983 (CUL stamp)]
- Bell RT, Bell JR (1985) Rhysodini of the world. Part IV. Revisions of *Rhyzodiastes* Fairmaire and *Clinidium* Kirby, with new species in other genera (Coleoptera: Carabidae or Rhysodidae). *Quaestiones Entomologicae* 21: 1-172 [DP: 2 April 1985 (CUL stamp), 4 April 1985 (CAL stamp)]
- Bell RT, Davidson RL (1987) *Harpalus rubripes* Duftschmid, a European ground beetle new to North America (Coleoptera: Carabidae). *The Coleopterists Bulletin* 41: 56 [DP: 8 April 1987]
- Bell RT, Nielsen GR (1978) *Evarthrus sodalis sodalis* LeConte in Vermont (Coleoptera: Carabidae). *Cordulia* 4: 8 [DP: 23 May 1978 (CAL stamp)]
- Bellamy CL (1991) Notes on the G.B. Vogt collection, part I: south Texas (Coleoptera and Hemiptera). *Proceedings of the Entomological Society of Washington* 93: 733-736 [DP: 3 October 1991]
- Benedict W (1927) Two interesting beetles from Carlsbad Cavern. *The Pan-Pacific Entomologist* 4 [1927-28]: 44-46, 90 [DP: 16 September 1927]
- Bengtsson S (1927) Die Larven der nordischen Arten von *Carabus* Lin. Eine morphologische Studie. *Kungl. Fysiografiska Sällskapets Handlingar* (ny följd) 39 (2): 1-89 [DP: 20 December 1927]
- Bennike O (2000) Notes on the late Cenozoic history of the Washington Land area, western North Greenland. *Geology of Greenland Survey Bulletin* 186: 29-34 [DP: 25 September 2000 (NRC stamp)]
- Bennike O, Böcher J (1990) Forest-tundra neighbouring the North Pole: plant and insect remains from the Plio-Pleistocene Kap København formation, north Greenland. *Arctic* 43: 331-338 [DP: 28 December 1990]
- Benschoter CA, Cook EF (1956) A revision of the genus *Omophron* (Carabidae, Coleoptera) of North America north of Mexico. *Annals of the Entomological Society of America* 49: 411-429 [DP: 29 October 1956]

- Bergdahl JC, Kavanaugh DH (2011) Two new species of *Pterostichus* Bonelli subgenus *Pseudoferonina* Ball (Coleoptera, Carabidae, Pterostichini) from the mountains of central Idaho, U.S.A. *ZooKeys* 104: 77-96 [DP: 13 June 2011]
- Berghe EP van den (1994) *Omus cazieri*, a new species from southern Oregon (Coleoptera: Cicindelidae). *Cicindela* 26: 33-39 [DP: 16 December 1994]
- Berlov O (1996) Key to north Siberian subgenera of the genus *Pterostichus* Bonelli (Coleoptera, Carabidae) [in Russian]. *Vestnik Irkutskoy Gosudarstvennoy Sel'skokhozyaystvennoy Akademii* 2: 10-14 [DP: >16 December 1996]
- Berlov O (1997) *Cryobiopterus* - a new Holarctic subgenus of the genus *Pterostichus* (Coleoptera, Carabidae) [in Russian]. *Vestnik Irkutskoy Gosudarstvennoy Sel'skokhozyaystvennoy Akademii* 9: 36-38 [DP: >8 December 1997]
- Berlov O (1999) *Pterostichus ybousqueti* - a new replacement name for *Pterostichus parens* Casey (Coleoptera, Carabidae). *Vestnik Irkutskoy Gosudarstvennoy Sel'skokhozyaystvennoy Akademii* 14: 60 [DP: >15 March 1999]
- Berlov O (2000) Two new subgenera of the genus *Pterostichus* (Coleoptera, Carabidae) from Japan. *Vestnik Irkutskoy Gosudarstvennoy Sel'skokhozyaystvennoy Akademii* 19: 4-5.
- Berlov O, Berlov E (1997) A new subspecies of *Pterostichus* (*Lenapterus*) *agonus* Horn (Coleoptera, Carabidae) from Yakutia [in Russian]. *Vestnik Irkutskoy Gosudarstvennoy Sel'skokhozyaystvennoy Akademii* 4: 50 [DP: >28 February 1997]
- Berlov O, Plutenko A (1997) Two new subgenera of the genus *Pterostichus* (Coleoptera, Carabidae) from the Far East of Russia. *Vestnik Irkutskoy Gosudarstvennoy Sel'skokhozyaystvennoy Akademii* 5: 47-51 [DP: >28 March 1997]
- Bertholf J (1983) Tiger beetles of the genus *Cicindela* in Arizona (Coleoptera: Cicindelidae). Texas Tech University Museum Special Publications No. 19. 44 pp. [DP: 15 April 1983]
- Bertkau P (1884) Bericht über die wissenschaftlichen Leistungen im Gebiete der Arthropoden während der Jahre 1883. *Archiv für Naturgeschichte* 50(4): 1-266.
- Beutel RG (1990) Metathoracic features of *Omoglymmius hamatus* and their significance for classification of Rhysodini (Coleoptera: Adephaga). *Entomologia Generalis* 15: 185-201 [DP: 26 September 1990]
- Beutel RG (1991) Larval head structures of *Omophron* and their implications for the relationships of Omophronini (Coleoptera: Carabidae). *Entomologica Scandinavica* 22: 55-67 [DP: April 1991]
- Beutel RG (1992a) Larval head structures of *Omoglymmius hamatus* and their implications for the relationships of Rhysodidae (Coleoptera: Adephaga). *Entomologica Scandinavica* 23: 169-184 [DP: July 1992]
- Beutel RG (1992b) Study on the systematic position of Metriini based on characters of the larval head (Coleoptera: Carabidae). *Systematic Entomology* 17: 207-218 [DP: 5 August 1992 (CAL stamp)]
- Beutel RG (1992c) Phylogenetic analysis of thoracic structures of Carabidae (Coleoptera: Adephaga). *Zeitschrift für Zoologische Systematik und Evolutionsforschung* 30: 53-74.
- Beutel RG (1992d) Larval head structures of *Licinus silphoides* Rossi and their phylogenetic implications (Coleoptera: Carabidae). *Entomologica Basiliensia* 15: 169-194 [DP: 31 December 1992]

- Beutel RG (1993) Phylogenetic analysis of Adephaga (Coleoptera) based on characters of the larval head. *Systematic Entomology* 18: 127-147 [DP: 19 May 1993]
- Beutel RG (1994) Study on the systematic position of *Systolosoma breve* Solier (Adephaga: Trachypachidae) based on characters of the thorax. *Studies on Neotropical Fauna and Environment* 29: 161-167 [DP: 2 November 1994 (CAL stamp)]
- Beutel RG (1995) The Adephaga (Coleoptera): phylogeny and evolutionary history. Pp. 173-217 in Pakaluk J, Ślipiński SA (Eds). *Biology, phylogeny, and classification of Coleoptera: papers celebrating the 80th birthday of Roy A. Crowson. Volume one*. Muzeum i Instytut Zoologii PAN, Warszawa. xii + 558 pp. [DP: 31 March 1995 (Bouchard *et al.* 2011: 751)]
- Beutel RG (1998) Trachypachidae and the phylogeny of Adephaga (Coleoptera). Pp. 81-106 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Beutel RG, Belkaceme T (1986) Comparative studies on the metathorax of Hydradephaga and Trachypachidae (Coleoptera). *Entomologica Basiliensia* 11: 221-229 [DP: 30 October 1986]
- Beutel RG, Haas A (1996) Phylogenetic analysis of larval and adult characters of Adephaga (Coleoptera) using cladistic computer programs. *Entomologica Scandinavica* 27: 197-205 [DP: June 1996]
- Beutel RG, Ribera I (2005) Adephaga Schellenberg, 1806. Pp. 53-55 in Beutel RG, Leschen RAB (Eds). *Coleoptera, beetles. Volume 1: morphology and systematics (Archostemata, Adephaga, Myxophaga, Polyphaga partim)*. Handbook of Zoology. Volume IV Arthropoda: Insecta part 38. Walter de Gruyter, Berlin. xi + 567 pp.
- Beutel RG, Ribera I, Bininda-Emonds ORP (2008) A genus-level supertree of Adephaga (Coleoptera). *Organisms, Diversity & Evolution* 7: 255-269 [DP: 23 January 2008]
- Beutel RG, Roughley RE (1988) On the systematic position of the family Gyrinidae (Coleoptera: Adephaga). *Zeitschrift für Zoologische Systematik und Evolutionsforschung* 26: 380-400 [DP: 23 November 1988 (CISTI stamp)]
- Beutenmüller W (1897) Preliminary handbook of the Coleoptera of northeastern America. *Journal of the New York Entomological Society* 5: 36-40.
- Beutenmüller W (1903) Notes on some beetles from the Black Mountains, with descriptions of new species. *Bulletin of the American Museum of Natural History* 19: 511-519 [DP: 26 September 1903]
- Beutenmüller W (1913) A new *Nomaretus* from Mount Mitchell, North Carolina (Coleoptera, Carabidae). *Insecutor Inscitiae Menstruus* 1: 139-140 [DP: 29 November 1913]
- Beutenmüller W (1918) Notes on the *Cychrus* found in the Black Mountains, North Carolina. *Bulletin of the Brooklyn Entomological Society* 13: 89-90 [DP: October 1918]
- Billberg GJ (1820) *Enumeratio insectorum in Museo Gust. Joh. Billberg. Gadelianis* [Stockholm]. [iv] + 138 pp.
- Bils W (1976) Das Abdomenende weiblicher, terrestrisch lebender Adephaga (Coleoptera) und seine Bedeutung für die Phylogenie. *Zoomorphologie* 84: 113-193 [DP: 31 May 1976]

- Bílý S (1971) The larva of *Amara* (*Celia*) *erratica* (Duftschmidt) and notes on the bionomy of this species. *Acta Entomologica Bohemoslovaca* 68: 89-94 [DP: 23 March 1971]
- Bílý S (1972) The larva of *Amara* (*Amara*) *eurynota* (Panzer) (Coleoptera, Carabidae) and notes on the bionomy of this species. *Acta Entomologica Bohemoslovaca* 69: 324-329 [DP: 25 September 1972]
- Bílý S (1975) Larvae of the genus *Amara* (subgenus *Celia* Zimm.) from central Europe (Coleoptera, Carabidae). *Studie ČSAV* 13: 1-74.
- Blackwelder RE (1939) *Fourth supplement 1933 to 1938 (inclusive) to the Leng catalogue of Coleoptera of America, north of Mexico*. John. D. Sherman Jr., Mount Vernon (N.Y.). 146 pp. [DP: December 1939]
- Blackwelder RE (1944) Checklist of the Coleopterous insects of Mexico, Central America, the West Indies, and South America. Part I. United States National Museum Bulletin 185. xii + 188 pp. [DP: 7 March 1944]
- Blackwelder RE (1950) The Casey room: memorial to a coleopterist. *The Coleopterists Bulletin* 4: 65-80 [DP: 7 December 1950 (CUL stamp)]
- Blackwelder RE (1957) Checklist of the Coleopterous insects of Mexico, Central America, the West Indies, and South America. Part 6. United States National Museum Bulletin 185. vii + pp. 927-1492 [DP: 15 May 1957]
- Blackwelder RE, Blackwelder RM (1948) *Fifth supplement 1939-1947 (inclusive) to the Leng catalogue of Coleoptera of America, north of Mexico*. John D. Sherman Jr., Mount Vernon (NY). 87 pp. [DP: October 1948]
- Blades DCA, Maier CW (1996) A survey of grassland and montane arthropods collected in the southern Okanagan region of British Columbia. *Journal of the Entomological Society of British Columbia* 93: 49-73.
- Blaisdell FE Sr. (1902) The frons in *Bembidium*, with descriptions of new species. *Proceedings of the Academy of Natural Sciences of Philadelphia* 54: 70-79 [DP: 16 May 1902]
- Blaisdell FE Sr. (1904) [A new name for *Bembidium concinnum*]. *Entomological News* 15: 349 [DP: 7 December 1904 (CUL stamp)]
- Blaisdell FE Sr. (1925) Coleoptera of the Pacific Coast, notes and criticisms. *Entomological News* 36: 79-85 [DP: 5 March 1925]
- Blaisdell FE Sr., Reynolds LR (1917) A new *Omus* (Coleop.). *Entomological News* 28: 49-55 [DP: 5 February 1917]
- Blanchard CE (1842) *Voyage au Pole Sud et dans l'Océanie sur les corvettes l'Astrolabe et la Zélée; exécuté par ordre du Roi pendant les années 1837-1838-1839-1840, sous le commandement de M.J. Dumont-d'Urville, Capitaine de vaisseau; publié par ordre du gouvernement, sous la direction supérieure de M. Jacquinot, Capitaine de vaisseau, commandant de la Zélée. Zoologie Atlas*. [Livraison 3]. Paris. 5 pls (including pl. 1) [DP: 8 December 1842 (Emberson 1992: 255)]
- Blanchard CE (1845) *Histoire des insectes, traitant de leurs moeurs et de leurs métamorphoses en général et comprenant une nouvelle classification fondée sur leurs rapports naturels. Hyménoptères et coléoptères*. Firmin Didot frères, Paris. v + 398 pp. + pls 1-10 [DP: 11 June 1845 (Soc. Ent. Fr.)]



- Blanchard CE (1853) *Voyage au Pole Sud et dans l'Océanie sur les corvettes l'Astrolabe et la Zélée; exécuté par ordre du Roi pendant les années 1837-1838-1839-1840, sous le commandement de M.J. Dumont-d'Urville, Capitaine de vaisseau; publié par ordre du gouvernement, sous la direction supérieure de M. Jacquinot, Capitaine de vaisseau, commandant de la Zélée. Zoologie par MM. Hombroux et Jacquinot. Tome quatrième.* Gide et J. Baudry, Paris. 422 pp.
- Bland JHB (1863) Descriptions of a few supposed new species of North American Coleoptera. *Proceedings of the Entomological Society of Philadelphia* 1 [1861-63]: 353-356.
- Bland JHB (1864) Descriptions of a few supposed new species of North American Coleoptera. No. 2. *Proceedings of the Entomological Society of Philadelphia* 2 [1863-64]: 319-323.
- Bland JHB (1865) Descriptions of several new species of North American Coleoptera. *Proceedings of the Entomological Society of Philadelphia* 4: 381-384 [DP: 13 May 1865 (*Ent. Soc. Phil.*)]
- Blatchley WS (1910) *An illustrated descriptive catalogue of the Coleoptera or beetles (exclusive of the Rhynchophora) known to occur in Indiana. With bibliography and descriptions of new species.* The Nature Publishing Co., Indianapolis. 1386 pp. [DP: 20 September 1910] Note. This book was also issued simultaneously as *Bulletin No. 1 of the Indiana Department of Geology and Natural Resources*. The cover of that issue bears the title “The Coleoptera or beetles of Indiana”; the next page, which is actually the title-page, has the title “On the Coleoptera known to occur in Indiana” and the following page, which is the first page of the text, bears the title of the private edition.
- Blatchley WS (1912) A new species of *Dicaelus* from Arkansas (Coleop.). *Entomological News* 23: 77-78 [DP: 31 January 1912]
- Blatchley WS (1918) Some new or scarce Coleoptera from western and southern Florida. *The Canadian Entomologist* 50: 416-424 [DP: 31 December 1918]
- Blatchley WS (1922) Some new and rare Coleoptera from southwestern Florida. *The Canadian Entomologist* 54: 9-14 [DP: 24 April 1922], 27-33 [DP: 11 May 1922]
- Blatchley WS (1923) Notes on the Coleoptera of southern Florida with descriptions of new species. *The Canadian Entomologist* 55: 13-20 [DP: 3 March 1923]
- Blatchley WS (1924) New Coleoptera from southern Florida with notes on other interesting species. *The Canadian Entomologist* 56: 164-170 [DP: 29 August 1924]
- Blatchley WS (1928a) Notes on the supplement to Leng's catalogue of Coleoptera. *Bulletin of the Brooklyn Entomological Society* 23: 47-49 [DP: 11 February 1928]
- Blatchley WS (1928b) Notes on some Florida Coleoptera with descriptions of new species. *The Canadian Entomologist* 60: 60-73 [DP: 31 March 1928]
- Blatchley WS (1930) *Blatchleyana. A list of the published writings of W.S. Blatchley, A.B., A.M., LL.D. of Indianapolis, Indiana and Dunedin, Florida. Together with a chronology of his life: the fixation of types of new genera and species described by him, etc., etc.* The Nature Publishing Co., Indianapolis. 77 pp.
- Blisson J-F-I (1848) Description de la larve et de la nymphe de la *Nebria brevicollis* Fabr. *Annales de la Société Entomologique de France* 16: 73-88 [DP: 14 June 1848]
- Blumenthal CL (1958) *Carabus limbatus* Say. n. *clarkei* n.ssp. *Entomologische Blätter für Biologie und Systematik der Käfer* 54: 64 [DP: 1 July 1958]
- Böcher J (1988) The Coleoptera of Greenland. *Meddelelser om Grønland, Bioscience* 26: 1-100.

- Böcher J (1995) Palaeoentomology of the Kap København Formation, a Plio-Pleistocene sequence in Peary Land, North Greenland. *Meddelelser om Grønland, Geoscience* 33: 1-82.
- Boer A de (2002) *The types of Carabidae (Coleoptera) in the Zoölogisch Museum Amsterdam, predominantly the collection "Oskar Vogt."* Biodiversity Information Series from the Zoölogisch Museum Amsterdam, Volume 2. Backhuys Publishers, Leiden. vii + 147 pp.
- Boheman CH (1858) Coleoptera. Species novas descripsit. Pp. 1-112 in: *Kongliga Svenska Fregatten Eugenies Resa omkring jorden under befäl af C.A. Virgin, åren 1851–1853. Vetenskapliga iakttagelser på H.Maj:t Konung Oscar den förstes befallning utgifna af K. Svenska Vetenskaps-Akademien. Vol. 2. Zoologi. 1. Insecta.* P.A. Norstedt & Söner, Stockholm. Note. Section 1 of the expedition report, containing the insects, was published 1858-1869.
- Boisduval JBA, Lacordaire JT (1835) *Faune entomologique des environs de Paris; ou species général des insectes qui se trouvent dans un rayon de quinze à vingt lieues aux alentours de Paris. Tome premier.* Méquignon-Marvis, Père et Fils, Paris. 17 + 696 [numbered i-cii, 103-696] pp. + 3 pls [DP: September 1835]
- Boldori L (1931a) Nuovi appunti sulle larve dei Trechini. Nota preliminare. *Le Grotte d'Italia* 5: 1-14.
- Boldori L (1931b) Altri appunti sulle larve dei Trechini. *Memorie della Società Entomologica Italiana* 10: 149-167.
- Boldori L (1935) Larve di *Amara* (nota preliminare). *Bolletino della Società Entomologica Italiana* 67: 150-151 [DP: 31 December 1935 (Poggi 2008, *Mem. Soc. entomol. Ital.* 87: 169)]
- Boldori L (1940) Note sui Cleniini (Coleopt. Carab. Chlaeniini). *Memorie della Società Entomologica Italiana* 18 [1939]: 283-286 [DP: 15 January-27 April 1940 (Poggi 2008, *Mem. Soc. entomol. Ital.* 87: 179)]
- Boldori L (1951) Larve di Trechini - VIII. *Rassegna Speleologica Italiana* 3: 141-151.
- Bolívar y Pieltain C (1944) Descubrimiento de un *Rhadine* afenopsiano en el estado de Nuevo Leon, Mexico (Col. Carab.). *Ciencia, Revista Hispano-Americana de Ciencias Puras y Aplicadas* 5: 25-28 [DP: 15 July 1944]
- Bolívar y Pieltain C, Hendrichs J (1964) Agoninos cavernícolas nuevos del genero *Rhadine* de Nuevo Leon, Coahuila y San Luis Potosi (Mexico) (Col., Carab.). *Ciencia, Revista Hispano-Americana de Ciencias Puras y Aplicadas* 23: 5-16 [DP: 20 February 1964]
- Bonelli FA (1810) *Observations entomologiques. Première partie (cicindélètes et portion des carabiques)* [with the "Tabula synoptica exhibens genera carabiorum in sectiones et stirpes disposita"]. Turin. 58 pp. + 1 table. Note. The paper was reissued in 1812, without the "Tabula Synoptica," in *Memorie della Reale Accademia della Scienze di Torino* 18: 21-78 (see Madge 1978, *Bull. Zool. Nomencl.* 35: 9-12).
- Bonelli FA (1813) *Observations entomologiques. Deuxième partie.* *Memorie della Reale Accademia della Scienze di Torino* 20: 433-484.
- Bouchard P, Bousquet Y, Davies AE, Alonso-Zarazaga MA, Lawrence JF, Lyal CHC, Newton AF, Reid CAM, Schmitt M, Ślipiński SA, Smith ABT (2011) Family-group names in Coleoptera (Insecta). *ZooKeys* 88: 1-972 [DP: 4 April 2011]
- Bouchard P, Wheeler TA, Goulet H (2006) Ground beetles (Coleoptera: Carabidae) from alvar habitats in Ontario. *Journal of the Entomological Society of Ontario* 136 [2005]: 3-23 [DP: 15 November 2006 (CAL stamp)]

- Bourassa S, Wood CM (2011) First record of *Diacheila arctica amoena* (Faldermann) (Coleoptera: Carabidae) in Alberta, Canada. *The Coleopterists Bulletin* 65: 144-145 [DP: 20 June 2011]
- Bousquet Y (1977) Morphologie larvaire, biologie et écologie des Cychrini (Coleoptera: Carabidae) du Québec. M.Sc. Thesis, Université de Montréal. xvi + 94 pp.
- Bousquet Y (1983) Redefinition of the genus *Stomis* Clairville (Coleoptera: Carabidae) with the description of a new subgenus from western North America. *The Canadian Entomologist* 115: 1597-1605 [DP: 25 November 1983 (CAL stamp)]
- Bousquet Y (1984a) Nomenclatural notes on Nearctic Pterostichini (Coleoptera: Carabidae). *Quaestiones Entomologicae* 20: 1-5 [DP: 1 February 1984 (CAL stamp)]
- Bousquet Y (1984b) The subgenus *Steropus* Dejean (Coleoptera: Carabidae: *Pterostichus*): adult and larval character states, with notes on taxonomic limits and relationships. *The Canadian Entomologist* 116: 1611-1621 [DP: 30 November 1984 (CAL stamp)]
- Bousquet Y (1985a) The subgenus *Pseudoferonina* Ball (Coleoptera: Carabidae: *Pterostichus*): description of three new species with a key to all known species. *The Pan-Pacific Entomologist* 61: 253-260 [DP: 11 July 1985]
- Bousquet Y (1985b) Description of the larva of *Atronus pubescens* (Dejean) (Coleoptera: Carabidae). *The Coleopterists Bulletin* 39: 329-334 [DP: 7 November 1985]
- Bousquet Y (1985c) Morphologie comparée des larves de Pterostichini (Coleoptera: Carabidae): descriptions et tables de détermination des espèces du nord-est de l'Amérique du Nord. *Le Naturaliste Canadien* 112: 191-251 [DP: 6 December 1985 (CAL stamp)]
- Bousquet Y (1986) Description of first-instar larva of *Metrius contractus* Eschscholtz (Coleoptera: Carabidae) with remarks about phylogenetic relationships and ranking of the genus *Metrius* Eschscholtz. *The Canadian Entomologist* 118: 373-388 [DP: 4 June 1986 (CAL stamp)]
- Bousquet Y (1987a) The carabid fauna of Canada and Alaska: range extensions, additions and descriptions of two new species of *Dyschirius* (Coleoptera: Carabidae). *The Coleopterists Bulletin* 41: 111-135 [DP: 26 June 1987]
- Bousquet Y (1987b) Notes about the relationships of the Callistini (= Chlaeniini) (Coleoptera: Carabidae). *The Coleopterists Bulletin* 41: 165-166 [DP: 26 June 1987]
- Bousquet Y (1987c) Description of the larva of *Helluomorphoides praeustus bicolor* Harris with comments on the relationships of the Helluonini (Coleoptera: Carabidae). *The Canadian Entomologist* 119: 921-930 [DP: 4 November 1987 (CAL stamp)]
- Bousquet Y (1987d) Family Carabidae. Pp. 102-107 in Lafontaine JD, Allyson S, Behan-Pelletier VM, Borkent A, Campbell JM, Hamilton KGA, Martin JEH, Masner L (Eds). *The insects, spiders and mites of Cape Breton Highlands National Park*. BRC Report 1. Agriculture Canada, Ottawa. 302 pp.
- Bousquet Y (1988a) *Dyschirius* of America north of Mexico: descriptions of new species with keys to species groups and species (Coleoptera: Carabidae). *The Canadian Entomologist* 120: 361-387 [DP: 13 May 1988 (CAL stamp)]
- Bousquet Y (1988b) Redescription de *Stobeus collucens* Fairmaire, espèce appartenant au genre *Stomis* Clairville (Coleoptera: Carabidae). *Annales de la Société Entomologique de France* (nouvelle série) 24: 229-231 [DP: 30 June 1988]

- Bousquet Y (1989) Descriptions of the larvae of *Pterostichus ohionis* Csiki and *P. blanchardi* Horn with a key to larvae of eastern North American Pterostichini (Coleoptera: Carabidae). *The Canadian Entomologist* 121: 27-42 [DP: 23 March 1989 (CAL stamp)]
- Bousquet Y (1990) On the taxonomic position of *Agonoleptus parviceps* Casey (Coleoptera: Carabidae). *The Coleopterists Bulletin* 44: 203-204 [DP: 30 May 1990]
- Bousquet Y (1991a) Carabidae (Adephaga) (including Brachinidae, Cicindelidae, Omophronidae, Paussidae, Pseudomorphidae, Trachypachidae, etc.). Pp. 306-310 in Stehr FW (Ed.). *Immature insects. Volume 2*. Kendall/Hunt Publishing Company, Dubuque (Iowa). 975 pp.
- Bousquet Y (1991b) Family Carabidae - ground beetles. Pp. 8-60 in Bousquet Y (Ed.). *Checklist of beetles of Canada and Alaska*. Agriculture Canada, Ottawa. vi + 430 pp.
- Bousquet Y (1992a) *Bembidion femoratum* Sturm and *Amara communis* (Panzer) (Coleoptera: Carabidae) new to North America. *Journal of the New York Entomological Society* 100: 503-509 [DP: 15 July 1992]
- Bousquet Y (1992b) Descriptions of new or poorly known species of *Gastrosticta* Casey, 1918 and *Paraferonina* Ball, 1965 (Coleoptera: Carabidae: *Pterostichus* Bonelli, 1810). *Journal of the New York Entomological Society* 100: 510-521 [DP: 15 July 1992]
- Bousquet Y (1993) On Thomas Say's entomological publications printed in New Harmony, Indiana. *Entomological News* 104: 1-14 [DP: 21 January 1993]
- Bousquet Y (1996a) Taxonomic revision of Nearctic, Mexican, and West Indian Oodini (Coleoptera: Carabidae). *The Canadian Entomologist* 128: 443-537 [DP: 20 June 1996 (CAL stamp)]
- Bousquet Y (1996b) Description of the larva of *Schizogenius lineolatus* (Coleoptera: Carabidae: Clivinini). *Acta Societatis Zoologicae Bohemicae* 60: 347-353 [DP: 27 December 1996]
- Bousquet Y (1997a) Description de deux nouvelles espèces nord-américaines du genre *Dyschirius* Bonelli (Coleoptera: Carabidae: Clivinini). *Faberies* 21 [1996]: 91-97 [DP: 14 April 1997]
- Bousquet Y (1997b) Taxonomic status of some species of Carabidae described by V.I. Motschulsky from North America (Coleoptera). *The Coleopterists Bulletin* 51: 329-342 [DP: 30 December 1997]
- Bousquet Y (1997c) Description of a new species of *Clivina* Latreille from southeastern United States with a key to North American species of the *fossor* group (Coleoptera: Carabidae: Clivinini). *The Coleopterists Bulletin* 51: 343-349 [DP: 30 December 1997]
- Bousquet Y (1998) Les Pterostichini (Coleoptera: Carabidae) du Québec: tableau de détermination des adultes, répartition géographique et habitat. *Faberies* 22 [1997]: 94-112 [DP: 22 January 1998]
- Bousquet Y (1999) Supraspecific classification of the Nearctic Pterostichini (Coleoptera: Carabidae). *Faberies*, Supplément 9. 292 pp. [DP: 30 December 1999]
- Bousquet Y (2000) Presence of *Stomis termitiformis* (Van Dyke) in Canada (Coleoptera: Carabidae). *Faberies* 24 [1999]: 81-82 [DP: 19 January 2000]
- Bousquet Y (2001) Larval features of Morionini (Coleoptera: Carabidae) discussed: is the tribe more closely related to Scaritini or Pterostichini? *Russian Entomological Journal* 10: 253-260 [DP: October 2001]

- Bousquet Y (2002a) Nomenclatural notes on Carabidae (Coleoptera). I. A correction and a new synonym. *Faberies* 26 [2001]: 83-85 [DP: 22 February 2002]
- Bousquet Y (2002b) Additions and corrections to the world catalogue of genus-group names of Geadephaga (Coleoptera) published by Wolfgang Lorenz (1998). *Folia Heyrovskyana Supplementum* 9. 78 pp [DP: 28 February 2002]
- Bousquet Y (2002c) Status of the new genus-group names of Carabidae (Coleoptera) introduced by Fischer von Waldheim in his catalogue of the Steven insect collection (1829). *Folia Heyrovskyana* 10: 173-181 [DP: 31 December 2002]
- Bousquet Y (2003a) Subfamily Loricerinae Bonelli, 1810. Pp. 98-99 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Bousquet Y (2003b) Subfamily Broscinae Hope, 1838. Pp. 235-237 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Bousquet Y (2003c) Tribe Platynini Bonelli, 1810. Pp. 449-469 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Bousquet Y (2003d) Tribe Pterostichini Bonelli, 1810. Pp. 469-521 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Bousquet Y (2004a) The works of P.F.M.A. Dejean, with emphasis on publication dates and new carabid taxa proposed. *Faberies* 29: 33-48 [DP: 23 December 2004 (Serge Laplante pers. comm. 2009)]
- Bousquet Y (2004b) Presence of *Philorhizus melanocephalus* (Dejean) (Coleoptera: Carabidae) in North America. *Faberies* 29: 49-51 [DP: 23 December 2004 (Serge Laplante pers. comm. 2009)]
- Bousquet Y (2006a) New synonymies and notes on North American *Loxandrus* LeConte (Coleoptera: Carabidae). *The Coleopterists Bulletin* 60: 145-157 [DP: 19 July 2006]
- Bousquet Y (2006b) Description of a new species of *Pterostichus* Bonelli, *P. barri*, from the Appalachian Mountains (Coleoptera: Carabidae). *The Coleopterists Bulletin* 60: 158-162 [DP: 19 July 2006]
- Bousquet Y (2006c) Review of the species of Ardistomina (Coleoptera: Carabidae: Clivinini) in America north of Mexico. *Zootaxa* 1308: 1-29 [DP: 4 September 2006]
- Bousquet Y (2008a) Nomenclatural note on Carabidae (Coleoptera). IV. On *Dyschirius dejeanii* Putzeys, a senior synonym of *D. integer* LeConte. *The Coleopterists Bulletin* 61 [2007]: 517-518 [DP: 10 January 2008]
- Bousquet Y (2008b) Nomenclatural note on Carabidae (Coleoptera). V. On *Albux* and *Argestes* J.E. LeConte, 1849. *The Coleopterists Bulletin* 62: 328-331 [DP: 9 July 2008]
- Bousquet Y (2009) Rediscovery of *Clivina morio* Dejean with the description of *Leucocara*, a new subgenus of *Clivina* Latreille (Coleoptera, Carabidae, Clivinini). *ZooKeys* 25: 37-48 [DP: 23 October 2009]



- Bousquet Y (2010a) *Illustrated identification guide to adults and larvae of northeastern North American ground beetles (Coleoptera: Carabidae)*. Pensoft, Sofia-Moscow. 562 pp. [DP: March 2010]
- Bousquet Y (2010b) Review of the Nearctic, Mexican and West Indian (Greater Antilles) species of *Colliuris* Degeer (Coleoptera: Carabidae: Odacanthini). *Zootaxa* 2529: 1-39 [DP: 7 July 2010]
- Bousquet Y (2012) Description of a new species of *Platynus* Bonelli from the Appalachian Mountains of eastern North America (Coleoptera, Carabidae). *ZooKeys* 163: 69-81 [DP: 9 January 2012]
- Bousquet Y, Barševskis A (2003) Tribe Notiophilini Motschulsky, 1850. Pp. 96-98 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Bousquet Y, Březina B, Davies A, Farkač J, Smetana A (2003) Tribe Carabini Latreille, 1802. Pp. 118-201 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Bousquet Y, Goulet H (1984) Notation of primary setae and pores on larvae of Carabidae (Coleoptera: Adephaga). *Canadian Journal of Zoology* 62: 573-588.
- Bousquet Y, Goulet H (1990) Description of a new species of *Metrius* (Coleoptera: Carabidae: Paussini) from Idaho with comments on the taxonomic status of the other taxa of the genus. *The Pan-Pacific Entomologist* 66: 13-18 [DP: 1 May 1990]
- Bousquet Y, Grebennikov VV (1999) Description of adults and larvae of *Platypatrobus lacustris* Darlington (Coleoptera: Carabidae: Patrobini) with notes on relationships of the genus. *Fabries* 24: 1-13 [DP: 11 May 1999]
- Bousquet Y, Laplante S (1997) Taxonomic review of the New World Pogonini (Coleoptera: Carabidae). *The Canadian Entomologist* 129: 699-731 [DP: August 1997]
- Bousquet Y, Larochelle A (1993) Catalogue of the Geadephaga (Coleoptera: Trachypachidae, Rhysodidae, Carabidae including Cicindelini) of America north of Mexico. *Memoirs of the Entomological Society of Canada* No. 167. 397 pp. [DP: 29 November 1993 (*Can. Ent.* 127: 993)]
- Bousquet Y, Messer PW (2010) Redescription of *Stenolophus thoracicus* Casey (Coleoptera, Carabidae, Harpalini), a valid species. *ZooKeys* 53: 25-31 [DP: 27 August 2010]
- Bousquet Y, Pilon J-G (1984) Redescription of *Pterostichus* (*Pseudomaseus*) *tenuis* (Casey), a valid species (Coleoptera: Carabidae). *The Coleopterists Bulletin* 37 [1983]: 389-396 [DP: 9 February 1984]
- Bousquet Y, Skelley PE (2010) Description of a new species of *Scarites* Fabricius (Coleoptera: Carabidae) from Florida. *The Coleopterists Bulletin* 64: 45-49 [DP: 17 April 2010]
- Bousquet Y, Skelley PE (2012) Description of two new species of *Clivina* Latreille (Coleoptera, Carabidae, Clivinini) from southeastern United States. *ZooKeys* 178: 43-50 [DP: 29 March 2012]
- Bousquet Y, Smetana A (1986) A description of the first instar larva of *Promecognathus* Chaudoir (Coleoptera: Carabidae). *Systematic Entomology* 11: 25-31 [DP: 17 March 1986 (CAL stamp)]

- Bousquet Y, Smetana A (1991) The tribe Opisthiini (Coleoptera: Carabidae): description of the larvae, note on habitat, and brief discussion on its relationships. *Journal of the New York Entomological Society* 99: 104-114 [DP: 14 February 1991]
- Bousquet Y, Smetana A (1996) A review of the tribe Opisthiini (Coleoptera: Carabidae). *Nouvelle Revue d'Entomologie* (nouvelle série) 12 [1995]: 215-232 [DP: 12 March 1996]
- Bousquet Y, Smetana A, Maddison DR (1984) *Trechus quadristriatus*, a Palearctic species introduced into North America (Coleoptera: Carabidae). *The Canadian Entomologist* 116: 215-220 [DP: 27 January 1984 (CAL stamp)]
- Bousquet Y, Tchang J-P (1992) Anisodactylinae larvae (Coleoptera: Carabidae: Harpalini): descriptions of genus-group taxa of eastern Canada and phylogenetic remarks. *The Canadian Entomologist* 124: 751-783 [DP: September 1992]
- Bousquet Y, Webster RP (2004) Review of the Nearctic species of the Holarctic subgenus *Argutor* (Coleoptera: Carabidae). *The Canadian Entomologist* 136: 645-660 [DP: 18 October 2004 (CAL stamp)]
- Bousquet Y, Webster RP (2006) Descriptions of three new species of *Bembidion* Latreille (Coleoptera: Carabidae) occurring in Canada. *Zootaxa* 1297: 23-35 [DP: 17 August 2006]
- Bøving AG [also as Böving, A.G.] (1910) Nye Bidrag til Carabernes Udviklingshistorie. I. Larver til *Calathus*, *Olisthopus*, *Oodes* og *Blethisa*. *Entomologiske Meddelelser* (Anden Række) 3: 319-376 [DP: August 1910]
- Bøving AG (1911) Nye Bidrag til Carabernes Udviklingshistorie. II. Larver af *Slaegterne* *Tachypus*, *Cillenius*, *Trechus*, *Clivina*, *Zabrus*, *Anisodactylus*. *Entomologiske Meddelelser* (Anden Række) 4: 129-180 [DP: April 1911]
- Böving AG, Craighead FC (1931) An illustrated synopsis of the principal larval forms of the order Coleoptera. *Entomologica Americana* (new series) 11 [1930]: 1-351 [DP: (pp. 1-80), 14 November 1931; (pp. 81-160), 7 December 1931; (pp. 161-256), 9 December 1931; (pp. 257-351), 21 December 1931] Note. This work is often listed as published in 1930 or 1930-31. It was issued in the June 1930, September 1930, December 1930, and March 1931 issues of the *Entomologica Americana* (new series) which, as indicated on the wrappers, have been mailed on 14 November and 7, 9, and 21 December 1931 respectively.
- Bowditch FC (1896) List of Mt. Washington Coleoptera. *Psyche* 7 [Supplement II]: 1-11 [DP: June 1896]
- Boyd HP (1978) The tiger beetles (Coleoptera: Cicindelidae) of New Jersey with special reference to their ecological relationships. *Transactions of the American Entomological Society* 104: 191-242 [DP: 22 August 1978]
- Boyd HP (1982) *Checklist of Cicindelidae. The tiger beetles*. Plexus Publishing, Marlton (NJ). 29 pp.
- Boyd HP (2000) Establishing the validity of *Cicindela scutellaris* (Coleoptera: Cicindelidae). *Entomological News* 111: 224-226 [DP: 6 July 2000]
- Boyd HP, Rust RW (1982) Intraspecific and geographic variations in *Cicindela dorsalis* Say (Coleoptera: Cicindelidae). *The Coleopterists Bulletin* 36: 221-239 [DP: 16 December 1982]
- Brandmayr P, Ferrero E, Zetto Brandmayr T (1980) Larval versus imaginal taxonomy and the systematic status of the ground beetle taxa *Harpalus* and *Ophonus* (Coleoptera: Carabidae: Harpalini). *Entomologia Generalis* 6: 335-353 [DP: 28 November 1980]

- Brandmayr P, Zetto Brandmayr T (1982) Identificazione di larve del genere *Ophonus* Dejean, 1821 (sensu novo) e note bionomiche (Coleoptera Carabidae). *Memorie della Società Entomologica Italiana* 60 [1981]: 67-103 [DP: 20 November 1982]
- Brantley SL, Molles MC Jr., Fettig SM (2003) Range extension for *Carabus maeander* Fischer (Coleoptera: Carabidae): from the Canada/U.S. border to New Mexico. *The Coleopterists Bulletin* 57: 382 [DP: 24 December 2003]
- Brenner G (2005) ISSSSP Species Fact Sheet: Roth's blind ground beetle (*Pterostichus rothi*). Available at: <http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-invertebrates.shtml> [accessed 4 December 2011]
- Breuning S von (1926) Zur Kenntnis asiatischer Caraben. *Koleopterologische Rundschau* 12: 67-80 [DP: 24 April 1926]
- Breuning S von (1927) Monographie der Gattung *Calosoma* Web. (Carab.). I. Teil. *Koleopterologische Rundschau* 13: 129-232 [DP: 31 October 1927]
- Breuning S von (1928a) Monographie der Gattung *Calosoma* Web. (Col. Carab.). II. Teil. *Wiener Entomologische Zeitung* 44 [1927-28]: 81-141 [DP: 15 February 1928]
- Breuning S von (1928b) Monographie der Gattung *Calosoma* Web. (Carab.). III. Teil. *Koleopterologische Rundschau* 14 [1928-29]: 43-101 [DP: (pp. 43-48), 15 February 1928; (pp. 49-128), 22 May 1928]
- Breuning S von (1932) Monographie der Gattung *Carabus* L. (II. Teil). Bestimmungs-Tabellen der europäischen Coleopteren. 105. Heft. Edmund Reitter, Troppau. Pp. 291-496.
- Breuning S von (1933a) Monographie der Gattung *Carabus* L. (III. Teil). Bestimmungs-Tabellen der europäischen Coleopteren. 106. Heft. Edmund Reitter, Troppau. Pp. 499-704.
- Breuning S von (1933b) Monographie der Gattung *Carabus* L. (IV. Teil). Bestimmungs-Tabellen der europäischen Coleopteren. 107. Heft. Edmund Reitter, Troppau. Pp. 707-912.
- Brimley CS (1938) *The insects of North Carolina being a list of the insects of North Carolina and their close relatives*. North Carolina Department of Agriculture, Raleigh. 560 pp.
- Brinev AE, Shilenkov VG (2001) Ground beetles of the subgenus *Tundraphilus* of the genus *Pterostichus* (Coleoptera, Carabidae) [in Russian]. *Zoologicheskii Zhurnal* 80: 797-808 [DP: >21 June 2001; <25 October 2001 (CAL stamp)] Note. An English translation was issued in *Entomological Review* 81: 451-462.
- Britton WE (1920) Check-list of the insects of Connecticut. State of Connecticut Public Document No. 47. State Geological and Natural History Survey Bulletin No. 31. 397 pp. [DP: >6 April 1920]
- Brown RW (1956) *Composition of scientific words. A manual of methods and a lexicon of materials for the practice of logotechnics*. [Author], Baltimore. 882 pp.
- Brown WJ (1930) Coleoptera of the north shore of the Gulf of the St. Lawrence. *The Canadian Entomologist* 62: 231-237 [DP: 31 October 1930], 239-246 [DP: 29 November 1930]
- Brown WJ (1932a) New species of Coleoptera III. *The Canadian Entomologist* 64: 3-12 [DP: 2 February 1932]
- Brown WJ (1932b) Additional notes on the Coleoptera of the north shore of the Gulf of the St. Lawrence. *The Canadian Entomologist* 64: 198-209 [DP: 3 October 1932]
- Brown WJ (1933) New species of Coleoptera IV. *The Canadian Entomologist* 65: 43-47 [DP: 25 February 1933]

- Brown WJ (1934) New species of Coleoptera V. *The Canadian Entomologist* 66: 22-24 [DP: 3 February 1934]
- Brown WJ (1940a) Notes on the American distribution of some species of Coleoptera common to the European and North American continents. *The Canadian Entomologist* 72: 65-78 [DP: 30 April 1940]
- Brown WJ (1940b) Some new and poorly known species of Coleoptera. *The Canadian Entomologist* 72: 182-187 [DP: 30 September 1940]
- Brown WJ (1944) Some new and poorly known species of Coleoptera, II. *The Canadian Entomologist* 76: 4-10 [DP: 9 February 1944]
- Brown WJ (1950a) On the American species of *Lyperopherus* Mots. (Coleoptera: Carabidae). *The Canadian Entomologist* 81 [1949]: 231-232 [DP: 10 January 1950]
- Brown WJ (1950b) The extralimital distribution of some species of Coleoptera. *The Canadian Entomologist* 82: 197-205 [DP: 1 December 1950]
- Brown WJ (1952) Some species of Phytophaga (Coleoptera). *The Canadian Entomologist* 84: 335-342 [DP: 28 November 1952]
- Brown WJ (1967) Notes on the extralimital distribution of some species of Coleoptera. *The Canadian Entomologist* 99: 85-93 [DP: 18 January 1967]
- Brues CT (1902) New and little-known guests of the Texan legionary ants. *The American Naturalist, an Illustrated Magazine of Natural History* 36: 365-378 [DP: 29 May 1902]
- Brullé GA (1834a) Observations critiques sur la synonymie des carabiques. *Revue Entomologique* 2: 89-114 [DP: 7 May 1834 (Soc. Ent. Fr.)]
- Brullé GA (1834b) *Histoire naturelle des insectes, traitant de leur organisation et de leurs moeurs en général, par M. V. Audouin, et comprenant leur classification et la description des espèces, par M.A. Brullé. Le tout accompagné de planches gravées sur acier, d'après des peintures exécutées pour cette édition sur la collection du Muséum de Paris. Tome IV. Coléoptères I.* F.D. Pillot, Paris. Pp. 1-240 + 8 pls [DP: 2 August 1834 (Bibl. Fr.)] Note. This volume contains viii + 479 pages + 16 plates and was issued in two livraisons, the first one in 1834, the second one in 1835. Despite the title, Brullé alone was the author.
- Brullé GA (1835a) *Histoire naturelle des insectes, traitant de leur organisation et de leurs moeurs en général, par M. V. Audouin, et comprenant leur classification et la description des espèces, par M.A. Brullé. Le tout accompagné de planches gravées sur acier, d'après des peintures exécutées pour cette édition sur la collection du Muséum de Paris. Tome IV. Coléoptères I.* F.D. Pillot, Paris. Pp. 241-479 + 8 pls [DP: 31 January 1835 (Bibl. Fr.)]
- Brullé GA (1835b) *Histoire naturelle des insectes, traitant de leur organisation et de leurs moeurs en général, par M. V. Audouin, et comprenant leur classification et la description des espèces, par M.A. Brullé. Le tout accompagné de planches gravées sur acier, d'après des peintures exécutées pour cette édition sur la collection du Muséum de Paris. Tome V. Coléoptères II.* F.D. Pillot, Paris. Pp. 1-224 + 8 pls [DP: August 1835 (Boisduval and Lacordaire 1835: 11)] Note. This volume contains 436 pages + 16 plates and was issued in two livraisons. The title page of the book is dated 1835 but the second livraison (pp. 225-436) was probably published later as it was recorded by the *Bibliographie de la France* only on 11 February 1837. Despite the title, Brullé alone was the author.

- Brullé GA (1835c) Observations critiques sur la synonymie des carabiques (Suite). *Revue Entomologique* 3: 271-303.
- Brullé GA (1836) Insectes de l'Amérique méridionale. Recueillis par Alcide d'Orbigny et décrits par Emile Blanchard et Auguste Brullé. Plate 2 in: *Voyage dans l'Amérique méridionale (le Brésil, la République orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833 par Alcide d'Orbigny. Tome sixième. 2. Partie: Insectes*. P. Bertrand, Paris [DP: 7 November 1836 (Evenhuis 1997b: 573)] Note. Plate 2 was part of livraison 18 (see Evenhuis 1997b: 573).
- Brullé GA (1837) Insectes de l'Amérique méridionale. Recueillis par Alcide d'Orbigny et décrits par Emile Blanchard et Auguste Brullé. Pp: 17-56 in: *Voyage dans l'Amérique méridionale (le Brésil, la République orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833 par Alcide d'Orbigny. Tome sixième. 2. Partie: Insectes*. P. Bertrand, Paris [DP: (pp. 17-32), 19 June 1837 (*Acad. Sci.*); (pp. 33-56), October 1837 (Evenhuis 1997b: 573)] Note. This volume was issued in 32 livraisons, 1836-1847 although the title page is dated 1837-1845, and contains 222 pp. + 32 pls. The first 56 pages were authored by Brullé, and the remaining ones by Émile Blanchard.
- Bruneau de Miré P (1964) Les Tachyini africains de la collection du Muséum National d'Histoire Naturelle de Paris (2<sup>e</sup> note). *Revue Française d'Entomologie* 31: 70-100 [DP: 16 July 1964]
- Bruneau de Miré P (1979) Trans-Atlantic dispersal: several examples of colonization of the Gulf of Biafra by Middle American stocks of Carabidae. Pp. 327 -330 in Erwin TL, Ball GE, Whitehead DR, Halpern AL (Eds). *Carabid beetles: their evolution, natural history, and classification*. Proceedings of the First International Symposium of Carabidology Smithsonian Institution, Washington D.C. August 21, 23, and 25, 1976. Dr W. Junk bv Publishers, The Hague. 635 pp.
- Bruner L (1901) The tiger beetles of Nebraska. *Proceedings of the Nebraska Academy of Sciences* 7: 97-99.
- Bruschi S (2010) Calosoma of the world, a possible catalogue. Available at: <http://www.calosomas.com/index.html> [accessed 23 February 2012]
- Brust ML (2007) New tiger beetle observations and county records for Nebraska and a new state record for *Cicindela tenuisignata* LeConte. *Cicindela* 38 [2006]: 9-15 [DP: 26 March 2007 (CML stamp)]
- Brust ML (2010) New distribution records for *Cicindela pulchra pulchra* Say in South Dakota and notes on habitat use and natural history. *Cicindela* 42: 1-10 [DP: 13 May 2010 (CML stamp)]
- Brust ML (2011) A new northward range extension into South Dakota and Wyoming and rediscovery of the beautiful tiger beetle, *Cicindela pulchra* Say, in Nebraska. *Cicindela* 43: 77-82.
- Brust ML, Hoback WW (2010) Larval description and new Nebraska distribution records for Nebraska's tiger beetle, *Cicindela nebraskana* Casey (Coleoptera: Carabidae). *The Coleopterists Bulletin* 64: 341-346 [DP: 20 December 2010]



- Brust ML, Hoback WW, Knisley CB (2005) Biology, habitat preference, and larval description of *Cicindela cursitans* LeConte (Coleoptera: Carabidae: Cicindelinae). *The Coleopterists Bulletin* 59: 379-390 [DP: 21 October 2005]
- Bryson HR, Dillon GF (1941) Observations on the morphology of the corn seed beetle (*Agonoderus pallipes* Fab., Carabidae). *Annals of the Entomological Society of America* 34: 43-50 [DP: 7 April 1941]
- Brzoska DW (2008) Note on tiger beetles above the Arctic Circle. *Cicindela* 40: 65-66 [DP: 22 December 2008 (CML stamp)]
- Brzoska DW, Knisley CB, Slotten J (2011) Rediscovery of *Cicindela scabrosa floridana* Cartwright (Coleoptera: Cicindelidae) and its elevation to species level. *Insecta Mundi* 0162: 1-7 [DP: 15 April 2011]
- Brzoska DW, Stamatov J (2008) A trip to Goose Bay, Labrador, Canada. *Cicindela* 40: 47-52 [DP: 6 November 2008 (CUL stamp), 12 November 2008 (CML stamp)]
- Bubna M (1902) Coleoptera of Cuyahoga County, Ohio. *The Ohio Naturalist* 2: 193-197.
- Buchanan LL (1935) Thomas Lincoln Casey and the Casey collection of Coleoptera (with one plate). *Smithsonian Miscellaneous Collections* 94 (3): 1-15 [DP: 8 June 1935]
- Budarin AM (1976) Review of ground-beetles of the subgenus *Lyperopherus* Motsch. of the genus *Pterostichus* Bon. (Coleoptera, Carabidae) [in Russian]. *Trudy Zoologicheskogo Instituta Leningrad* 67: 32-38.
- Budarin AM (1985) *Ground beetles of Magadan region. List of species* [in Russian]. Institut of Biological Problems of the North, Far East Scientific Centre, Vladivostok. 21 pp.
- Budarin AM (1995) Two new species of ground-beetles from north-east Asia (Insecta: Coleoptera: Carabidae). *Reichenbachia* 31: 27-30 [DP: 1 September 1995]
- Bulirsch P (2009) Two new species of the genus *Dyschiriodes* (Coleoptera: Carabidae: Scaritinae: Dyschiriini) from South America and notes about next species from the same region. Part 2. *Studies and Reports of District Museum Prague-East, Taxonomical Series* 5: 17-26 [DP: 1 August 2009]
- Buquet L (1835) Description de onze espèces nouvelles du genre *Lebia*; rapportées de Cayenne par M. Leprieur. *Annales de la Société Entomologique de France* 3 [1834]: 673-681 [DP: 4 May 1835 (Ent. Soc. London)]
- Burgeon L (1935) Catalogues raisonnés de la faune entomologique du Congo Belge. Coléoptères – carabides (première partie). *Annales du Musée du Congo Belge, Zoologie* (série III – section II) 2 (3): 131-257 [DP: August 1935]
- Burgess AF (1897) Notes on certain Coleoptera known to attack the gypsy moth. Pp. 412-433 in: Forty-fourth annual report of the Secretary of the Massachusetts State Board of Agriculture, together with the ninth annual report of the Hatch Experiment Station of the Massachusetts Agricultural College [1896]. Wright & Potter Printing Co., Boston. xxvi + 599 + 254 pp. [DP: >1 February 1897]
- Burgess AF (1911) *Calosoma sycophanta*: its life history, behavior, and successful colonization in New England. U.S. Department of Agriculture, Bureau of Entomology, Bulletin No. 101. 94 pp. + 9 pls.
- Burgess AF, Collins CW (1915) The *Calosoma* beetle (*Calosoma sycophanta*) in New England. United States Department of Agriculture Bulletin No. 251. 40 pp. + 8 pls.

- Burgess AF, Collins CW (1917) The genus *Calosoma* including studies of seasonal histories, habits, and economic importance of American species north of Mexico and of several introduced species. United States Department of Agriculture Bulletin No. 417. 124 pp. [DP: 25 July 1917]
- Burmeister E-G (1976) Der Ovipositor der Hydradephaga (Coleoptera) und seine phylogenetische Bedeutung unter besonderer Berücksichtigung der Dytiscidae. *Zoomorphologie* 85: 165-257 [DP: 1 June 1976]
- Burmeister E-G (1980) Funktionsmorphologie und Evolution des Ovipositor der Adephaga (Coleoptera). *Verhandlungen des Naturwissenschaftlichen Vereins in Hamburg* (neue Folge) 24: 89-184.
- Burmeister H (1837) Anatomical observations upon the larva of *Calosoma sycophanta*. *The Transactions of the Entomological Society of London* 1 [1834-36]: 235-241 [DP: 17 January 1837 (Wheeler 1912, *Trans. Entomol. Soc. London* 1911: 754)]
- Burne JC (1989) A new locality record for *Carabus* (*Archicarabus*) *nemoralis* Müller (Coleoptera: Carabidae). *The Coleopterists Bulletin* 43: 290 [DP: 22 August 1989]
- Butcher MR (1984) A revision of the genus *Holcaspis* (Coleoptera: Carabidae). *Journal of the Royal Society of New Zealand* 14: 47-99 [DP: 26 March 1984]
- Byers GW, Karren JB (1968) Catalogue of the types in the Snow Entomological Museum Part VI (Coleoptera). *The University of Kansas Science Bulletin* 48: 1-20 [DP: 30 September 1968]
- Byers RA, Barker GM, Davidson RL, Hoebeke ER, Sanderson MA (2001) Richness and abundance of Carabidae and Staphylinidae (Coleoptera), in northeastern dairy pastures under intensive grazing. *The Great Lakes Entomologist* 33 [2000]: 81-105 [DP: 13 November 2001 (CAL stamp)]
- Cailleux A, Komorn J (1981) *Dictionnaire des racines scientifiques. 3e édition revue et augmentée de plus de 1 200 entrées nouvelles*. Editions C.D.U. et SEDES réunis, Paris. 263 pp.
- Calder EE (1916) *Cicindela hirticollis* var. *rhodensis* new var. *Journal of the New York Entomological Society* 24: 93-94 [DP: 12 April 1916 (USNM stamp)]
- Calder EE (1922a) New cicindelas of the *fulgida* group. (Coleop.). *The Canadian Entomologist* 54: 62 [DP: 26 May 1922]
- Calder EE (1922b) Change of names in *Cicindela*. *The Canadian Entomologist* 54: 191 [DP: 23 November 1922]
- Cambefort Y (2006) *Des coléoptères, des collections & des hommes*. Muséum national d'Histoire naturelle, Paris. 375 pp. [DP: 11 December 2006]
- Cameron EA, Reeves RM (1990) Carabidae (Coleoptera) associated with gypsy moth, *Lymantria dispar* (L.) (Lepidoptera: Lymantriidae), populations subjected to *Bacillus thuringiensis* Berliner treatments in Pennsylvania. *The Canadian Entomologist* 122: 123-129 [DP: 21 March 1990 (CAL stamp)]
- Camus A-G (1783) *Notes sur l'histoire des animaux d'Aristote*. DeSaint, Paris. xlviii + 850 + [4] pp.
- Capogreco JV (1989a) Immature *Lebia viridis* Say (Coleoptera: Carabidae): bionomics, descriptions, and comparisons to other *Lebia* species. *The Coleopterists Bulletin* 43: 183-194 [DP: 30 June 1989]

- Capogreco JV (1989b) Woodlot carabid diversity (Coleoptera: Carabidae): utilization of island biogeographic theory for agricultural lands. *The Melsheimer Entomological Series* 37: 1-8 [DP: 9 August 1989 (CAL stamp)]
- Carabajal E, García J, Rodríguez F (2000) Descripción de un nuevo género y una nueva especie de Trechini (Coleoptera: Caraboidea: Trechidae) de la Cordillera Cantábrica. *Elytron* 13 [1999]: 123-131 [DP: May 2000]
- Carr FS (1920) Albertan Coleoptera. *The Canadian Entomologist* 52: 218-220 [DP: 30 October 1920]
- Carr FS (1932) New arctic Coleoptera. *The Canadian Entomologist* 64: 191-192 [DP: 10 September 1932]
- Carret A (1907) Revision des espèces françaises du genre *Laemostenus* Bon. [Col.]. *Annales de la Société Entomologique de France* 76: 89-117 [DP: May 1907]
- Carrington TR (2002) Factors influencing habitat selection and activity of ground beetles (Coleoptera: Carabidae) in central Appalachia. Part I: the influence of soil and soil surface characteristics on habitat selection by Carabidae. Part II: precipitation and temperature fluctuations: effects on Carabidae activity. Part III: the effects of two microbial insecticides for gypsy moth control on Carabidae populations. M.Sc. Thesis, West Virginia University. viii + 113 pp.
- Carter MR (1989) The biology and ecology of the tiger beetles (Coleoptera: Cicindelidae) of Nebraska. *Transactions of the Nebraska Academy of Sciences* 17: 1-18.
- Cartwright OL (1935) The tiger beetles of South Carolina with the description of a new variety of *Tetracha virginica* (L.) (Coleoptera: Cicindelidae). *Bulletin of the Brooklyn Entomological Society* 30: 69-77 [DP: 26 April 1935]
- Cartwright OL (1939) Eleven new American Coleoptera (Scarabaeidae, Cicindelidae). *Annals of the Entomological Society of America* 32: 353-364 [DP: 30 June 1939]
- Casale A (1988) *Revisione degli Sphodrini (Coleoptera, Carabidae, Sphodrini)*. Museo Regionale di Scienze Naturali Monografie V. Museo Regionale di Scienze Naturali, Torino. 1024 pp. [DP: 30 July 1988]
- Casale A (1998) Phylogeny and biogeography of Calleidina (Coleoptera: Carabidae: Lebiini): a preliminary survey. Pp. 381-428 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Casale A (2008) The genus *Calleida* Dejean, 1825 in Ecuador (Coleoptera: Carabidae: Lebiini), with eight new species. Pp. 173-193 in Giachino PM (Ed.). *Biodiversity of South America*. Memoirs on Biodiversity Volume I. World Biodiversity Association onlus, Verona (Italy). 496 pp.
- Casale A (2011) Two new subterranean, microphthalmous trechine beetles from the Mediterranean area, and a synonymic note (Coleoptera: Carabidae, Trechini). *Contributions to Natural History* 16: 1-16 [DP: 17 March 2011]
- Casale A, Giachino PM (1998) Franco Andrea Bonelli (1784-1830), an entomologist in Turin at the beginning of the XIX century. Pp. 53-80 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a

- symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Casale A, Kryzhanovskij OL (2003) Key to the adults. Pp. 73-123 in Turin H, Penev L, Casale A (Eds). *The genus Carabus in Europe: a synthesis*. Fauna Europaea Evertebrata No 2. Pensoft, Sofia-Moscow. xv + 511 pp. [DP: March 2003]
- Casale A, Laneyrie R (1982) Trechodinae et Trechinae du monde: tableau des sous-familles, tribus, séries phylétiques, genres, et catalogue général des espèces. *Mémoires de Biospéologie* 9: 1-226 [DP: October 1982]
- Casale A, Sturani M, Vigna Taglianti A (1982) *Coleoptera. Carabidae. 1. Introduzione, Paussinae, Carabinae*. Fauna d'Italia Vol. XVIII. Officine Grafiche Calderini, Bologna. xii + 499 pp. [DP: January 1982]
- Casey TL (1884a) Notes on Coleoptera. *Bulletin of the Brooklyn Entomological Society* 7 [1884-85]: 64-67.
- Casey TL (1884b) *Contributions to the descriptive and systematic coleopterology of North America. Part I*. Collins Printing House, Philadelphia. 60 pp. + 1 pl. [DP: August 1884]
- Casey TL (1884c) *Contributions to the descriptive and systematic coleopterology of North America. Part II*. Collins Printing House, Philadelphia. Pp. 61-124 [DP: December 1884]
- Casey TL (1889) Coleopterological notices. I. *Annals of the New York Academy of Sciences* 5 [1889-91]: 39-96 [DP: December 1889] Note. The whole article covers pages 39-198; pages 97-198 were published in 1890.
- Casey TL (1897) Coleopterological notices. VII. *Annals of the New York Academy of Sciences* 9 [1896-97]: 285-684 [DP: (pp. 285-316), February 1897; (pp. 317-396), March 1897; (pp. 397-444), April 1897; (pp. 445-524), May 1897; (pp. 525-620), June 1897; (pp. 621-684), July 1897]
- Casey TL (1899) New species of *Pemphus* and *Tragosoma* (Coleoptera). *Entomological News* 10: 97-99 [DP: 27 March 1899]
- Casey TL (1905) A new *Carabus* and *Cychrus*, with miscellaneous notes on Coleoptera. *The Canadian Entomologist* 37: 160-164 [DP: 5 May 1905]
- Casey TL (1909) Studies in the Caraboidea and Lamellicornia. *The Canadian Entomologist* 41: 253-284 [DP: 9 August 1909]
- Casey TL (1913) *Memoirs on the Coleoptera. IV*. The New Era Printing Company, Lancaster (PA). 400 pp. [DP: 30 November 1913]
- Casey TL (1914) *Memoirs on the Coleoptera. V*. The New Era Printing Company, Lancaster (PA). 387 pp. [DP: 28 November 1914]
- Casey TL (1916) *Memoirs on the Coleoptera. VII*. The New Era Printing Company, Lancaster (PA). 390 pp. [DP: 29 November 1916]
- Casey TL (1918) *Memoirs on the Coleoptera. VIII*. The New Era Printing Company, Lancaster (PA). 427 pp. [DP: 12 November 1918]
- Casey TL (1920) *Memoirs on the Coleoptera. IX*. The New Era Printing Company, Lancaster (PA). 529 pp. [DP: 8 April 1920]
- Casey TL (1924) *Memoirs on the Coleoptera. XI*. Lancaster Press, Inc., Lancaster (PA). 347 pp. [DP: 20 May 1924]



- Cassola F (1994) Studies on tiger beetles. LXXIV. Notes on two poorly known Mexican taxa of the Chaudoir's collection (Coleoptera: Cicindelidae). *Doriana* 6 (283): 1-6 [DP: 20 April 1994]
- Cassola F (1999) Studies on tiger beetles. CI. Re-discovery and re-establishment of *Cicindela varians* Ljungh, 1799 (Coleoptera, Cicindelidae). *Fragmenta Entomologica* 31: 71-80 [DP: 30 September 1999]
- Castle DM, Laurent P (1896) April collecting in Georgia and Florida. *Entomological News* 7: 300-305 [DP: 5 December 1896]
- Catling PM (2007) *Cicindela terricola* Say in northeastern British Columbia. *Cicindela* 38 [2006]: 19-20 [DP: 26 March 2007 (CML stamp)]
- Cazier MA (1936) Notes on *Cicindela plutonica* Casey with description of a new subspecies. *The Pan-Pacific Entomologist* 12: 123-124 [DP: 1 September 1936]
- Cazier MA (1937a) Review of the *willistoni*, *fulgida*, *parowana* and *senilis* groups of the genus *Cicindela* (Coleoptera-Cicindelidae). *Bulletin of the Southern California Academy of Sciences* 35 [1936]: 156-163 [DP: 31 January 1937]
- Cazier MA (1937b) A new California *Omus* (Coleoptera-Cicindelidae). *The Pan-Pacific Entomologist* 13: 94 [DP: 4 May 1937]
- Cazier MA (1937c) Four new California Coleoptera (Buprestidae, Scarabaeidae, and Cicindelidae). *The Pan-Pacific Entomologist* 13: 115-118 [DP: 14 September 1937]
- Cazier MA (1939) Two new western tiger beetles, with notes (Coleoptera-Cicindelidae). *Bulletin of the Brooklyn Entomological Society* 34: 24-28 [DP: 27 February 1939]
- Cazier MA (1942) A monographic revision of the genus *Omus* (Coleoptera-Cicindelidae). Ph.D. Thesis, University of California. 435 pp.
- Cazier MA (1948) The origin, distribution, and classification of the tiger beetles of Lower California (Coleoptera: Cicindelidae). American Museum Novitates No. 1382. 28 pp. [DP: 23 September 1948]
- Cazier MA (1954) A review of the Mexican tiger beetles of the genus *Cicindela* (Coleoptera, Cicindelidae). *Bulletin of the American Museum of Natural History* 103: 231-309 [DP: 22 February 1954]
- Cazier MA (1960) Notes on Mexican tiger beetles belonging to the genus *Cicindela* (Coleoptera, Cicindelidae). American Museum Novitates No. 2025. 12 pp. [DP: 29 November 1960]
- Cerruti M (1939) Larva del *Tachys parvulus* Dej. (Coleopt. Carab.). *Memorie della Società Entomologica Italiana* 17 [1938]: 121-124.
- Chaboussou F (1939) Contribution à l'étude biologique de *Lebia grandis* Hentz., prédateur américain du doryphore. *Annales des Épiphyties et de Phytogénétique* (nouvelle série) 5: 387-433.
- Chagnon G (1917) A preliminary list of the insects of the province of Quebec. Part III- Coleoptera. *Report of the Quebec Society for the Protection of Plants* (Supplement 1917): 161-277.
- Chandler HP (1941) New species of Coleoptera from Utah (Omophronidae and Dytiscidae). *The Great Basin Naturalist* 2: 99-104 [DP: 20 July 1941]
- Chantal C (1971) Additions à la faune coléoptérique du Québec. *Le Naturaliste Canadien* 98: 202-203 [DP: 11 June 1971 (CAL stamp)]



- Chantal C (1994) Première mention canadienne d'*Harpalus (Amblystus) rubripes* (Duftschmid) (Coleoptera: Carabidae). *Fabriques* 19: 29-30 [DP: 7 September 1994]
- Chapuis F, Candèze ME (1853) Catalogue des larves des coléoptères, connues jusqu'à ce jour avec la description de plusieurs espèces nouvelles. *Mémoires de la Société Royale des Sciences de Liège* 8: 341-653.
- Charlton RE, Kopper BJ (2000) An unexpected range extension for *Cicindela trifasciata* F. (Coleoptera: Carabidae: Cicindelinae). *The Coleopterists Bulletin* 54: 266-268 [DP: 27 July 2000]
- Charpentier R (1972) C.G. Thomson's collections of Coleoptera, with a complete list of Coleoptera species described by him. *Entomologica Scandinavica* 3: 287-296.
- Chaudoir M (1835) Description de quelques genres et espèces de carabiques nouveaux. *Annales de la Société Entomologique de France* 4: 429-448 [DP: 28 September 1835 (*Acad. Sci.*)]
- Chaudoir M (1837a) Description de quelques genres nouveaux et de quelques espèces nouvelles ou inédites de carabiques. *Bulletin de la Société Impériale des Naturalistes de Moscou* 10 (3): 3-20 [DP: >5 March 1837]
- Chaudoir M (1837b) Genres nouveaux et espèces nouvelles de coléoptères de la famille des carabiques. *Bulletin de la Société Impériale des Naturalistes de Moscou* 10 (7): 3-50 [DP: >23 September 1837]
- Chaudoir M (1838) Tableau d'une nouvelle subdivision du genre *Feronia* Dejean suivi d'une caractéristique de trois nouveaux genres de carabiques. *Bulletin de la Société Impériale des Naturalistes de Moscou* 11: 3-32 [DP: >4 January 1838]
- Chaudoir M (1842) Description de quelques genres nouveaux de la famille des carabiques. *Bulletin de la Société Impériale des Naturalistes de Moscou* 15: 832-857 [DP: >22 September 1842]
- Chaudoir M (1843a) Genres nouveaux de la famille des carabiques. (Continuation). *Bulletin de la Société Impériale des Naturalistes de Moscou* 16: 383-427 [DP: >13 June 1843]
- Chaudoir M (1843b) Carabiques nouveaux. *Bulletin de la Société Impériale des Naturalistes de Moscou* 16: 671-791 [DP: >7 October 1843]
- Chaudoir M (1844) Trois mémoires sur la famille des carabiques. *Bulletin de la Société Impériale des Naturalistes de Moscou* 17: 415-479 [DP: >4 July 1844]
- Chaudoir M (1846) Note sur le groupe des stomides et description d'un nouveau genre de celui des somoplatides. *Bulletin de la Société Impériale des Naturalistes de Moscou* 19 (4): 511-542 [DP: >18 September 1846]
- Chaudoir M (1847) *Observations*. I. Wallner, Kieff. 16 pp. [DP: February 1847]
- Chaudoir M (1848) Mémoire sur la famille des carabiques. 1. partie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 21 (1): 3-134 [DP: >7 March 1847]
- Chaudoir M (1850a) Mémoire sur la famille des carabiques. 2<sup>e</sup> partie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 23 (1): 3-85 [DP: >19 November 1849], 349-460 [DP: >15 March 1850]
- Chaudoir M (1850b) Supplément à la faune des carabiques de la Russie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 23 (3): 62-206 [DP: >13 July 1850]
- Chaudoir M (1852) Mémoire sur la famille des carabiques. 3<sup>e</sup> partie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 25 (1): 3-104 [DP: >12 March 1852]

- Chaudoir M (1854) Mémoire sur la famille des carabiques. 4-e partie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 27 (1): 112-144 [DP: >6 March 1854], (2): 279-352 [DP: >4 September 1854]
- Chaudoir M (1855) Mémoire sur les carabiques. 5-ème partie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 28 (1): 1-110 [DP: >18 June 1855]
- Chaudoir M (1856) Mémoire sur la famille des carabiques. 6-e partie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 29 (3): 187-291 [DP: >25 November 1856]
- Chaudoir M (1857) Mémoire sur la famille des carabiques. 6-e partie. (Continuation.). *Bulletin de la Société Impériale des Naturalistes de Moscou* 30 (3): 1-64 [DP: >12 November 1857]
- Chaudoir M (1859) Beitrag zur Kenntniss der europäischen Feroniden. *Stettiner Entomologische Zeitung* 20: 113-131.
- Chaudoir M (1861a) Matériaux pour servir à l'étude des cicindélètes et des carabiques. 1-e partie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 33 (4) [1860]: 269-337 [DP: >21 March 1861]
- Chaudoir M (1861b) Matériaux pour servir à l'étude des cicindélètes et des carabiques. (Continuation.). *Bulletin de la Société Impériale des Naturalistes de Moscou* 34 (2): 491-576 [DP: >19 July 1861]
- Chaudoir M (1861c) Synonymische Bemerkungen. *Berliner Entomologische Zeitschrift* 5: 198-199.
- Chaudoir M (1861d) Révision du genre *Agra*, d'après les espèces de sa collection. *Annales de la Société Entomologique de France* (quatrième série) 1: 109-138 [DP: 14 August 1861]
- Chaudoir M (1862) Révision des espèces qui rentrent dans l'ancien genre *Panagaeus*. *Bulletin de la Société Impériale des Naturalistes de Moscou* 34 (4) [1861]: 335-360 [DP: >16 May 1862]
- Chaudoir M (1863) Matériaux pour servir à l'étude des carabiques. 3-e partie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 35 (4) [1862]: 275-320 [DP: >16 May 1863]
- Chaudoir M (1868a) Note monographique sur le genre *Omophron*. *Revue et Magasin de Zoologie pure et appliquée et de Sériciculture comparée* (2<sup>e</sup> série) 20: 54-63 [DP: February 1868]
- Chaudoir M (1868b) Observations synonymiques sur les carabiques de l'Amérique septentrionale et descriptions d'espèces nouvelles de ce pays. *Revue et Magasin de Zoologie pure et appliquée et de Sériciculture comparée* (2<sup>e</sup> série) 20: 161-171 [DP: May 1868], 211-217 [DP: June 1868], 239-245 [DP: July 1868], 283-301 [DP: August 1868], 331-345 [DP: September 1868]
- Chaudoir M (1869a) Descriptions de *Calosoma* nouveaux des collections de MM. de Chaudoir et Sallé. *Annales de la Société Entomologique de France* (quatrième série) 9: 367-378 [DP: 8 December 1869]
- Chaudoir M (1869b) Descriptions de cicindélètes et de carabiques nouveaux. *Revue et Magasin de Zoologie pure et appliquée et de Sériciculture comparée* (2<sup>e</sup> série) 21: 22-28 [DP: January 1869], 64-70 [DP: February 1869], 114-122 [DP: March 1869], 170-173 [DP: April 1869], 203-208 [DP: May 1869]
- Chaudoir M (1870a) Mémoire sur les thyroptérides. *Annales de la Société Entomologique de Belgique* 12 [1868-69]: 113-162 [DP: 1 April 1870 (*Pet. Nouv. Ent.*)]
- Chaudoir M (1870b) Mémoire sur les coptodérides. *Annales de la Société Entomologique de Belgique* 12 [1868-69]: 163-256 [DP: 1 April 1870 (*Pet. Nouv. Ent.*)]

- Chaudoir M (1871a) Monographie des lébiides. *Bulletin de la Société Impériale des Naturalistes de Moscou* 43 (3-4) [1870]: 111-255.
- Chaudoir M (1871b) Monographie des lébiides. (Continuation). *Bulletin de la Société Impériale des Naturalistes de Moscou* 44 (1-2): 1-87.
- Chaudoir M (1872a) Essai monographique sur le groupe des pogonides. *Annales de la Société Entomologique de Belgique* 14 [1870-71]: 21-61 [DP: 19 February 1872 (*Acad. Sci.*); 15 March 1872 (*Pet. Nouv. Ent.*)]
- Chaudoir M (1872b) Descriptions d'espèces nouvelles de carabiques de la tribu des troncapennes, et remarques synonymiques. *Revue et Magasin de Zoologie pure et appliquée* (2<sup>e</sup> série) 23 [1871-72]: 101-107 [DP: March 1872], 138-143 [DP: April 1872], 168-172 [DP: May 1872], 212-221 [DP: June 1872], 241-250 [DP: July 1872]
- Chaudoir M (1872c) Remarques sur le catalogue de MM. de Harold et Gemminger, Tome I. *Bulletin de la Société Impériale des Naturalistes de Moscou* 44 (3-4) [1871]: 279-287.
- Chaudoir M (1872d) Observations sur quelques genres de carabiques, avec la description d'espèces nouvelles. *Bulletin de la Société Impériale des Naturalistes de Moscou* 45 (2): 382-420.
- Chaudoir M (1873a) Essai monographique sur les drimostomides et les cratocérides et description d'un genre nouveau de morionides. *Annales de la Société Entomologique de Belgique* 15 [1871-72]: 5-24 [DP: 12 February 1873 (*Soc. Ent. Fr.*)]
- Chaudoir M (1873b) Monographie des callidides. *Annales de la Société Entomologique de Belgique* 15 [1871-72]: 97-204 [DP: 12 February 1873 (*Soc. Ent. Fr.*)]
- Chaudoir M (1873c) Essai monographique sur le genre *Cymindis* proprement dit. *Berliner Entomologische Zeitschrift* 17: 53-120.
- Chaudoir M (1874a) Matériaux pour servir à l'étude des féroniens. *Bulletin de la Société Impériale des Naturalistes de Moscou* 46 (3) [1873]: 85-116.
- Chaudoir M (1874b) Matériaux pour servir à l'étude des féroniens. *Bulletin de la Société Impériale des Naturalistes de Moscou* 48 (1): 1-34.
- Chaudoir M (1875) Genres aberrants du groupe des cymindides. *Bulletin de la Société Impériale des Naturalistes de Moscou* 49 (3): 1-61.
- Chaudoir M (1876a) Monographie des brachynides. *Annales de la Société Entomologique de Belgique* 19: 11-104 [DP: 16 September 1876]
- Chaudoir M (1876b) Monographie des chlénien. *Annali del Museo Civico di Storia Naturale di Genova* 8: 3-315 [DP: 2 August 1876 (Poggi 1996, *Arch. Nat. Hist.* 23: 103)]
- Chaudoir M (1876c) Monographie du genre *Poecilus*. *L'Abeille, Journal d'Entomologie* 14: 1-54 [DP: (pp. 1-6), 24 September 1876; (pp. 7-54), 29 October 1876]
- Chaudoir M (1876d) Etude monographique des masoréides, des tetragonodérides et du genre *Nematotarsus*. *Bulletin de la Société Impériale des Naturalistes de Moscou* 51 (3): 1-84.
- Chaudoir M (1877) Genres nouveaux et espèces inédites de la famille des carabiques. Troncapennes. *Bulletin de la Société Impériale des Naturalistes de Moscou* 52 (2): 188-268.
- Chaudoir M (1878) Descriptions de genres nouveaux et d'espèces inédites de la famille des carabiques. *Bulletin de la Société Impériale des Naturalistes de Moscou* 53 (3): 1-80.
- Chaudoir M (1879) Révision des genres *Onychopterygia*, *Dicranoncus* et *Colpodes*. *Annales de la Société Entomologique de France* (cinquième série) 8 [1878]: 337-382 [DP: 26 March 1879]

- Note. Chaudoir's paper covers pages 275 to 382; pages 275–336 were issued 27 November 1878.
- Chaudoir M (1881) Monographie des scaritides (Scaritini). Deuxième partie. *Annales de la Société Entomologique de Belgique* 23 [1880]: 5–130 [DP: January 1881 (*Bibl. Belg.*)]
- Chaudoir M (1882) Monographie des oodides 1<sup>re</sup> partie. *Annales de la Société Entomologique de France* (sixième série) 2: 317–378 [DP: 27 December 1882]
- Chaudoir M (1883) Monographie des oodides 2<sup>e</sup> partie. *Annales de la Société Entomologique de France* (sixième série) 2 [1882]: 485–554 [DP: 30 May 1883]
- Chaudoir M, Hochhuth MH (1846) *Enumération des carabiques et hydrocanthares, recueillis pendant un voyage au Caucase et dans les provinces transcaucasiennes par le Baron M. de Chaudoir et le Baron A. de Gotsch*. J. Wallner, Kiew. 268 pp. [DP: June 1846]
- Chen Z, Grady K, Stephens S, Villa-Castillo J, Wagner MR (2006) Fuel reduction treatment and wildfire influence on carabid and tenebrionid community assemblages in the ponderosa pine forest of northern Arizona, USA. *Forest Ecology and Management* 225: 168–177 [15 April 2006]
- Chevrolat LAA (1834) *Coléoptères du Mexique* [2e Fascicule (implicitly nos. 25–46)]. G. Silbermann, Strasbourg [DP: 6 August 1834 (*Soc. Ent. Fr.*)] Note. The pages for the series *Coléoptères du Mexique* are unnumbered; each species treated is sequentially numbered, implicitly for the first four fascicles, explicitly for the remaining ones.
- Chevrolat LAA (1835a) *Coléoptères du Mexique. 4e Fascicule* [implicitly nos 71–102]. G. Silbermann, Strasbourg [DP: 18 July 1835 (*Feuil. J. Libr.*)]
- Chevrolat LAA (1835b) *Coléoptères du Mexique. 5e Fascicule* [nos 101–124]. G. Silbermann, Strasbourg [DP: 10 October 1835 (*Feuil. J. Libr.*)]
- Chevrolat LAA (1835c) *Coléoptères du Mexique. 6e Fascicule* [nos 125–147]. G. Silbermann, Strasbourg [DP: 2 December 1835 (*Soc. Ent. Fr.*)]
- Chevrolat LAA (1836a) *Coléoptères du Mexique. 7e Fascicule* [nos 148–170]. G. Silbermann, Strasbourg. Note. Despite the wrapper is dated 1835, this fascicle was probably published in the first months of 1836.
- Chevrolat LAA (1836b) *Coléoptères du Mexique. 8e Fascicule* [nos 171–200]. G. Silbermann, Strasbourg. [DP: May 1836 (Guyot de Fère, 1837, *Statistique des gens de Lettres et des savans existant en France, seconde édition*, p. 102)] Note. The wrapper is dated 1835 due to the fact that the publisher used wrappers of previous issues.
- Chevrolat LAA (1839) Description d'une seconde espèce du genre *Ega*, de M. Delaporte, carabique de la cohorte des subulipalpes, de Latreille. *Revue Zoologique* [2]: 308 [DP: 7 October 1839 (*Acad. Sci.*)]
- Chevrolat LAA (1841) *Coléoptères du Mexique* (201). (Pentamères carabiques). *Magasin de Zoologie, d'Anatomie Comparée et de Paléontologie* (deuxième série) [3]: 1–16 (pls 55–59).
- Chevrolat LAA (1846) *Lyrophorus*. Pp. 522 in d'Orbigny C (Ed.). *Dictionnaire universel d'histoire naturelle résumant et complétant tous les faits présentés par les encyclopédies, les anciens dictionnaires scientifiques, les oeuvres complètes de Buffon, et les meilleurs traités spéciaux sur les diverses branches des sciences naturelles; - Donnant la description des êtres et des divers phénomènes de la nature, l'étymologie et la définition des noms scientifiques, et les principales applications des corps organiques et inorganiques à l'agriculture, à la médecine, aux arts industriels,*

- etc. *Tome septième*. MM. Renard, Martinet et Cie., Paris. 806 pp. [DP: <31 August 1846, see Evenhuis (1997b: 575-576)]
- Chevrolat LAA (1849) *Triaena*. Pp. 643 in d'Orbigny C (Ed.). *Dictionnaire universel d'histoire naturelle résumant et complétant tous les faits présentés par les encyclopédies, les anciens dictionnaires scientifiques, les oeuvres complètes de Buffon, et les meilleurs traités spéciaux sur les diverses branches des sciences naturelles; - Donnant la description des êtres et des divers phénomènes de la nature, l'étymologie et la définition des noms scientifiques, et les principales applications des corps organiques et inorganiques à l'agriculture, à la médecine, aux arts industriels, etc. Tome deuxième*. MM. Renard, Martinet et Cie., Paris. 816 pp.
- Chevrolat LAA (1852) Description de coléoptères nouveaux. *Revue et Magasin de Zoologie pure et appliquée* (2<sup>e</sup> série) 4: 414-422 [DP: September 1852]
- Chevrolat LAA (1863) Coléoptères de l'Île de Cuba. (Suite). Notes, synonymies et descriptions d'espèces nouvelles. Familles des cicindélètes, carabiques, dytiscides, gyridés et palpicornes. *Annales de la Société Entomologique de France* (quatrième série) 3: 182-210 [DP: 12 August 1863]
- Choate PM Jr. (1977) A list of species of Carabidae (Coleoptera) previously unrecorded from New Hampshire. *Cordulia* 3: 114-116 [DP: 31 October 1977 (CAL stamp)]
- Choate PM Jr. (1984) A new species of *Cicindela* Linnaeus (Coleoptera: Cicindelidae) from Florida, and elevation of *C. abdominalis scabrosa* Schaupp to species level. *Entomological News* 95: 73-82 [DP: 16 July 1984]
- Choate PM Jr. (1990) Checklist of the ground beetles of Florida (Coleoptera: Carabidae) literature records. *The Florida Entomologist* 73: 476-492 [DP: 1 September 1990]
- Choate PM Jr. (2001) An Asian ground beetle, *Mochtherus tetraspilotus* (MacLeay), in Florida (Coleoptera: Carabidae: Lebiini). Florida Department of Agriculture & Consumer Services, Division of Plant Industry, Entomology Circular No. 404. [2] pp.
- Choate PM Jr. (2003) *A field guide and identification manual for Florida and eastern U.S. tiger beetles*. University Press of Florida, Gainesville. xx + 197 pp.
- Choate PM Jr., Choate AL (1995) Additions to the known range of *Bembidion rufotinctum* Chaudoir (Coleoptera: Carabidae: Bembidiini). *Insecta Mundi* 9: 371-372 [DP: 24 November 1995 (CAL stamp)]
- Choate PM Jr., Rogers T (1976) The occurrence of a troglomorphic ground beetle in Florida (Coleoptera: Carabidae). *The Coleopterists Bulletin* 30: 364 [DP: 31 December 1976]
- Chu H-F (1945) The larvae of the Harpalinae Unisetosae (Coleoptera, Carabidae). *Entomologica Americana* (new series) 25: 1-71 [DP: 19 November 1945]
- Ciegler JC (1997) Tiger beetles of South Carolina (Coleoptera: Cicindelidae). *The Coleopterists Bulletin* 51: 177-192 [DP: 27 May 1997]
- Ciegler JC (2000) *Ground beetles and wrinkled bark beetles of South Carolina (Coleoptera: Geadephaga: Carabidae and Rhysodidae)*. Biota of South Carolina Volume 1. Clemson University, Clemson. vi + 149 pp. [DP: June 2000]
- Ciegler JC (2003) *Addenda and errata for Ciegler, J.C. 2000. Ground beetles and wrinkled bark beetles of South Carolina (Coleoptera: Geadephaga: Carabidae and Rhysodidae). Biota of South Carolina. Vol. 1. Clemson University, Clemson, S.C.* [Author], Clemson. [3] pp. [DP: February 2003]



- Claassen PW (1919) Life history and biological notes on *Chlaenius impunctifrons* Say. (Coleoptera, Carabidae). *Annals of the Entomological Society of America* 12: 95-101 [DP: 2 July 1919]
- Clairville JP (1806) *Entomologie helvétique ou catalogue des insectes de la Suisse rangés d'après une nouvelle méthode. Avec descriptions et figures. Vol. II. / Helvetische Entomologie oder Verzeichniss der schweizerischen Insekten nach einer neuen Methode geordnet. Mit Beschreibungen und Abbildungen. Zweiter Theil.* Orell, Fussli et Compagnie, Zurich. xliii + 247 + [4] pp. + 32 pls [DP: >1 August 1806] Note. This work was published anonymously and although some authors attributed the work to Johann Ulrich Schellenberg, Clairville, as he indicated himself on the title page of his work “*Manuel d'Herborisation en Suisse et en Valais...*,” is the author. The text is both in French (verso pages) and German (recto pages).
- Clark MS (1999) Ground beetle abundance and community composition in conventional and organic tomato systems of California's Central Valley. *Applied Soil Ecology* 11: 199-206 [DP: 1 February 1999]
- Clark S, Szlavecz K, Cavigelli MA, Purrington F (2006) Ground beetle (Coleoptera: Carabidae) assemblages in organic, no-till, and chisel-till cropping systems in Maryland. *Environmental Entomology* 35: 1304-1312 [DP: 23 October 2006 (McD stamp)]
- Clarke TE, Levin DB, Kavanaugh DH, Reimchen TE (2001) Rapid evolution in the *Nebria gregaria* group (Coleoptera: Carabidae) and the paleogeography of the Queen Charlotte Islands. *Evolution. International Journal of Organic Evolution* 55: 1408-1418 [DP: 15 August 2001]
- Clausen CP (1940) *Entomophagous insects. First edition.* McGraw-Hill Book Company, Inc., New York and London. x + 688 pp. [DP: >1 October 1940]
- Clopton RE (1991) A review of the scaritinid beetles (Coleoptera: Carabidae: Scaritini) of Nebraska. *Transactions of the Nebraska Academy of Sciences* 18 [1990-91]: 53-65.
- Cockerell TDA (1893) Notes on the entomology of Colorado. -III. *Entomological News* 4: 72-73 [DP: 3 March 1893]
- Cockerell TDA (1908) Descriptions of Tertiary insects. *The American Journal of Science* (fourth series) 25: 51-52 [DP: 4 January 1908 (MCZ stamp)]
- Cockerell TDA (1911) Fossil insects from Florissant, Colorado. *Bulletin of the American Museum of Natural History* 30: 71-82 [DP: 26 May 1911]
- Cockerell TDA (1918) New species of North American fossil beetles, cockroaches, and tsetse flies. *Proceedings of the United States National Museum* 54: 301-311 [DP: 5 July 1918]
- Cockerell TDA (1920) Eocene insects from the Rocky Mountains. *Proceedings of the United States National Museum* 57: 233-260 [DP: 15 June 1920]
- Cockerell TDA (1921) Some Eocene insects from Colorado and Wyoming. *Proceedings of the United States National Museum* 59: 29-39 [DP: 27 June 1921]
- Cockerell TDA (1924) Fossil insects in the United States National Museum. *Proceedings of the United States National Museum* 64 (2503): 1-15 [DP: 2 February 1924]
- Cockerell TDA (1928) Appendix. Pp. 37-38 in Northrop SA. Beetles from the Fox Hills Cretaceous strata of South Dakota. *The American Journal of Science* (fifth series) 15: 28-38 [DP: January 1928]

- Cokendolpher JC, Polyak VJ (2004) Macroscopic invertebrates of Hidden and Hidden Chimney caves, Eddy County, New Mexico. Pp. 175-198 in Cokendolpher JC, Reddell JR (Eds). *Studies on the cave and endogean fauna of North America IV*. Texas Memorial Museum Speleological Monographs, 6. Texas Memorial Museum and the Texas Natural Science Center, Austin. 200 pp.
- Colby DM (2002) Effects of fire frequency and the red imported fire ant on insects in a Louisiana longleaf pine savanna. Ph.D. Thesis, Louisiana State University. v + 77 pp.
- Comboni DJ, Schultz TD (1989) New state records for two tiger beetles (Coleoptera: Cicindelidae) in southern New England. *Entomological News* 100: 150-152 [DP: 26 October 1989]
- Cook W, Holt R (2006) Fire frequency and mosaic burning effects on a tallgrass prairie ground beetle assemblage. *Biodiversity and Conservation* 15: 2301-2323.
- Cooper KW (1930) A list of Coleoptera found at Flushing and new to Long Island. *Bulletin of the Brooklyn Entomological Society* 25: 21-24 [DP: 8 March 1930]
- Cooper KW (1935) A supplement to the section of the New York state list of insects devoted to Coleoptera. Additions, notes and corrections. *Bulletin of the Brooklyn Entomological Society* 30: 142-159 [DP: 30 October 1935]
- Cooper KW (1976) Rediscovery of *Bembidion rufotinctum* Chaudoir, with extreme range and distributional records of *Bembidion* and other Carabidae (Coleoptera). *Entomological News* 87: 159-166 [DP: 22 June 1976]
- Couper W (1865) Descriptions of new species of Canadian Coleoptera. *The Canadian Naturalist and Geologist* (new series) 2: 60-63 [DP: 8 March 1865]
- Cresson ET (1861) Catalogue of the Cicindelidae of North America. *Proceedings of the Entomological Society of Philadelphia* 1 [1861-63]: 7-20 [DP: 10 June 1861 (*Ent. Soc. Phil.*)]
- Criddle N (1925) A new *Cicindela* from the adjacent territory of Montana and Alberta. *The Canadian Entomologist* 57: 127-128 [DP: 28 May 1925]
- Crotch GR (1866) Revision of the 'Catalogue of British Coleoptera'. *The Entomologist* 3 [1866-67]: 105-112 [DP: August 1866]
- Crotch GR (1871) *List of all the Coleoptera described A.D. 1758-1821 referred to their modern genera*. Cambridge. [1] + 24 pp. [DP: >15 August 1871]
- Crotch GR (1874a) *Check list of the Coleoptera of America, north of Mexico*. Naturalists' Agency, Salem [MA]. 136 pp. [DP: 1 September 1874 (*Pet. Nouv. Ent.*)] Note. Although the title page is dated "1873" the booklet was not issued until 1874.
- Crotch GR (1874b) Descriptions of new species of Coleoptera from the Pacific Coast of the United States. *Transactions of the American Entomological Society* 5 [1874-76]: 73-80.
- Crowson RA (1980) On amphipolar distribution patterns in some cool climate groups of Coleoptera. *Entomologia Generalis* 6: 281-292 [DP: 28 November 1980]
- Csiki E (1903) Die Cicindeliden Ungarns. *Mathematische und Naturwissenschaftliche Berichte aus Ungarn* 18 [1900]: 121-144.
- Csiki E (1906) Carabidae. Pp. 6-110 in Heyden L von, Reitter E, Weise J. *Catalogus Coleopterorum Europae, Caucasi et Armeniae rossicae. Editio secunda*. Edidit Edmund Reitter. R. Friedländer & Sohn, Berlin. 774 pp.

- Csiki E (1908) *Magyarország Bogárfaunája. Vezérfonal a magyar szent korona országainak területén előforduló bogarak megismerésére. I. Kötet. Általános rész. Adephaga: 1. Caraboidea. Cicindelidae, Carabidae, Hygrobiidae, Haliplidae, Dytiscidae, Gyrinidae és Rhysodidae*. Budapest. Pp. 353-546. Note. The first volume of this work was published in 1905 (pp. 1-80), 1906 (pp. 81-240), 1907 (pp. 241-352) and 1908 (pp. 353-546) and contains iv + 546 pages.
- Csiki E (1916) Egy régi rovtartani munkáról. *Rovartani Lapok* 23: 7-15.
- Csiki E (1927) Carabidae: Carabinae. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Partes 91 et 92*. Junk, Berlin. 621 pp. [DP: (pp. 1-314), 15 October 1927; (pp. 315-622), 22 December 1927]
- Csiki E (1928) Carabidae: Mormolycinae, Harpalinae. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Partes 97 et 98*. W. Junk, Berlin. 345 pp. [DP: (pp. 1-226), 12 September 1928; (pp. 227-345), 28 December 1928]
- Csiki E (1929) Carabidae: Harpalinae III. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars 104*. W. Junk, Berlin. Pp. 347-527 [DP: 20 March 1929]
- Csiki E (1930) Carabidae: Harpalinae IV. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars 112*. W. Junk, Berlin. Pp. 529-737 [DP: 3 June 1930]
- Csiki E (1931) Carabidae: Harpalinae V. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars 115*. W. Junk, Berlin. Pp. 739-1022 [DP: 12 February 1931]
- Csiki E (1932a) Carabidae: Harpalinae VI. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars 121*. W. Junk, Berlin. Pp. 1023-1278 [DP: 28 May 1932]
- Csiki E (1932b) Carabidae: Harpalinae VII. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars 124*. W. Junk, Berlin. Pp. 1279-1598 [DP: 7 November 1932]
- Csiki E (1933a) Carabidae: Harpalinae VIII. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars 126*. W. Junk, Berlin. Pp. 1599-1933 [DP: 26 May 1933]
- Csiki E (1933b) Carabinae: corrigenda et addenda. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars 127*. W. Junk, Berlin. Pp. 623-648 [DP: 6 June 1933]
- Culot J (1988) *Catalogue des calosomes du monde*. Bruxelles. 17 pp.
- Curtis J (1824) *British entomology; being illustrations and descriptions of the genera of insects found in Great Britain and Ireland: containing coloured figures from nature of the most rare and beautiful species, and in many instances of the plants upon which they are found. Vol. I*. London. Pls 1-50. Note. Pages are unnumbered; each species treatment consists of text and plates numbered sequentially.
- Curtis J (1826) *British entomology; being illustrations and descriptions of the genera of insects found in Great Britain and Ireland: containing coloured figures from nature of the most rare and beautiful species, and in many instances of the plants upon which they are found. Vol. III*. London. Pls 99-146.
- Curtis J (1827) *British entomology; being illustrations and descriptions of the genera of insects found in Great Britain and Ireland: containing coloured figures from nature of the most rare and beautiful species, and in many instances of the plants upon which they are found. Vol. IV*. London. Pls 147-194.
- Curtis J (1828) *British entomology; being illustrations and descriptions of the genera of insects found in Great Britain and Ireland: containing coloured figures from nature of the most rare*

- and beautiful species, and in many instances of the plants upon which they are found. Vol. V. London. Pls 195-241.*
- Curtis J (1829) *British entomology; being illustrations and descriptions of the genera of insects found in Great Britain and Ireland: containing coloured figures from nature of the most rare and beautiful species, and in many instances of the plants upon which they are found. Vol. VI. London. Pls 242-289.*
- Curtis J (1831) *British entomology; being illustrations and descriptions of the genera of insects found in Great Britain and Ireland: containing coloured figures from nature of the most rare and beautiful species, and in many instances of the plants upon which they are found. Vol. VIII. London. Pls 338-383.*
- Curtis J (1837) *British entomology; being illustrations and descriptions of the genera of insects found in Great Britain and Ireland: containing coloured figures from nature of the most rare and beautiful species, and in many instances of the plants upon which they are found. Vol. XIV. London. Pls 626-673.*
- Cuvier G (1803) Dissertation critique sur les espèces d'écrevisses connues des anciens, et sur les noms qu'ils leur ont donnés. *Annales du Muséum d'Histoire Naturelle* 2: 368-384.
- Dahl G (1823) *Coleoptera und Lepidoptera. Ein systematisches Verzeichniss, mit beygesetzten Preisen der Vorräthe.* J.E. Akkermann, Wien. vi + 103 pp. [DP: >21 January 1823] Note. This work was suppressed for the purposes of nomenclature by the ICZN (1964).
- Dahl RG (1939) A new California tiger beetle (Coleoptera-Cicindelidae). *Bulletin of the Brooklyn Entomological Society* 34: 221-222 [DP: 27 September 1939]
- Dahl RG (1941) The Leng types of Cicindelidae (Coleoptera). *Entomological News* 52: 169-172 [DP: 16 June 1941], 188-191 [DP: 18 July 1941]
- Dajoz R (1989) A record of *Miscodera arctica* (Paykull) from Colorado (U.S.A.) (Col. Carabidae). *Nouvelle Revue d'Entomologie* (nouvelle série) 5 [1988]: 337 [DP: 28 February 1989]
- Dajoz R (1990) Description de deux espèces de *Trechus* du sud-ouest des Etats-Unis et notes sur quatre autres espèces (Coleoptera Carabidae). *Bulletin mensuel de la Société Linnéenne de Lyon* 59: 153-160 [DP: 20 May 1990 (CUL stamp)]
- Dajoz R (1997a) Description et biologie d'un *Callisthenes* nouveau de la Sierra Nevada de Californie (Coleoptera: Carabidae). *Nouvelle Revue d'Entomologie* (nouvelle série) 14: 69-73 [DP: 30 August 1997]
- Dajoz R (1997b) Description de la larve et note sur la biologie de *Psydrus piceus* Leconte (Coleoptera, Carabidae). *Bulletin de la Société Entomologique de France* 102: 133-136 [DP: 3 June 1997]
- Dajoz R (1998) Deux coléoptères terricoles nouveaux de Californie: *Araeoschizus muthi* (Tenebrionidae) et *Rhadine albamontana* (Carabidae). *Nouvelle Revue d'Entomologie* (nouvelle série) 15: 87-94 [DP: 30 August 1998]
- Dajoz R (2004) Notes sur quelques Clivinini d'Amérique du Nord; description de trois espèces du genre *Dyschiriodes*, et d'un genre nouveau de Guyane (Coleoptera, Carabidae). *Nouvelle Revue d'Entomologie* (nouvelle série) 21: 115-123 [DP: 15 October 2004]
- Dajoz R (2005) Les coléoptères terricoles de trois stations du sud des Appalaches (États-Unis): structure des peuplements et description de trois espèces nouvelles. *Bulletin de la Société Entomologique de France* 110: 201-212 [DP: June 2005]

- Dajoz R (2007) Les communautés de coléoptères ripicoles de quelques localités de Californie, de l'Arizona et du Texas (États-Unis). Comparaison des diverses stations. *Nouvelle Revue d'Entomologie* (nouvelle série) 24: 13-28 [DP: 19 November 2007]
- Dalby A (2003) *Food in the Ancient World from A to Z*. Routledge, London [&] New York. xvi + 408 pp.
- Dallas WS (1866) Insecta. *The Zoological Record* 2 [1865]: 381-710 [DP: >1 August 1866]
- Dalla Torre KW von (1877) Synopsis der Insecten Oberösterreichs. *Jahresbericht des Vereins für Naturkunde in Österreich ob der Enns zu Linz* 8 (1): 15-74.
- Daniel K (1903) Bestimmungstabellen der europäischen Koleopteren. LII. (Nebriini, Notiophilini, Trachypachydini, Epactiini, Elaphrini und Lorocerini). Eine Vorarbeit. *Münchener Koleopterologische Zeitschrift* 1 [1902-03]: 155-173 [DP: 25 January 1903]
- Darlington PJ Jr. (1926) The European subgenus *Actedium* (*Bembidion*) in North America. *Psyche* 33: 32-35 [DP: 12 June 1926 (CUL stamp)]
- Darlington PJ Jr. (1930) A new *Nebria* from Mount Rainier. *Psyche* 37: 104-105 [DP: 12 June 1930 (CUL stamp)]
- Darlington PJ Jr. (1931) A new name for *Nebria vandykei* Darlington. *Psyche* 38: 24 [DP: 22 June 1931 (CUL stamp)]
- Darlington PJ Jr. (1932) On some Carabidae, including new species, from the mountains of North Carolina and Tennessee. *Psyche* 38 [1931]: 145-164 [DP: 4 March 1932 (CUL stamp)]
- Darlington PJ Jr. (1933a) The subspecies of *Sphaeroderus canadensis* Chd. *Psyche* 40: 62-64 [DP: 31 August 1933 (CUL stamp)]
- Darlington PJ Jr. (1933b) A new tribe of Carabidae (Coleoptera) from western United States. *The Pan-Pacific Entomologist* 9: 110-114 [DP: 8 September 1933]
- Darlington PJ Jr. (1934) New West Indian Carabidae, with a list of the Cuban species. *Psyche* 41: 66-131 [DP: 11 September 1934 (CUL stamp)]
- Darlington PJ Jr. (1935a) Three West Indian Carabidae in Florida. *Psyche* 42: 161 [DP: 11 January 1936 (CUL stamp)]
- Darlington PJ Jr. (1935b) *Megacephala* (*Tetracha*) *affinis angustata* Chev. (Coleoptera: Cicindelidae) north of Mexico. *Psyche* 42: 161-162 [DP: 11 January 1936 (CUL stamp)]
- Darlington PJ Jr. (1936a) The species of *Stenomorphus* (Coleoptera: Carabidae), with data on heterogony in *S. californicus* (Mén.). *The Pan-Pacific Entomologist* 12: 33-44 [DP: 20 March 1936]
- Darlington PJ Jr. (1936b) Variation and atrophy of flying wings of some carabid beetles (Coleoptera). *Annals of the Entomological Society of America* 29: 136-179 [DP: 31 March 1936]
- Darlington PJ Jr. (1936c) West Indian Carabidae II.: Itinerary of 1934; forests of Haiti; new species; and a new key to *Colpodes*. *Psyche* 42 [1935]: 167-215 [DP: 13 April 1936 (CUL stamp)]
- Darlington PJ Jr. (1936d) Two recently introduced species of *Amara* (Coleoptera: Carabidae). *Psyche* 43: 20 [22 June 1936 (CUL stamp)]
- Darlington PJ Jr. (1936e) An interesting *Pterostichus* and a new *Colpodes* from Arizona (Coleoptera: Carabidae). *Bulletin of the Brooklyn Entomological Society* 31: 150-153 [DP: 8 October 1936]



- Darlington PJ Jr. (1937) West Indian Carabidae III: new species and records from Cuba, with a brief discussion of the mountain fauna. *Memorias de la Sociedad Cubana de Historia Natural "Felipe Poey"* 11: 115-136 [DP: 8 May 1937]
- Darlington PJ Jr. (1938) The American Patrobini (Coleoptera, Carabidae). *Entomologica Americana* (new series) 18: 135-183 [DP: 7 November 1938]
- Darlington PJ Jr. (1939) West Indian Carabidae. V. New forms from the Dominican Republic and Puerto Rico. *Memorias de la Sociedad Cubana de Historia Natural "Felipe Poey"* 13: 79-101.
- Darlington PJ Jr. (1940a) Henry Clinton Fall (1862-1939). *Psyche* 47: 45-54 [DP: 26 November 1940 (CUL stamp)]
- Darlington PJ Jr. (1940b) *Stomis pumicatus* in America (Coleoptera, Carabidae). *The Canadian Entomologist* 72: 252 [DP: 31 December 1940]
- Darlington PJ Jr. (1941a) West Indian Carabidae VI. The Jamaican species, and their wings. *Psyche* 48: 10-15.
- Darlington PJ Jr. (1941b) The insect collection of Thaddeus W. Harris (1795-1856). *Entomological News* 52: 273 [DP: 30 December 1941]
- Darlington PJ Jr. (1947) West Indian Carabidae (Col.). VII. The species of the Cayman Islands. *The Entomologist's Monthly Magazine* 83: 209-211 [DP: 26 September 1947]
- Darlington PJ Jr. (1953) West Indian Carabidae (Coleoptera). The Bahama species. American Museum Novitates No. 1650. 16 pp. [DP: 28 December 1953]
- Darlington PJ Jr. (1968) The carabid beetles of New Guinea part III. Harpalinae (continued): Perigonini to Pseudomorphini. *Bulletin of the Museum of Comparative Zoology* 137: 1-253 [DP: 30 July 1968]
- Darlington PJ Jr. (1970) *Insects of Micronesia. Coleoptera: Carabidae including Cicindelinae*. Bernice P. Bishop Museum Insects of Micronesia volume 15, number 1. Bernice P. Bishop Museum, Honolulu. 49 pp. [DP: 25 January 1970]
- Darlington PJ Jr. (1971) The carabid beetles of New Guinea. Part IV. General considerations; analysis and history of fauna; taxonomic supplement. *Bulletin of the Museum of Comparative Zoology* 142: 129-337 [DP: 18 October 1971]
- Davidson RL (1980) A taxonomic revision of the genus *Chlaenius* Bonelli (Coleoptera: Carabidae) in Mexico and Central America, with species revisions of the subgenera *Callistometus* Grundmann, *Agostenus* Motschulsky, and *Chlaenius* (*sensu stricto*). M.Sc. Thesis, The University of Vermont. ix + 194 pp.
- Davidson RL (1995) First Virginia records for ten species of Carabidae (Coleoptera). *Banisteria, a Journal devoted to the Natural History of Virginia* 5: 16-19.
- Davidson RL, Langworthy MK (1981) Rediscovery of *Asaphidion flavipes* Linnaeus (Coleoptera: Carabidae) in Long Island, New York. *The Coleopterists Bulletin* 34 [1980]: 280 [DP: 28 January 1981]
- Davidson RL, Lee HJ Jr. (1990) Distribution and habitat of *Dyschirius campicola* Lindroth (Coleoptera: Carabidae) with new state records for Ohio and Illinois, first records east of the Mississippi River. *Proceedings of the Entomological Society of Washington* 92: 205-207 [DP: 1 May 1990]

- Davidson RL, Rykken J (2011) Rediscovery of *Bembidion* (*Lymnaeum*) *nigropiceum* (Marsham) (= *puritanum* Hayward) in Massachusetts, with remarks on biology and habitat (Coleoptera, Carabidae, Bembidiini). *ZooKeys* 147: 487-496 [DP: 16 November 2011]
- Davidson RL, Rykken J, Farrell B (2011) Carabid beetle diversity and distribution in Boston Harbor Islands national park area (Coleoptera, Carabidae). *ZooKeys* 147: 497-526 [DP: 16 November 2011]
- Davies MJ (1964) The larvae of some British *Notiophilus* species (Col., Carabidae). *The Entomologist's Monthly Magazine* 99 [1963]: 206-209 [DP: 17 August 1964]
- Davis AC (1928) A new *Cicindela* (Coleoptera, Cicindelidae). *The Pan-Pacific Entomologist* 5 [1928-29]: 65-66 [DP: 29 December 1928]
- Davis CA (1903) The Cicindelidae of Rhode Island. *Entomological News* 14: 270-273 [DP: 5 October 1903 (CUL stamp)]
- Davis CA (1904) Instructions for collecting and mounting insects; also a checklist of the Coleoptera of the state of Rhode Island, USA. Third edition. *Bulletin of the Roger Williams Park Museum* 1: 1-47 [not seen]
- Davis WH, Barbour RW (1978) Kentucky's high country—a biological treasure. *Transactions of the Kentucky Academy of Science* 39: 138-141 [DP: September 1978]
- Davis WT (1918) A new tiger-beetle from Texas. *Bulletin of the Brooklyn Entomological Society* 13: 33-34 [DP: January 1918].
- Davis WT (1922) Note on *Cicindela tascosaensis*. *Bulletin of the Brooklyn Entomological Society* 16 [1921]: 130 [DP: 28 February 1922]
- Dawson JF (1854) *Geodephaga Britannica. A monograph of the carnivorous ground-beetles indigenous to the British Isles*. Van Voorst, London. xx + 224 pp. + 3 pls [DP: 6 May 1854 (Athenaeum)]
- Dearborn RG, Donahue CP (1993) The forest insect survey of Maine. An annotated list of insects collected and recorded by the Maine Forest Service. Order Coleoptera - beetles. Insect and Disease Division, Technical Report No. 32. 102 pp. [DP: December 1993]
- DeGeer C (1774) *Mémoires pour servir à l'histoire des insectes. Tome quatrième*. Pierre Hesselberg, Stockholm. xii + 456 pp. + 19 pls.
- Dejean PFMA (1802) *Catalogue des coléoptères de la collection d'Auguste Dejean, classés suivant le Systema Eleutheratorum Fabricii*. Impr. de la République, Paris. [2] + 11 pp. [DP: 21 September-31 December 1802 (Madge 1988, *Arch. Nat. Hist.* 15: 318)]
- Dejean PFMA (1821) *Catalogue de la collection de coléoptères de M. le Baron Dejean*. Crevot, Paris. viii + 138 + [2] pp. [DP: 12 May 1821 (*Bibl. Fr.*)]
- Dejean PFMA (1825) *Species général des coléoptères, de la collection de M. le Comte Dejean. Tome premier*. Crevot, Paris. xxx + 463 pp. [DP: 10 September 1825 (*Bibl. Fr.*)]
- Dejean PFMA (1826) *Species général des coléoptères, de la collection de M. le Comte Dejean. Tome second*. Crevot, Paris. viii + 501 pp. [DP: 22 April 1826 (*Bibl. Fr.*)]
- Dejean PFMA (1828) *Species général des coléoptères, de la collection de M. le Comte Dejean. Tome troisième*. Méquignon-Marvis, Paris. vii + 556 pp. [DP: 29 November 1828 (*Bibl. Fr.*)]
- Dejean PFMA (1829) *Species général des coléoptères, de la collection de M. le Comte Dejean. Tome quatrième*. Méquignon-Marvis, Paris. vii + 520 pp. [DP: 5 December 1829 (*Bibl. Fr.*)]

- Dejean PFMA (1831) *Species général des coléoptères, de la collection de M. le Comte Dejean. Tome cinquième*. Méquignon-Marvis, Paris. viii + 883 pp. [DP: 23 July 1831 (*Bibl. Fr.*)]
- Dejean PFMA (1833) *Catalogue des coléoptères de la collection de M. le Comte Dejean*. [Livraison 1]. Méquignon-Marvis, Paris. Pp. 1-96 [DP: 19 January 1833 (*Bibl. Fr.*)]
- Dejean PFMA (1836) *Catalogue des coléoptères de la collection de M. le Comte Dejean. Troisième édition, revue, corrigée et augmentée*. [Livraisons 1-4]. Méquignon-Marvis, Paris. Pp. 1-384 [DP: 30 July 1836 (*Bibl. Fr.*)]
- Dejean PFMA, Boisduval JBA (1829) *Iconographie et histoire naturelle des coléoptères d'Europe. Tome premier*. Méquignon-Marvis, Paris. Pp. 1-112 (see Bousquet 2004a: 43).
- Dejean PFMA, Boisduval JBA (1830) *Iconographie et histoire naturelle des coléoptères d'Europe. Tome premier*. Méquignon-Marvis, Paris. Pp. 113-400 (see Bousquet 2004a: 43).
- Delkeskamp K (1930) Biologische Studien über *Carabus nemoralis* Müller. *Zeitschrift für Morphologie und Ökologie der Tiere* 19: 1-58.
- Desender K (1988) The larvae of *Amara aenea* (De Geer, 1774) and *Amara familiaris* (Duftschmid, 1812) (Coleoptera, Carabidae). *Bulletin & Annales de la Société Royale belge d'Entomologie* 124: 153-164 [DP: 30 June 1988]
- Desender K, Crappé D (1983) Larval and adult morphology and biometry of two sibling species *Bembidion lampros* (Herbst) and *Bembidion properans* Stephens (Coleoptera, Carabidae). *Biologisch Jaarboek* 51: 36-54 [DP: 31 December 1983]
- Desender K, Panné V (1983) The larvae of *Pterostichus strenuus* Panzer and *Pterostichus vernalis* Panzer (Coleoptera, Carabidae). *Annales de la Société Royale Zoologique de Belgique* 113: 139-154.
- Desmarest E (1851) *Encyclopédie d'histoire naturelle ou traité complet de cette science d'après les travaux des naturalistes les plus éminents de tous les pays et de toutes les époques Buffon, Daubenton, Lacépède, G. Cuvier, F. Cuvier, Geoffroy Saint-Hilaire, Latreille, de Jussieu, Brongniart, etc., etc. Ouvrage résumant les observations des auteurs anciens et comprenant toutes les découvertes modernes jusqu'à nos jours par le Dr Chenu. Coléoptères cicindelètes, carabiques, dytisciens, hydrophiliens, sylphales et nitidulaires, avec la collaboration de M.E. Desmarest, secrétaire de la Société Entomologique*. Marescq et Compagnie, Paris. 312 pp. + 28 pls. Note. Jean Charles Chenu is listed as the author on the title page. However, as discussed by Bouchard *et al.* (2011: 12), there is clear evidence that Eugène Desmarest was the author of the three tomes dealing with Coleoptera. This volume was issued in livraisons and the first one was published on 21 September 1850 as recorded by the *Bibliographie de la France*. However, since I am unable to assert which pages were published in 1850, the date for the whole book is given as 1851.
- Deuve T (1978) Liste des types de calosomes du Muséum National d'Histoire Naturelle de Paris. *Nouvelle Revue d'Entomologie* 8: 245-258 [DP: 15 November 1978]
- Deuve T (1988) Etude phylogénétique des coléoptères Adephaga: redéfinition de la famille des Harpalidae, sensu novo, et position systématique des Pseudomorphinae et Brachinidae. *Bulletin de la Société Entomologique de France* 92: 161-182 [DP: 26 January 1988]
- Deuve T (1991) *La nomenclature taxonomique du genre Carabus*. Bibliothèque Entomologique Vol. 4. Sciences Nat, Paris. 197 pp.

- Deuve T (1993) L'abdomen et les genitalia des femelles de coléoptères Adephaga. *Mémoires du Muséum National d'Histoire Naturelle* 155: 1-184 [DP: 26 March 1993]
- Deuve T (1994a) *Une classification du genre Carabus*. Bibliothèque Entomologique Vol. 5. Sciences Nat, Venette (France). 296 pp. [DP: January 2004]
- Deuve T (1994b) Les Nototylidae, une famille énigmatique de coléoptères Adephaga. *Annales de la Société Entomologique de France* (nouvelle série) 30: 133-144 [DP: 30 June 1994]
- Deuve T (2004) *Illustrated catalogue of the genus Carabus of the world (Coleoptera: Carabidae)*. Pensoft, Sofia-Moscow. x + 461 pp. [DP: January 2004]
- Deuve T (2005) Les Gehringiidae: famille relictuelle de coléoptères Adephaga, alticole dans les Montagnes Rocheuses et déserticole dans le Sinaï. *Annales de la Société Entomologique de France* (nouvelle série) 41: 69-80 [DP: 5 October 2005]
- Deuve T, Tian M (2002) Sur l'identité du genre *Lissopogonus* Andrewes, 1923 (Coleoptera, Caraboidea). *Revue Française d'Entomologie* (nouvelle série) 24: 30 [DP: 15 March 2002]
- Dietrich H (1958) *Harpalus puncticeps* Steph. on Long Island, N.Y. *The Coleopterists Bulletin* 11 [1957]: 46 [DP: 24 March 1958]
- Di Giulio A, Fattorini S, Kaupp A, Vigna Taglianti A, Nagel P (2003) Review of competing hypotheses of phylogenetic relationships of Paussinae (Coleoptera: Carabidae) based on larval characters. *Systematic Entomology* 28: 509-537 [DP: October 2003]
- Di Giulio A, Moore W (2004) The first-instar larva of the genus *Arthropterus* (Coleoptera: Carabidae: Paussinae): implications for evolution of myrmecophily and phylogenetic relationships within the subfamily. *Invertebrate Systematics* 18: 101-115 [DP: 1 June 2004 (CAL stamp)]
- Dimmock G, Knab F (1904) Early stages of Carabidae. Springfield Museum of Natural History Bulletin No. 1. 56 pp. + 4 pls.
- Döbler H (1973) Katalog der in den Sammlungen des ehemaligen Deutschen Entomologischen Institutes aufbewahrten Typen - IX. *Beiträge zur Entomologie* 23: 355-419.
- Döbler H (1975) Katalog der in den Sammlungen des ehemaligen Deutschen Entomologischen Institutes aufbewahrten Typen - XII. (Coleoptera: Carabidae). *Beiträge zur Entomologie* 25: 99-150.
- Dogger JR, Olson CA (1966) Larval characteristics of some North Dakota carabids (Coleoptera: Carabidae). *The Coleopterists Bulletin* 20: 91-96 [DP: 21 October 1966]
- Dokhtouroff WS (1883a) Matériaux pour servir à l'étude des cicindélides II. *Revue mensuelle d'Entomologie pure et appliquée* 1: 4-14 [DP: 13 June 1883 (Soc. Ent. Fr.)]
- Dokhtouroff WS (1883b) Matériaux pour servir à l'étude des cicindélides III. Essai sur la subdivision du genre *Cicindela* des auteurs. *Revue mensuelle d'Entomologie pure et appliquée* 1: 66-70 [DP: 12 December 1883 (Soc. Ent. Fr.)]
- Donabauer M (2005a) New species of the *Trechus* (*Microtrechus*) *uncifer*-group from the southern Appalachians (Coleoptera: Carabidae). *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 57: 51-62 [DP: 30 June 2005]
- Donabauer M (2005b) New species and subspecies of the *Trechus* (*Microtrechus*) *nebulosus*-group from the southern Appalachians (Coleoptera: Carabidae: Trechinae). *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 57: 65-92 [DP: 12 December 2005]

- Donabauer M (2009) New species of the *Trechus* (*Microtrechus*) *vandykei* group from the southern Appalachians (Coleoptera: Carabidae: Trechinae). *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 61: 129-141 [DP: 27 November 2009]
- Donabauer M (2010a) Die *Trechus*-Arten Südkaliforniens und Arizonas (Coleoptera: Carabidae: Trechini). *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 62: 37-44 [DP: 7 May 2010]
- Donabauer M (2010b) Kurzmitteilung: über *Trechus dietrichi* Barr, 1962 (Coleoptera: Carabidae: Trechini). *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 62: 45-46 [DP: 7 May 2010]
- Donovan E (1806) *The natural history of British insects; explaining them in their several states, with the periods of their transformations, their food, oeconomy, &c. together with the history of such minute insects as require investigation by the microscope. Vol. XI.* F.C. and J. Rivington, London. viii + 100 + [7] pp. + pls 361-396.
- Dostal A (2011) Taxonomic remarks about *Semiclivina* (Kult, 1947) new status, with description of *Uroclivina* subgen.n., and of two new species from South America (Coleoptera, Carabidae, Scaritinae, Clivinini). *ZooKeys* 132: 33-50 [DP: 3 October 2011]
- Doubleday E (1838) Communications on the natural history of North America. *The Entomological Magazine* 5: 409-417 [DP: 28 October 1838]
- Dow RP (1911) On some rare Cicindelae (Coleop.). *Entomological News* 22: 271-272 [DP: 31 May 1911]
- Dow RP (1913) The work and times of Dr. Harris. *Bulletin of the Brooklyn Entomological Society* 8 [1912-13]: 106-118 [DP: December 1913]
- Downie NM (1957) Records of Indiana Coleoptera, I. *Proceedings of the Indiana Academy of Science* 66 [1956]: 115-124 [DP: 4 December 1957 (MCZ stamp)]
- Downie NM, White CE (1967) Records of Indiana Coleoptera, III. *Proceedings of the Indiana Academy of Science* 76 [1966]: 308-316 [DP: 7 November 1967 (MCZ stamp)]
- Drapiez PAJ (1819) Description de huit espèces d'insectes nouveaux. *Annales Générales des Sciences Physiques* 1: 130-138.
- Dressler C, Beutel RG (2010) The morphology and evolution of the adult head of Adephaga (Insecta: Coleoptera). *Arthropod Systematics & Phylogeny* 68: 239-287 [DP: 28 June 2010]
- Drew WA, Van Cleave HW (1962) The tiger beetles of Oklahoma (Cicindelidae). *Proceedings of the Oklahoma Academy of Science* 42: 101-122.
- Drury D (1770) *Illustrations of natural history. Wherein are exhibited upwards of two hundred and forty figures of exotic insects, according to their different genera; very few of which have hitherto been figured by any author, being engraved and coloured from nature, with the greatest accuracy, and under the author's own inspection, on fifty copper-plates. With a particular description of each insect: interspersed with remarks and reflections on the nature and properties of many of them. To which is added, a translation into French. [Vol. I].* B. White, London. xxvii + 132 pp. + 50 pls [DP: 23 April 1770 (Evenhuis 1997a: 211)]
- Drury D (1773) *Illustrations of natural history. Wherein are exhibited upwards of two hundred and twenty figures of exotic insects, according to their different genera; very few of which have hitherto been figured by any author, being engraved and coloured from nature, with the greatest accuracy, and under the author's own inspection, on fifty copper-plates. With a particular*



- description of each insect: interspersed with remarks and reflections on the nature and properties of many of them. To which is added, a translation into French. Vol. II.* B. White, London. ix + 90 pp. + [4] + 50 pls [DP: 14 May 1773 (Evenhuis 1997a: 211)] Note. The International Commission on Zoological Nomenclature ruled in 1958 (Opinion 474, *Opinions and Declarations Rendered by the International Commission on Zoological Nomenclature* 16: 297–306) that the date of publication of the index, published with the second volume of Drury's work in 1773, containing names formed in accordance with the principles of binominal nomenclature, is the official date of publication of the species described and figured but not so named in the first volume published in 1770.
- Dubbs JH (1903) *History of Franklin and Marshall College; Franklin College, 1787-1853; Marshall College, 1836-1853; Franklin and Marshall College 1853-1903*. Franklin and Marshall College Alumni Association, Lancaster (PA). xiv + 402 pp.
- Duffey JC (1892) Transformations of a carabid (*Plochionus timidus*), and observations on a coccinellid enemy of the red spider. *The Transactions of the Academy of Science of St. Louis* 5 [1886-91]: 533-542 (+ pls 10-11).
- Duftschnid CE (1812) *Fauna Austriae. Oder Beschreibung der österreichischen Insekten für angehende Freunde der Entomologie. Zweyter Theil*. Akademie Buchhandlung, Linz und Leipzig. viii + 311 pp.
- Duméril AMC (1805) *Zoologie analytique, ou méthode naturelle de classification des animaux, rendue plus facile à l'aide de tableaux synoptiques*. Allais, Paris. xxxii + 343 pp. [DP: 15 November 1805 (Evenhuis 1997a: 215)]
- Duméril AMC (1823) *Considérations générales sur la classe des insectes. Ouvrage orné de soixante planches en taille-douce représentant plus de trois cent cinquante genres d'insectes*. F.G. Levrault, Paris. xii + 272 pp. + 60 pls [DP: 17 May 1823 (Evenhuis 1997a: 216)]
- Duncan DK (1958) A new subspecies of the genus *Cicindela* (Coleoptera: Cicindelidae). *The Pan-Pacific Entomologist* 34: 43 [DP: 18 March 1958]
- Dunn GA (1982a) New records of *Pasimachus elongatus* in Michigan (Coleoptera: Carabidae: Scaritini). *The Great Lakes Entomologist* 14 [1981]: 206 [DP: 6 January 1982]
- Dunn GA (1982b) Ground beetles (Coleoptera: Carabidae) collected by pitfall trapping in Michigan small-grain fields. *The Great Lakes Entomologist* 15: 37-38 [DP: 6 May 1982]
- Dunn GA (1983) Tiger beetles of New Hampshire. *Cicindela* 13 [1981]: 1-28 [DP: 5 April 1983 (CUL stamp)]
- Dunn GA (1985a) Carabidae of the Beaver Islands Charlevoix County, Michigan. *Y.E.S. Quarterly* 2 (1): 6-13 [DP: 20 March 1985 (CAL stamp)]
- Dunn GA (1985b) Identification of North and Central American tiger beetles of the genus *Megacephala* Latreille (Coleoptera: Cicindelidae). *Y.E.S. Quarterly* 2 (1): 21-23 [DP: 20 March 1985 (CAL stamp)]
- Dunn GA (1986) Additional distribution records for the recently-described species *Harpalus katiae* Battoni (Coleoptera: Carabidae). *Y.E.S. Quarterly* 3 (3): 2-3 [DP: 12 September 1986 (CAL stamp)]
- Dunn GA (1987) Additions to the list of Carabidae and Cicindelinae (Coleoptera) of the Beaver Islands, Charlevoix Co., Michigan (USA). *Y.E.S. Quarterly* 4 (2): 11 [DP: 6 May 1987 (CAL stamp)]

- Duponchel PAJ (1840a) *Agreuter*. Pp. 196 in d'Orbigny C (Ed.). *Dictionnaire universel d'histoire naturelle résumant et complétant tous les faits présentés par les encyclopédies, les anciens dictionnaires scientifiques, les oeuvres complètes de Buffon, et les meilleurs traités spéciaux sur les diverses branches des sciences naturelles; - Donnant la description des êtres et des divers phénomènes de la nature, l'étymologie et la définition des noms scientifiques, et les principales applications des corps organiques et inorganiques à l'agriculture, à la médecine, aux arts industriels, etc. Tome premier*. MM. Renard, Martinet et Cie., Paris. 795 pp.
- Duponchel PAJ (1840b) *Amphasia*. Pp. 374 in d'Orbigny C (Ed.). *Dictionnaire universel d'histoire naturelle résumant et complétant tous les faits présentés par les encyclopédies, les anciens dictionnaires scientifiques, les oeuvres complètes de Buffon, et les meilleurs traités spéciaux sur les diverses branches des sciences naturelles; - Donnant la description des êtres et des divers phénomènes de la nature, l'étymologie et la définition des noms scientifiques, et les principales applications des corps organiques et inorganiques à l'agriculture, à la médecine, aux arts industriels, etc. Tome premier*. MM. Renard, Martinet et Cie., Paris. 795 pp. [DP: July 1840 (Evenhuis 1997b: 575)]
- Duponchel PAJ (1842) *Bembidion*. Pp. 541-542 in d'Orbigny C (Ed.). *Dictionnaire universel d'histoire naturelle résumant et complétant tous les faits présentés par les encyclopédies, les anciens dictionnaires scientifiques, les oeuvres complètes de Buffon, et les meilleurs traités spéciaux sur les diverses branches des sciences naturelles; - Donnant la description des êtres et des divers phénomènes de la nature, l'étymologie et la définition des noms scientifiques, et les principales applications des corps organiques et inorganiques à l'agriculture, à la médecine, aux arts industriels, etc. Tome deuxième*. MM. Renard, Martinet et Cie., Paris. 795 pp.
- Duponchel PAJ (1843) *Cratacanthus*. Pp. 327 in d'Orbigny C (Ed.). *Dictionnaire universel d'histoire naturelle résumant et complétant tous les faits présentés par les encyclopédies, les anciens dictionnaires scientifiques, les oeuvres complètes de Buffon, et les meilleurs traités spéciaux sur les diverses branches des sciences naturelles; - Donnant la description des êtres et des divers phénomènes de la nature, l'étymologie et la définition des noms scientifiques, et les principales applications des corps organiques et inorganiques à l'agriculture, à la médecine, aux arts industriels, etc. Tome quatrième*. MM. Renard, Martinet et Cie., Paris. 752 pp. [DP: 26 December 1843 (Evenhuis 1997b: 575)]
- Duponchel PAJ (1844) *Dischirius*. Pp. 151 in d'Orbigny C (Ed.). *Dictionnaire universel d'histoire naturelle résumant et complétant tous les faits présentés par les encyclopédies, les anciens dictionnaires scientifiques, les oeuvres complètes de Buffon, et les meilleurs traités spéciaux sur les diverses branches des sciences naturelles; - Donnant la description des êtres et des divers phénomènes de la nature, l'étymologie et la définition des noms scientifiques, et les principales applications des corps organiques et inorganiques à l'agriculture, à la médecine, aux arts industriels, etc. Tome cinquième*. MM. Renard, Martinet et Cie., Paris. 768 pp. [DP: 12 August 1844 (Evenhuis 1997b: 576)]
- Dupuis P (1912) *Coleoptera Adephaga. Fam. Carabidae. Subfam. Opisthiinae*. Genera Insectorum. Fascicule 126. Bruxelles. 2 pp. + 1 pl. [DP: <5 May 1912 (Evenhuis 1994, Arch. Nat. Hist. 21: 56)]
- Dury C (1879) List of the Coleoptera observed in the vicinity of Cincinnati. *The Journal of the Cincinnati Society of Natural History* 2: 162-178 [DP: October 1879]

- Dury C (1882) Coleoptera of the vicinity of Cincinnati. *The Journal of the Cincinnati Society of Natural History* 5: 218-220 [DP: December 1882]
- Dury C (1902) A revised list of the Coleoptera observed near Cincinnati, Ohio, with notes on localities, bibliographical references, and description of new species. *The Journal of the Cincinnati Society of Natural History* 20 [1901-06]: 107-196 [DP: 25 November 1902]
- Dury C (1906) Additions to the list of Cincinnati Coleoptera. *The Journal of the Cincinnati Society of Natural History* 20 [1901-06]: 257-260 [DP: 8 March 1906]
- Dury C (1910) New species and additions to the list of Cincinnati Coleoptera. *The Journal of the Cincinnati Society of Natural History* 21 [1909-14]: 64-67 [DP: September 1910]
- Dury C (1911) Some new beetles from North Carolina, with ecological notes (Coleop.). *Entomological News* 22: 273-275 [DP: 31 May 1911]
- Dury C (1912) A new *Cychrus* from New Mexico. *The Journal of the Cincinnati Society of Natural History* 21 [1909-14]: 104 [DP: December 1912]
- Easton NS (1909) A list of Coleoptera collected within ten miles of Fall River, Massachusetts. *Psyche* 16: 35-42.
- Eckhoff DE (1939) The Cicindelidae of Iowa (Coleoptera). *Iowa State College Journal of Science* 13 [1938-39]: 201-230.
- Eckhoff DE (1970) A new name for *Cicindela cyanocephalata* Eckhoff (Coleoptera: Cicindelidae). *The Coleopterists Bulletin* 24: 32 [DP: 5 April 1970]
- Edelbrock GH (1986) Analysis of geographical variation in *Carabus taedatus* Fabricius (Coleoptera: Carabidae). M.Sc. Thesis, San Francisco State University. xx + 176 pp.
- Edwards JG (1975) The Carabidae of Glacier National Park, Montana. *The Coleopterists Bulletin* 29: 47-58 [DP: 28 March 1975]
- Ehlers W (1884) Descriptions of new blind Bembidii. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 11: 36.
- Ehrman GA (1900) The capture of *Platynus caudatus* Lec., and *Platynus larvalis* Lec., in western Pennsylvania. *Entomological News* 11: 499-500 [DP: 5 May 1900 (CUL stamp)]
- Eisner T, Aneshansley DJ (1982) Spray aiming in bombardier beetles: jet deflection by the Coanda effect. *Science* 215: 83-85 [DP: 1 January 1982]
- Elias SA (1984) Coleoptera from two subarctic localities in Canada with ecological notes and six new distribution records. *The Coleopterists Bulletin* 38: 142-144 [DP: 21 September 1984]
- Elias SA (1987) Colorado ground beetles (Coleoptera: Carabidae) from the Rotger collection, University of Colorado Museum. *The Great Basin Naturalist* 47: 631-637 [DP: 31 October 1987]
- Elias SA (1988) New distributional and ecological records of ground beetles (Coleoptera: Carabidae) from southwestern Alaska. *The Coleopterists Bulletin* 42: 39-42 [DP: 14 April 1988]
- Elias SA, Matthews JV Jr. (2002) Arctic North American seasonal temperatures from the latest Miocene to the Early Pleistocene, based on mutual climatic range analysis of fossil beetle assemblages. *Canadian Journal of Earth Sciences* 39: 911-920 [DP: 12 August 2002]

- Elliott NC, Tao FL, Giles KL, Kindler SD, French BW, Greenstone MH, Shufan KA (2006) Ground beetle density in Oklahoma winter wheat fields. *Southwestern Entomologist* 31: 121-128 [DP: 24 August 2006 (CUL stamp)]
- Ellis LM, Crawford CS, Molles MC Jr. (2001) Influence of annual flooding on terrestrial arthropod assemblages of a Rio Grande riparian forest. *Regulated Rivers: Research & Management* 17: 1-20 [DP: 17 January 2001 (online version)]
- Ellsbury MM, Powell JE, Forcella F, Woodson WD, Clay SA, Riedell WE (1998) Diversity and dominant species of ground beetle assemblages (Coleoptera: Carabidae) in crop rotation and chemical input systems for the northern Great Plains. *Annals of the Entomological Society of America* 91: 619-625 [DP: 1 October 1998 (CAL stamp)]
- El-Moursy AA (1959) A revision of the species of the subgenus *Plectralidus* (*Harpalus*, Harpalini, Carabidae) from North America. *The Coleopterists Bulletin* 12 [1958]: 36-42 [DP: 27 January 1959]
- Emberson RM (1992) Tentative dates of publication of the zoology plates of Dumont d'Urville's *Voyage au Pol Sud*, with particular reference to the Coleoptera. *Archives of Natural History* 19: 251-260 [DP: June 1992]
- Emden FI van (1925) Zur Kenntnis der Eizähne der Arthropoden, insbesondere der Coleopteren. *Zeitschrift für Wissenschaftliche Zoologie* 126: 622-654 [DP: 15 December 1925]
- Emden FI van (1935) Die Larven der Cicindelinae I. Einleitendes und alocosternale Phyle. *Tijdschrift voor Entomologie* 78: 134-183 [DP: June 1935]
- Emden FI van (1936a) Bemerkungen zur Klassifikation der Carabidae: Carabini und Harpalinae piliferae. *Entomologische Blätter für Biologie und Systematik der Käfer* 32: 12-17 [DP: 29 February 1936], 41-52 [DP: 30 April 1936]
- Emden FI van (1936b) Käferlarven aus belgischen Höhlen. *Bulletin du Musée Royal d'Histoire Naturelle de Belgique* 12 (11): 1-7 [DP: April 1936]
- Emden FI van (1937) On the larval characters of *Anthia* (Coleoptera, Carabidae). *The Entomologist's Monthly Magazine* 73: 58-61 [DP: 15 March 1937 (CAL stamp)]
- Emden FI van (1942) A key to the genera of larval Carabidae (Col.). *The Transactions of the Royal Entomological Society of London* 92: 1-99 [DP: 23 July 1942]
- Emden FI van (1945) Key to larvae: Carabidae. Pp. 24-27 in Hinton HE. *A monograph of the beetles associated with stored products. Volume I*. The Trustees of the British Museum, London. viii + 443 pp. [DP: 23 March 1945]
- Emden FI van (1949) New and little-known Neotropical Carabidae. *The Annals and Magazine of Natural History* (twelfth series) 2: 861-893 [DP: 11 November 1949 (Evenhuis 2003, *Zootaxa* 385: 51)]
- Emden FI van (1953a) The larva of *Morion* and its systematic position (Coleoptera: Carabidae). *Proceedings of the Hawaiian Entomological Society* 15: 51-54 [DP: 27 March 1953]
- Emden FI van (1953b) The Harpalini genus *Anisotarsus* Dej. (Col. Carab.). *The Annals and Magazine of Natural History* (twelfth series) 6: 513-547 [DP: 1 July 1953 (Evenhuis 2003, *Zootaxa* 385: 53)]
- Emden FI van (1958) New South American Carabidae (Coleoptera) with notes on described species. *The Annals and Magazine of Natural History* (13th series) 1: 19-32 [DP: 27 June 1958 (Evenhuis 2003, *Zootaxa* 385: 54)]

- Emetz VM (1976) On the types of ground-beetles of the subgenus *Cymindis* (Coleoptera, Carabidae) described by V.I. Motschulsky [in Russian]. *Sbornik Trudov Zoologicheskogo Muzeya MGU* 15: 225-230.
- Epstein ME, Kulman HM (1990) Habitat distribution and seasonal occurrence of carabid beetles in east-central Minnesota. *The American Midland Naturalist* 123: 209-225 [DP: 25 April 1990]
- Eremin PK (1990) A new species of ground beetles (Coleoptera, Carabidae) from the Kuril Islands [in Russian]. *Zoologicheskii Zhurnal* 69(1): 152-154. Note. An English translation was published in *Entomological Review* 69(6): 52-54.
- Eremin PK (1998) Species of the group *Pterostichus* (*Cryobius*) *brevicornis* (Coleoptera, Carabidae) from the Palaearctic Region [in Russian]. *Zoologicheskii Zhurnal* 77: 295-302 [DP: >23 February 1998; <5 May 1998 (CAL stamp)] Note. An English translation was published in *Entomological Review* 78: 130-137.
- Erichson WF (1837) *Die Käfer der Mark Brandenburg. Erster Band. Erste Abtheilung*. Morin, Berlin. viii + 384 pp. [DP: 15 September 1837 (*Allg. Bibl. Deutsch.*)]
- Erichson WF (1847) Conspectus insectorum coleopterorum, quae in Republica Peruana observata sunt. *Archiv für Naturgeschichte* 13(1): 67-185.
- Erwin TL (1965) A revision of *Brachinus* of North America: Part I. The California species (Coleoptera: Carabidae). *The Coleopterists Bulletin* 19: 1-19 [DP: 23 April 1965]
- Erwin TL (1967) Bombardier beetles (Coleoptera, Carabidae) of North America: Part II. Biology and behavior of *Brachinus pallidus* Erwin in California. *The Coleopterists Bulletin* 21: 41-55 [DP: 2 September 1967]
- Erwin TL (1969a) A new bombardier beetle in Canada (Col. Carabidae). *Opuscula Entomologica* 34: 283-286 [DP: 14 November 1969]
- Erwin TL (1969b) Preliminary diagnoses of five new North American *Brachinus* (Col. Carabidae). *Opuscula Entomologica* 34: 287-288 [DP: 14 November 1969]
- Erwin TL (1969c) A reclassification of bombardier beetles and a taxonomic revision of the North and Middle American species (Carabidae: Brachinida). Ph.D. Thesis, University of Alberta. 464 pp. [not seen]
- Erwin TL (1970a) A reclassification of bombardier beetles and a taxonomic revision of the North and Middle American species (Carabidae: Brachinida). *Quaestiones Entomologicae* 6: 4-215 [DP: 20 February 1970]
- Erwin TL (1970b) The Nearctic species of the genus *Leistus* Frölich (Coleoptera: Carabidae). *The Pan-Pacific Entomologist* 46: 111-119 [DP: 29 May 1970]
- Erwin TL (1971) Fossil tachyine beetles from Mexican and Baltic amber with notes on a new synonymy of an extant group (Col, Carabidae). *Entomologica Scandinavica* 2: 233-236 [DP: 30 September 1971]
- Erwin TL (1973a) Nomenclatorial notes on the Tachyini (Coleoptera: Carabidae). *Proceedings of the Entomological Society of Washington* 75: 125 [DP: 26 April 1973]
- Erwin TL (1973b) A supplement to the bombardier beetles of North and Middle America: new records for Middle America (Coleoptera: Carabidae). *The Coleopterists Bulletin* 27: 79-82 [DP: 30 June 1973]



- Erwin TL (1974a) Studies of the subtribe Tachyina (Coleoptera: Carabidae: Bembidiini) supplement A: lectotype designations for New World species, two new genera, and notes on generic concepts. *Proceedings of the Entomological Society of Washington* 76: 123-155 [DP: 22 July 1974]
- Erwin TL (1974b) Studies of the subtribe Tachyina (Coleoptera: Carabidae: Bembidiini), part II: a revision of the New World-Australian genus *Pericompsus* LeConte. Smithsonian Contributions to Zoology No. 162. iv + 96 pp.
- Erwin TL (1975) Studies of the subtribe Tachyina (Coleoptera: Carabidae: Bembidiini), part III: systematics, phylogeny, and zoogeography of the genus *Tachyta* Kirby. Smithsonian Contributions to Zoology No. 208. iii + 68 pp.
- Erwin TL (1978) The larva of Neotropical *Enceladus gigas* Bonelli (Coleoptera: Carabidae: Siagoninae: Enceladini) with notes on the phylogeny and classification of some of the more primitive tribes of ground beetles. *The Coleopterists Bulletin* 32: 99-106 [DP: 22 August 1978]
- Erwin TL (1979) Thoughts on the evolutionary history of ground beetles: hypotheses generated from comparative faunal analyses of lowland forest sites in temperate and tropical regions. Pp. 539-592 in Erwin TL, Ball GE, Whitehead DR, Halpern AL (Eds). *Carabid beetles: their evolution, natural history, and classification*. Proceedings of the First International Symposium of Carabidology Smithsonian Institution, Washington D.C. August 21, 23, and 25, 1976. Dr W. Junk bv Publishers, The Hague. 635 pp.
- Erwin TL (1981a) A synopsis of the immature stages of Pseudomorphini (Coleoptera: Carabidae) with notes on tribal affinities and behavior in relation to life with ants. *The Coleopterists Bulletin* 35: 53-68 [DP: 23 July 1981]
- Erwin TL (1981b) Natural history of Plummers Island, Maryland. XXVI. The ground beetles of a temperate forest site (Coleoptera: Carabidae): an analysis of fauna in relation to size, habitat selection, vagility, seasonality, and extinction. *Bulletin of the Biological Society of Washington* 5: 104-224 [DP: 9 December 1981]
- Erwin TL (1982a) *Agra*, arboreal beetles of Neotropical forests: *erythropus* group systematics (Carabidae). *Systematic Entomology* 7: 39-71 [DP: 14 January 1982 (CAL stamp)]
- Erwin TL (1982b) Small terrestrial ground-beetles of Central America (Carabidae: Bembidiina and Anillina). *Proceedings of the California Academy of Sciences* 42: 455-496 [DP: 14 May 1982]
- Erwin TL (1984a) Studies of the tribe Bembidiini (Coleoptera: Carabidae): lectotype designations and species group assignments for *Bembidion* species described by Thomas L. Casey and others. *The Pan-Pacific Entomologist* 60: 165-187 [DP: 7 June 1984]
- Erwin TL (1984b) Composition and origin of the ground beetle fauna (Coleoptera, Carabidae). Pp. 371-389 in Fernando CH (Ed.). *Ecology and biogeography in Sri Lanka*. Dr. W. Junk Publishers, The Hague. 505 pp.
- Erwin TL (1985) The taxon pulse: a general pattern of lineage radiation and extinction among carabid beetles. Pp. 437-472 in Ball GE (Ed.). *Taxonomy, phylogeny and zoogeography of beetles and ants. A volume dedicated to the memory of Philip Jackson Darlington, Jr. (1904-1983)*. Series Entomologica, volume 33. Dr W. Junk Publishers, Dordrecht / Boston / Lancaster. 514 pp. [DP: 16 October 1985 (CAL stamp)]

- Erwin TL (1991a) The ground-beetles of Central America (Carabidae), part II: Notiophilini, Loricerini, and Carabini. Smithsonian Contributions to Zoology No. 501. iii + 30 pp. [DP: 27 February 1991 (CUL stamp)]
- Erwin TL (1991b) Natural history of the carabid beetles at the BIOLAT Biological Station, Rio Manu, Pakitza, Peru. *Revista Peruana de Entomologia* 33 [1990]: 1-85 [DP: 30 October 1991]
- Erwin TL (1994) Arboreal beetles of tropical forests: the Xystosomi group, subtribe Xystosomina (Coleoptera: Carabidae: Bembidiini). Part I. Character analysis, taxonomy, and distribution. *The Canadian Entomologist* 126: 549-666 [DP: July 1994]
- Erwin TL (2004) The beetle family Carabidae of Costa Rica: the genera of the Cryptobatida group of subtribe Agrina, tribe Lebiini, with new species and notes on their way of life (Insecta: Coleoptera). *Zootaxa* 662: 1-54 [DP: 1 October 2004]
- Erwin TL (2007a) *A treatise on the Western Hemisphere Caraboidea (Coleoptera): their classification, distributions, and way of life. Volume I (Trachypachidae, Carabidae - Nebriiformes 1)*. Pensoft, Sofia-Moscow. 323 pp. + 22 pls [DP: April 2007]
- Erwin TL (2007b) Xenaroswellanini, *Xenaroswelliana deltaquadrant*, new tribe, new genus, and new species from the Cerrado of Estado de Goiás, Brazil (Insecta: Coleoptera: Carabidae). *Proceedings of the California Academy of Sciences* (fourth series) 58: 561-568 [DP: 28 December 2007]
- Erwin TL (2011a) *Halocoryza* Alluaud, 1919, sea-side beetles of the Indian, Atlantic (*sensu lato*), and Pacific Oceans: a generic synopsis and description of a remarkable new species from Baja California Sur, México (Coleoptera, Carabidae, Scaritini, Clivinina). *ZooKeys* 127: 1-13 [DP: 8 September 2011]
- Erwin TL (2011b) *A treatise on the Western Hemisphere Caraboidea (Coleoptera): their classification, distributions, and way of life. Volume III (Carabidae – Loxomeriiformes, Melaeniiformes)*. Pensoft, Sofia-Moscow. 412 pp. [DP: September 2011]
- Erwin TL, Aschero V (2004) *Cicindis horni* Bruch (Coleoptera: Carabidae, Cicindini): the Fairy Shrimp Hunting Beetle, its way of life on the Salinas Grandes of Argentina. *Zootaxa* 553: 1-16 [DP: 28 June 2004]
- Erwin TL, Ball GE (1972) Classification of the *ovipennis* and *trifaria* groups of *Nebria* Latreille (Coleoptera: Carabidae: Nebriini). *Proceedings of the Biological Society of Washington* 85: 77-107 [DP: 30 August 1972]
- Erwin TL, Ball GE (2011) *Badister* Clairville, 1806: a new species and new continental record for the nominate subgenus in Amazonian Perú (Coleoptera, Carabidae, Licinini). *ZooKeys* 147: 399-417 [DP: 16 November 2011]
- Erwin TL, Geraci CJ (2008) New genera of Western Hemisphere Pseudomorpha (Insecta, Coleoptera, Carabidae) with notes on their distributions, ways of life, and hypothesized relationships. Pp. 77-100 in Penev L, Erwin TL, Assmann T (Eds). *Back to the roots and back to the future: towards a new synthesis amongst taxonomic, ecological and biogeographical approaches in carabidology*. Proceedings of the XIII European carabidologists meeting, Blagoevgrad, August 20-24, 2007. Pensoft, Sofia-Moscow. 509 pp. [DP: June 2008]

- Erwin TL, House GN (1978) A catalogue of the primary types of Carabidae (incl. Cicindelinae) in the collections of the United States National Museum of Natural History (USNM) (Coleoptera). *The Coleopterists Bulletin* 32: 231-255 [DP: 22 November 1978]
- Erwin TL, Kavanaugh DH (1980) On the identity of *Bembidion puritanum* Hayward (Coleoptera: Carabidae: Bembidiini). *The Coleopterists Bulletin* 34: 241-242 [DP: 8 December 1980]
- Erwin TL, Kavanaugh DH (1981) Systematics and zoogeography of *Bembidion* Latreille: I. The *carlhi* and *erasum* groups of western North America (Coleoptera: Carabidae, Bembidiini). *Entomologica Scandinavica* (Supplement) 15: 33-72 [DP: 1 July 1981]
- Erwin TL, Pearson DL (2008) *A treatise on the Western Hemisphere Caraboidea (Coleoptera): their classification, distributions, and way of life. Volume II (Carabidae - Nebriiformes 2 – Cicindelitae)*. Pensoft, Sofia-Moscow. 365 + [1] pp. + 33 pls [DP: November 2008]
- Erwin TL, Sims LL (1984) Carabid beetles of the West Indies (Insects: Coleoptera): a synopsis of the genera and checklists of tribes of Caraboidea, and of the West Indian species. *Quaestiones Entomologicae* 20: 351-466 [DP: 9 November 1984 (CUL stamp)]
- Erwin TL, Stork NE (1985) The Hiletini, an ancient and enigmatic tribe of Carabidae with a pantropical distribution (Coleoptera). *Systematic Entomology* 10: 405-451 [DP: 22 November 1985 (CAL stamp)]
- Erwin TL, White WH (2012) The Nearctic-Caribbean species *Leptotrachelus dorsalis* (Fabricius, 1801): larval descriptions with a diagnosis of immature Ctenodactylini and natural history notes on the genus and tribe (Coleoptera, Carabidae). *ZooKeys* 194: 17-32 [DP: 17 May 2012]
- Erwin TL, Whitehead DR, Ball GE (1977) Family 4. Carabidae, the ground beetles. Pp. 4.1-4.68 in Blackwelder RE, Arnett RH Jr. (Eds). *Checklist of the beetles of Canada, United States, Mexico, Central America, and the West Indies (yellow version)*. World Digest Publications, Kinderhook (NY) [DP: July 1977]
- Esau KL, Peters DC (1975) Carabidae collected in pitfall traps in Iowa cornfields, fencerows, and prairies. *Environmental Entomology* 4: 509-513 [DP: 16 June 1975]
- Eschmeyer WN (1998) Genera of fishes. Pp. 1821-2174 in: *Catalog of fishes. Volume 3. Genera of fishes. Species and genera in a classification. Literature cited. Appendices*. California Academy of Sciences. Pp. 1821-2905 [DP: 30 June 1998 (CML stamp)]
- Eschscholtz JF (1823) Species insectorum novae. *Mémoires de la Société Impériale des Naturalistes de Moscou* 6: 95-108.
- Eschscholtz JF (1829) *Zoologischer Atlas, enthaltend Abbildungen und Beschreibungen neuer Thierarten, während des Flottcapitains v. Kotzebue zweiter Reise um die Welt, auf der Russisch-Kaiserlichen Kriegsschlupp Predpriaetië in den Jahren 1823-1826. Erstes Heft*. G. Reimer, Berlin. iv + 17 pp. + pls 1-5 [DP: >May 1829]
- Eschscholtz JF (1830) Nova genera coleopterorum faunae Europaeae. *Bulletin de la Société Impériale des Naturalistes de Moscou* 2: 63-66 [DP: >1 February 1830]
- Eschscholtz JF (1833) *Zoologischer Atlas, enthaltend Abbildungen und Beschreibungen neuer Thierarten, während des Flottcapitains von Kotzebue zweiter Reise um die Welt, auf der Russisch-Kaiserlichen Kriegsschlupp Predpriaetië in den Jahren 1823-1826. Fünftes Heft, herausgegeben*

- von D. Martin Heinrich Rathke. *Mit dem Bildnisse der Dr. Eschscholtz*. Reimer, Berlin. viii + 28 pp.
- Essig EO (1953) Edwin Cooper Van Dyke. *The Pan-Pacific Entomologist* 29: 73-97 [DP: 25 June 1953]
- Evans MEG (1977a) Locomotion in the Coleoptera Adephaga, especially Carabidae. *Journal of Zoology* 181: 189-226 [DP: 1 February 1977]
- Evans MEG (1977b) Geographic variation, distribution and taxonomic status of the intertidal insect *Thalassotrechus barbarae* (Horn) (Coleoptera: Carabidae). *Quaestiones Entomologicae* 13: 83-90 [DP: 24 May 1977]
- Evans MEG (1985) Hydradephagan comparative morphology and evolution: some locomotor features and their possible phylogenetic implications. *Proceedings of the Academy of Natural Sciences of Philadelphia* 137: 172-181 [DP: 8 July 1985]
- Evenhuis NL (1997a) *Litteratura taxonomica dipterorum (1758-1930); being a selected list of the books and prints of Diptera taxonomy from the beginning of Linnaean zoological nomenclature to the end of the year 1930; containing information on the biographies, bibliographies, types, collections, and patronymic genera of the authors listed in this work; including detailed information on publication dates, original and subsequent editions, and other ancillary data concerning the publications listed herein. Volume I: A-K*. Backhuys Publishers, Leiden. vii + 426 pp.
- Evenhuis NL (1997b) *Litteratura taxonomica dipterorum (1758-1930); being a selected list of the books and prints of Diptera taxonomy from the beginning of Linnaean zoological nomenclature to the end of the year 1930; containing information on the biographies, bibliographies, types, collections, and patronymic genera of the authors listed in this work; including detailed information on publication dates, original and subsequent editions, and other ancillary data concerning the publications listed herein. Volume II: L-Z*. Backhuys Publishers, Leiden. Pp. 427-871.
- Everly RT (1927) A check list of the Carabidae of Columbus, Ohio, and vicinity. *The Ohio Journal of Science* 27: 155-156 [DP: 31 May 1927]
- Everly RT (1938) Spiders and insects found associated with sweet corn with notes on the food and habits of some species I. Arachnida and Coleoptera. *The Ohio Journal of Science* 38: 136-148 [DP: 18 June 1938 (NRC stamp)]
- Fabricius JC (1775) *Systema entomologiae, sistens insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus*. Kortii, Flensburgi et Lipsiae. [32] + 832 pp. [DP: 30 April 1775 (Evenhuis 1997a: 245)]
- Fabricius JC (1777) *Genera insectorum eorumque characteres naturales secundum numerum, figuram, situm et proportionem omnium partium oris adiecta mantissa specierum nuper detectarum*. Mich. Friedr. Bartschii, Chilonii. [16] + 310 pp. [DP: October 1777 (Evenhuis 1997a: 246)]
- Fabricius JC (1779) *Reise nach Norwegen mit Bemerkungen aus der Naturhistorie und Oekonomie*. Carl Ernst Bohn, Hamburg. lxiv + 388 pp. [DP: August 1779 (*Allg. Verz. Bücher*)]
- Fabricius JC (1781) *Species insectorum, exhibentes eorum differentias specificas, synonyma auctorum, loca natalia, metamorphosin adiectis observationibus, descriptionibus*. Tom. I. Carol.

- Ernest. Bohnii, Hamburgi et Kilonii. viii + 552 pp. [DP: March 1781 (Evenhuis 1997a: 247)]
- Fabricius JC (1787) *Mantissa insectorum, sistens eorum species nuper detectas adiectis characteribus genericis, differentiis specificis, emendationibus, observationibus*. Tom. I. Christ. Gottl. Proft, Hafniae. xx + 348 pp. [DP: 10 June 1787 (Evenhuis 1997a: 247)]
- Fabricius JC (1790) Nova insectorum genera. *Skifter af Naturhistorie-Selskabet* 1: 213-228.
- Fabricius JC (1791) Nova insectorum genera. *Neuestes Magazin für die Liebhaber der Entomologie* 1: 14-31. Note. This paper is a German translation of Fabricius' (1790) publication, with footnotes added by D.H. Schneider, editor of the journal.
- Fabricius JC (1792) *Entomologia systematica emendata et aucta. Secundum classes, ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus*. Tom. I. Pars I. Christ. Gottl. Proft, Hafniae. xx + 330 pp. [DP: 22 December 1792 (Evenhuis 1997a: 248)]
- Fabricius JC (1794a) *Entomologia systematica emendata et aucta. Secundum classes, ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus*. Tom. IV. C.G. Proft, Hafniae. [vi] + 472 + [5] pp.
- Fabricius JC (1794b) *Cychrys*, en ny insekt-slaegt. *Skrivter af Naturhistorie-Selskabet* 3 (2): 68-71.
- Fabricius JC (1798) *Supplementum entomologiae systematicae*. Proft et Storch, Hafniae. ii + 572 pp. [DP: 20 May 1798 (Evenhuis 1997a: 248)]
- Fabricius JC (1801) *Systema eleutheratorum secundum ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus*. Tomus I. Bibliopolii Academici Novi, Kiliae. xxiv + 506 pp.
- Fairmaire L (1850) Description de quelques coléoptères nouveaux d'Europe et de France. *Annales de la Société Entomologique de France* (deuxième série) 7 [1849]: 419-427 [DP: 10 April 1850]
- Fairmaire L (1889) Coléoptères de l'intérieur de la Chine. (Suite.). *Annales de la Société Entomologique de Belgique* 32 [1888]: 7-46 [DP: July–August 1889 (Soc. roy. Belge Géog.)]
- Fairmaire L (1905) Matériaux pour la faune coléoptérique malgache. 19<sup>e</sup> note. *Annales de la Société Entomologique de Belgique* 49: 114-138 [DP: 30 June 1905]
- Faldermann F (1835) Coleopterorum ab ill. Bungio in China boreali, Mongolia et montibus Altaicus collectorum, nec non ab ill. Turczaninoffio et Stschukino e provincia Irkutsk misorum illustrationes. *Mémoires présentés à l'Académie Impériale des Sciences de Saint-Petersbourg par divers savans, et lus dans ses assemblées* 2: 337-464 [DP: March 1835]
- Fall HC (1901a) List of the Coleoptera of southern California, with notes on habits and distribution and descriptions of new species. *Occasional Papers of the California Academy of Sciences* 8: 1-282 [DP: 11 November 1901]
- Fall HC (1901b) A new *Cicindela*, with notes on allied species. *Entomological News* 12: 307-310 [DP: 6 December 1901 (CUL stamp)]
- Fall HC (1905) On the affinities of the genus *Tachycellus*, with descriptions of new species from the western United States. *Journal of the New York Entomological Society* 13: 169-178 [DP: 2 December 1905 (CUL stamp)]
- Fall HC (1906) A review of the North American species of *Notiophilus*. *Psyche* 13: 79-92 [DP: 10 September 1906 (CUL stamp)]



- Fall HC (1907) Descriptions of new species. Pp. 218-272 in Fall HC, Cockerell TDA. The Coleoptera of New Mexico. *Transactions of the American Entomological Society* 33: 145-272 [DP: 26 September 1907 (CUL stamp)]
- Fall HC (1910) Miscellaneous notes and descriptions of North American Coleoptera. *Transactions of the American Entomological Society* 36: 89-197 [DP: 3 August 1910 (CUL stamp)]
- Fall HC (1916) Three new Coleoptera from Washington State. *Bulletin of the Brooklyn Entomological Society* 11: 13-14 [DP: February 1916]
- Fall HC (1917) Two new varieties of *Cicindela tranquebarica* from California. *Bulletin of the Brooklyn Entomological Society* 12: 106 [DP: 22 December 1917 (CUL stamp)]
- Fall HC (1920) New Coleoptera. IX. *The Canadian Entomologist* 52: 211-215 [DP: 1 September 1920]
- Fall HC (1922a) A correction and a protest (Col., Carabidae). *Entomological News* 33: 83-84 [DP: 9 March 1922]
- Fall HC (1922b) Notes on *Clivina*, with description of a new species from the Pacific Coast (Col., Carabidae). *Entomological News* 33: 161-164 [DP: 2 June 1922]
- Fall HC (1922c) New Coleoptera, X. *The Canadian Entomologist* 54: 170-173 [DP: 23 November 1922]
- Fall HC (1925) New Coleoptera XI. *The Canadian Entomologist* 57: 309-312 [DP: 17 December 1925]
- Fall HC (1926a) A list of the Coleoptera taken in Alaska and adjacent parts of the Yukon Territory in the summer of 1924. *The Pan-Pacific Entomologist* 2 [1925-26]: 127-154 [DP: 8 May 1926], 191-208 [DP: 14 July 1926]
- Fall HC (1926b) Two new names and a correction in synonymy. *Bulletin of the Brooklyn Entomological Society* 21: 125 [DP: 23 July 1926]
- Fall HC (1930) New Coleoptera XIV, with notes on known species. *The Canadian Entomologist* 62: 251-257 [DP: 29 November 1930]
- Fall HC (1932) A new species of *Dicaelus* from southern Florida. *Psyche* 39: 19-20 [DP: 22 August 1932 (CUL stamp)]
- Fall HC (1933) *Agonoderus pallipes* Lec. (Coleop.: Carabidae). *Entomological News* 44: 102-104 [DP: 13 April 1933]
- Fall HC (1934) A new name and other miscellaneous notes (Coleoptera). *The Pan-Pacific Entomologist* 10: 171-174 [DP: 27 December 1934]
- Fall HC, Cockerell TDA (1907) The Coleoptera of New Mexico. *Transactions of the American Entomological Society* 33: 145-272 [DP: 26 September 1907 (CUL stamp)]
- Farkač J (2003) Tribe Pelophilini Kavanaugh, 1996. Pp. 98 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Farkač J, Janata M (2003) Tribe Nebriini Laporte, 1834. Pp. 79-96 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Fassati M (1950) Concerning *Bembidion ustulatum* L. in North America (Carabidae). *The Coleopterists Bulletin* 4: 38-43 [DP: June 1950]

- Fassati M (1952) Sur deux espèces du genre *Bembidion* Latr., apparantées à *B. poppii* Net., originaires de l'Asie orientale. *Časopis Československé Společnosti Entomologické* [Acta Societatis Entomologicae Čechosloveniae] 49: 30-44 [DP: 1 October 1952]
- Fattig PW (1949) The Carabidae or ground beetles of Georgia. Emory University Museum Bulletin No 7. 62 pp. [DP: 15 January 1949]
- Fauvel A (1883) *Faune gallo-rhénane ou species des insectes qui habitent la France, la Belgique, la Hollande, le Luxembourg, la Prusse Rhénane, le Nassau et le Valais avec tableaux synoptiques et planches gravées. Coléoptères. Tome second.* F. Le Blanc-Hardel, Caen. Pp. 85-156. Note. This work was issued in six livraisons as supplements to *Revue d'Entomologie*.
- Fauvel A (1888) Catalogue des coléoptères gallo-rhénans. *Revue d'Entomologie* 7 [separate pagination]: 1-16.
- Fauvel A (1889a) Catalogue des coléoptères gallo-rhénans. *Revue d'Entomologie* 8 [separate pagination]: 17-32 [not seen]
- Fauvel A (1889b) Liste des coléoptères communs à l'Europe et à l'Amérique du Nord d'après le catalogue de M. J. Hamilton avec remarques et additions. *Revue d'Entomologie* 8: 92-172 [DP: March 1889]
- Fedorenko DN (1990) On some beetles of the genus *Dyschirius* Bon. (Coleoptera, Carabidae), described by V.I. Motschulsky and I. Putzeys [in Russian]. *Biulletin Moskovskogo Obshchestva Ispytatelei Prirody Otdel Biologicheskii* 95: 35-43.
- Fedorenko DN (1992) Carabids of the *Dyschirius nitidus* (Dej.) species group (Coleoptera, Carabidae) of the fauna of the USSR [in Russian]. *Entomologicheskoe Obozrenie* 71: 91-104. Note. An English translation was issued in *Entomological Review* 72(1): 8-22.
- Fedorenko DN (1996) *Reclassification of world Dyschiriini, with a revision of the Palearctic fauna (Coleoptera, Carabidae)*. Pensoft Series Faunistica No. 4. Pensoft Publishers, Sofia-Moscow-St. Petersburg. 224 pp. [DP: May 1996]
- Fedorenko DN (2009) *Evolution of the beetle hind wing, with special reference to folding (Insecta, Coleoptera)*. Pensoft, Sofia-Moscow. 336 pp. [DP: July 2009]
- Fenster MS, Knisley CB (2006) Impact of dams on point bar habitat: a case for the extirpation of the Sacramento Valley Tiger Beetle, *C. hirticollis abrupta*. *River Research and Applications* 22: 881-904 [DP: 29 August 2006 (online version)]
- Fischer von Waldheim G (1820) *Entomographie de la Russie. Entomographia imperii Russici. Volumen I.* Augusti Semen, Mosquae. 26 pls. Note. This work contains two sections separately paginated. One has the title "Entomographie de la Russie. Entomographia Ruthenica" and contains 210 pages and 25 plates. The title page bears the date 1820-1822. The second section has the title "Genres des insectes. Genera insectorum systematica exposita et analysi iconographica instructa" and contains 104 pages and one plate. The title page bears the date 1821. According to C.D. Sherborn (1922, *Index animalium*, p. liii), the plates were printed in 1820, the second section "post Sept. 1821" and the first one "post May 1822." Therefore, all new species figured on the plates were first made available by association with illustrations and the date of publication for these species is the date of the plates. The text is in French and Latin.

- Fischer von Waldheim G (1822) *Entomographie de la Russie. Entomographia imperii Russici. Volumen I.* Augusti Semen, Mosquae. 210 pp. [DP: >May 1822 (Sherborn 1922, *Index animalium*, p. liii)]
- Fischer von Waldheim G (1823) *Entomographie de la Russie. Entomographia imperii Rossici. Tome II.* Augusti Semen, Mosquae. Pls 18-50 [Coleoptera] + 6-11 [Lepidoptera]. Note. This work contains xx + 264 pp. besides the plates. The front page bears the date 1823-1824. According to C.D. Sherborn (1922, *Index animalium*, p. liii), the plates were printed in 1823 and the text “post Nov. 1824.” The date of publication of the new species figured on the plates is the date of the plates.
- Fischer von Waldheim G (1824) *Entomographie de la Russie. Entomographia imperii Rossici. Tome II.* Augusti Semen, Mosquae. xx + 264 pp. [DP: >November 1824 (Sherborn 1922, *Index animalium*, p. liii)]
- Fischer von Waldheim G (1828) *Entomographie de la Russie. Entomographia imperii Rossici. Tome III.* Augusti Semen, Mosquae. viii + 314 pp. + 18 pls. Note. The cover-page bears the date 1825-1828. The text was issued “post Nov. 1828” (Sherborn 1922, *Index animalium*, p. liii) but at least some of the plates were available as early as 1824. Indeed, in the second volume of the work, issued in 1824, Fisher von Waldheim (1824: 263-264) stated that plates I-IX of the third volume have been achieved and listed the species names for each plate. However, I have not been able to find any indication for the engraving dates of the remaining plates. For that reason, I prefer to date the text and all the plates from 1828.
- Fischer von Waldheim G (1829a) *Museum Historiae Naturalis Universitatis Caesareae Mosquensis. Pars II. Insecta.* Typis Universitatis Caesareae, Mosquae. 143 pp. [DP: >25 February 1829] Note. This catalogue was published anonymously. As discussed by Bousquet (2002c: 174), Fischer von Waldheim was the author.
- Fischer von Waldheim G (1829b) [Description de quelques coléoptères nouveaux]. *Bulletin de la Société Impériale des Naturalistes de Moscou* 1: 368-370.
- Fitch A (1857) Third report on the noxious and other insects of the state of New-York. *Transactions of the N.Y. State Agricultural Society* 16 [1856]: 315-490 [DP: >14 April 1857 (see Barnes 1988: 78)]
- Fleischer A (1899) *Bestimmungs-Tabelle der europäischen Coleopteren. XXXIX. Heft. Carabidae: Abtheilung: Scaritini.* Edm. Reitter, Paskau. 38 pp.
- Fleutiaux E, Sallé A (1890) Liste des coléoptères de la Guadeloupe et descriptions d'espèces nouvelles. *Annales de la Société Entomologique de France* (sixième série) 9 [1889]: 351-484 [DP: 22 January 1890]
- Foltz S (2011) Ground beetles: Johnson's waterfall carabid (*Pterostichus johnsoni*). Available at: <http://www.xerces.org/pterostichus-johnsoni/> [accessed 4 December 2011]
- Forsskåhl B (1966) The larva of *Amara alpina* Fbr. (Col. Carabidae). *Notulae Entomologicae* 46: 29-31 [DP: 14 July 1966]
- Forster JR (1771) *Novae species insectorum. Centuria I.* T. White et B. White, Londini. viii + 100 pp. [DP: 1 December 1771 (Evenhuis 1997a: 272)]
- Forsyth DJ (1972) The structure of the pygidial defence glands of Carabidae (Coleoptera). *The Transactions of the Zoological Society of London* 32 [1969-74]: 249-309 [DP: November 1972]

- Foss KA (2001) Variations in ground beetle (Coleoptera: Carabidae) populations across specific ecological habitats for the Stetson Brook Watershed in Lewiston, Maine. Insect & Disease Management Division Technical Report No. 41. 20 pp.
- Fox WJ (1902) A note on the insect collection of Thomas Say. *Entomological News* 13: 11-12 [DP: 8 January 1902 (CUL stamp)]
- Frank JH (1985) Associations of Scaritini and *Bledius* in the New World (Coleoptera: Carabidae and Staphylinidae). *The Florida Entomologist* 68: 480-482 [DP: 20 September 1985]
- Freitag R (1965) A revision of the North American species of the *Cicindela maritima* group with a study of hybridization between *Cicindela duodecimguttata* and *oregona*. *Quaestiones Entomologicae* 1: 87-170 [DP: 20 July 1965]
- Freitag R (1969) A revision of the species of the genus *Evarthrus* LeConte (Coleoptera: Carabidae). *Quaestiones Entomologicae* 5: 88-211 [DP: 8 May 1969 (CAL stamp)]
- Freitag R (1999) *Catalogue of the tiger beetles of Canada and the United States*. NRC Research Press, Ottawa. vii + 195 pp. [DP: <1 April 1999 (personal information)]
- Freitag R, Barnes BL (1989) Classification of Brazilian species of *Cicindela* and phylogeny and biogeography of subgenera *Brasiella*, *Gaymara* new subgenus, *Plectographa* and South American species of *Cylindera* (Coleoptera: Cicindelidae). *Quaestiones Entomologicae* 25: 241-386 [DP: 27 September 1989 (CAL stamp)]
- Freitag R, Kavanaugh DH, Morgan R (1993) A new species of *Cicindela* (*Cicindela*) (Coleoptera: Carabidae: Cicindelini) from remnant native grassland in Santa Cruz County, California. *The Coleopterists Bulletin* 47: 113-120 [DP: 9 August 1993]
- French BW, Chandler LD, Ellsbury MM, Fuller BW, West M (2004) Ground beetle (Coleoptera: Carabidae) assemblages in a transgenic corn-soybean cropping system. *Environmental Entomology* 33: 554-563 [DP: 6 July 2004 (McD stamp)]
- French BW, Elliott NC, Berberet RC, Burd JD (2001) Effects of riparian and grassland habitats on ground beetle (Coleoptera: Carabidae) assemblages in adjacent wheat fields. *Environmental Entomology* 30: 225-234 [DP: 11 May 2001 (McD stamp)]
- Frölich JA von (1792) Bemerkungen über einige seltene Käfer aus der Insectensammlung des Herrn Hofr. und Prof. Rudolph in Erlangen. *Der Naturforscher* 26: 68-165.
- Frölich JA von (1799) Einige neue Gattungen und Arten von Käfern. *Der Naturforscher* 28: 1-65.
- Frost CA (1910) On the repugnatorial secretion of *Carabus vinctus*. *Psyche* 17: 86.
- Frost CA (1920) Notes on the Coleoptera with descriptions of new species. *The Canadian Entomologist* 52: 229-232 [DP: 30 October 1920]
- Frost SW (1964) Insects taken in light traps at the Archbold Biological Station, Highlands County, Florida. *The Florida Entomologist* 47: 129-161 [DP: 13 July 1964 (CAL stamp)]
- Frost SW (1975) Third supplement to insects taken in light traps at the Archbold Biological Station, Highlands County, Florida. *The Florida Entomologist* 58: 35-42 [DP: 28 March 1975]
- Fuessly JK (1794) *Archives de l'histoire des insectes, publiées en Allemand par Jean Gaspar Fuessly. Traduites en François*. J. Ziegler, Wintherthour. xii + 184 + [2] pp. + 50 pls [DP : 12 April 1794 (*Intel. Allg. Lit. Zeit.*)] Note. This book is a translation of some papers published in *Archiv für Naturgeschichte* by various authors, including Herbst, with minor changes,

- such as new synonymies, made by the translator. Unfortunately, the name of the translator is unknown. Therefore, the book is here credited to Fuessly, the editor of the *Archiv für Naturgeschichte*, whose name appeared on the title.
- Gage EV (1988) A new subspecies of *Cicindela politula* from New Mexico and a range extension for *Cicindela politula barbaraannae* (Coleoptera: Cicindelidae). *Entomological News* 99: 143-147 [DP: 7 July 1988]
- Gage EV (1991) Description of a new species of *Amblycheila* from Texas with additional notes. (Coleoptera: Cicindelidae). *Cicindelidae: Bulletin of Worldwide Research* 1(1) [1990]: 1-10.
- Gage EV (1992) A new species of tiger beetle from Texas (Coleoptera: Cicindelidae). *Cicindelidae: Bulletin of Worldwide Research* 1(3) [1991]: 4-6.
- Gañán I, Novoa F (2006) El género *Calathus* Bonelli, 1810 en la Península Ibérica y Baleares (Coleoptera: Carabidae: Harpalinae). *Elytron* 19 [2005]: 5-36 [DP: February 2006]
- Gandhi KJK, Epstein ME, Koehle JJ, Purrington FF (2011) A quarter of a century succession of epigaeic beetle assemblages in remnant habitats in an urbanized matrix (Coleoptera, Carabidae). *ZooKeys* 147: 667-689 [DP: 16 November 2011]
- Gandhi KJK, Gilmore DW, Ball GE, Holzenthal RW, Katovich SA, Koehle JJ, Larsen KJ, Mattson WJ, Seybold SJ (2005) A review of ground beetle species (Coleoptera: Carabidae) of Minnesota, United States: new records and range extensions. *Proceedings of the Entomological Society of Washington* 107: 917-940 [DP: 3 October 2005]
- Ganglbauer L (1891a) *Die Käfer von Mitteleuropa. Die Käfer der österreichisch-ungarischen Monarchie, Deutschlands, der Schweiz, sowie des französischen und italienischen Alpengebietes. Erster Band. Familienreihe Caraboidea*. Carl Gerold's Sohn, Wien. iii + 557 pp. [DP: 16 November 1891 (see last page of the book)]
- Ganglbauer L (1891b) Carabidae. Pp. 2-58 in Heyden L von, Reitter E, Weise J. *Catalogus Coleopterorum Europae, Caucasi et Armeniae rossicae*. Edidit Edmund Reitter. R. Friedländer & Sohn, Berlin. viii + 420 pp. [DP: May 1891 (*Nat. Nov.*)]
- Ganglbauer L (1906) Bemerkungen über einige *Dyschirius*-Arten. *Wiener Entomologische Zeitung* 25: 265-266 [DP: 15 August 1906]
- García ED (2004) Records of predators and parasites (vertebrates and invertebrates) of creosote bush grasshopper *Boottettix argentatus* Bruner, 1889, (Orthoptera: Acrididae: Gomphocerinae) from the Bolsón de Mapimi, Dgo. (Chihuahuan desert), Mexico. *Acta Zoológica Mexicana* (nueva serie) 20 (1): 287-290 [DP: 15 April 2004 (CAL stamp)]
- Gardner JCM (1936) Immature stages of Indian Coleoptera (20, Carabidae). *Indian Forest Records* (new series) (Entomology) 2: 181-203 [DP: 30 December 1936]
- Garman WH (1892) The origin of the cave fauna of Kentucky, with a description of a new blind beetle. *Science* 20: 240-241 [DP: 28 October 1892]
- Garner WV (1954) A larval classification of the North American Carabinae (Coleoptera: Carabidae). Ph.D. Thesis, University of California (Berkeley). Iii + [1] + 275 pp.
- Garry CE (1993) Ground beetles (Coleoptera: Carabidae) of paleoenvironmental significance of the forest-tundra and open woodland of northern Manitoba, Canada. *The Coleopterists Bulletin* 47: 89-106 [DP: 30 March 1993]



- Garry CE, Schwert DP, Baker RG, Kemmis TJ, Horton DG, Sullivan AE (1990) Plant and insect remains from the Wisconsinan interstadial/stadial transition at Wedron, north-central Illinois. *Quaternary Research* 33: 387-399 [DP: May 1990]
- Gaubil J (1849) *Catalogue synonymique des coléoptères d'Europe et d'Algérie*. Maisson, Paris. ii + 297 pp. [DP: August 1849 (see *Stett. Ent. Zeit.* 10: 256)]
- Gaumer GC (1977) The variation and taxonomy of *Cicindela formosa* Say (Coleoptera: Cicindelidae). Ph.D. dissertation, Texas A&M University. xii + 253 pp.
- Gaumer GC, Murray RR (1971) Checklist of the Cicindelidae of Texas with regional distributions. *Cicindela* 3: 9-12 [DP: 29 March 1971 (CAL stamp), 12 April 1971 (CUL stamp)]
- Gautier des Cottés C (1869) IX<sup>e</sup> recueil. (Duplicata) [& X<sup>e</sup> recueil]. *Mittheilungen der Schweizerischen Entomologischen Gesellschaft* [Bulletin de la Société Suisse d'Entomologie] 3 [1869-72]: 130-151 [DP: 4 December 1869 (*Soc. Ent. Belg.*)]
- Gebler FA von (1830) Bemerkungen über die Insekten Sibiriens, vorzüglich des Altai. Pp. 1-228 in: *Carl Friedrich von Ledebour's Reise durch das Altai-Gebirge und die soongorische Kirgisen-Steppe. Auf Kosten der Kaiserlichen Universität Dorpat unternommen im Jahre 1826 in Begleitung der herren D. Carl Anton Meher und D. Alexander von Bunge. Zweiter Theil. Mit Kupfern und Karten*. G. Reimer, Berlin. 522 + 228 pp. [DP: February–May 1830 (*Foreign Quart. Rev.*)] Note. Two title pages were printed for this book, one with the publication date “1829,” the other one with the date “1830.”
- Gebler FA von (1833) Notae et addidamenta ad catalogum coleopterorum Sibiriae occidentalis et confinis Tatariae operis, C.F. von Ledebours Reise in das Altaigebirge und die soongarische Kirgisensteppe (zwyter Theil. Berlin 1830). *Bulletin de la Société Impériale des Naturalistes de Moscou* 6: 262-309 [DP: >16 March 1833]
- Gebler FA von (1847) Verzeichniss der im Kolywano-Woskresenskischem Hüttenbezirke südwest Sibiriens beobachteten Kaefer mit Bemerkungen und Beschreibungen. *Bulletin de la Société Impériale des Naturalistes de Moscou* 20 (2): 263-361 [DP: >15 May 1847]
- Gebler FA von (1848) Verzeichniss der im Kolywano-Woskresenskischem Hüttenbezirke südwest Sibiriens beobachteten Kaefer mit Bemerkungen und Beschreibungen. *Bulletin de la Société Impériale des Naturalistes de Moscou* 21 (3): 3-85 [DP: >2 July 1848]
- Géhin JJB (1876a) *Catalogue des coléoptères carabiques de la tribu des carabides*. E. Réau, Nancy. 72 pp. [DP: 10 July 1876]
- Géhin JJB (1876b) Lettres pour servir à l'histoire des insectes de la tribu des carabides. *Bulletin de la Société d'Histoire Naturelle de Metz* (deuxième série) 15: 101-124.
- Géhin JJB (1885) *Catalogue synonymique et systématique des coléoptères de la tribu des carabides. Avec des planches dessinées par Ch. Haury*. Remiremont [et] Prague. xxxviii + 104 pp. + 10 pls [DP: 1 December 1885]
- Geiselhardt SF, Peschke K, Nagel P (2007) A review of myrmecophily in ant nest beetles (Coleoptera: Carabidae: Paussinae): linking early observations with recent findings. *Naturwissenschaften* 94: 871-894 [DP: 12 June 2007]
- Geist IS (1881) [Tribute to Prof. S.S. Haldeman]. *The Pennsylvania School Journal* 30: 123-125 [DP: September 1881]

- Gemminger M, Harold E von (1868a) *Catalogus coleopterorum hucusque descriptorum synonymicus et systematicus. Tom. I. Cicindelidae - Carabidae*. E.H. Gummi, Monachii. xxxvi + 424 + [8] pp. [DP: August 1868 (*Allg. Bibl.*)]
- Gemminger M, Harold E von (1868b) *Catalogus coleopterorum hucusque descriptorum synonymicus et systematicus. Tom. II. Dytiscidae, Gyrinidae, Hydrophilidae, Staphylinidae, Pselaphidae, Gnostidae, Paussidae, Scydmaenidae, Silphidae, Trichopterygidae, Scaphididae*. E.H. Gummi, Monachii. Pp. 425-752 + [6] pp. [DP: 7 November 1868 (*Akad. Wiss. Münch.*)]
- Gemminger M, Harold E von (1868c) *Catalogus coleopterorum hucusque descriptorum synonymicus et systematicus. Tom. III. Histeridae, Phalacridae, Nitidulidae, Trogositidae, Colydidae, Rhysodidae, Cucujidae, Cryptophagidae, Derodontidae, Latrididae, Othnidae, Mycetophagidae, Thorictidae, Dermestidae, Byrrhidae, Georyssidae, Parnidae, Heteroceridae, Lucanidae*. E.H. Gummi, Monachii. Pp. 753-978 + [5] pp.
- Gené J (1839) De quibusdam insectis Sardiniae novis aut minus cognitis. Fasciculus II. *Memorie della Reale Accademia delle Scienze di Torino* (serie seconda) 1: 43-84.
- Geoffroy EL (1762) *Histoire abrégée des insectes qui se trouvent aux environs de Paris; dans laquelle ces animaux sont rangés suivant un ordre méthodique. Tome premier*. Durand, Paris. xxviii + 523 pp. + 10 pls [DP: December 1762 (*Journ. Sçavans*)] Note. The entire work consists of two volumes. It was published anonymously but reissued in 1764 under the title “*Histoire abrégée des insectes, dans laquelle ces animaux sont rangés suivant un ordre méthodique*” with Geoffroy’s name on the title page. This work was suppressed for nomenclatorial purposes by the ICZN (1954, *Opin. Decl.* 4(18): 209-220) but eventually removed from the *Official Index of Rejected and Invalid Works in Zoological Nomenclature* (ICZN 1994, *Bull. Zool. Nomen.* 51: 58-70).
- Germar EF (1817) [Bericht von Bonelli *Observations entomologiques*]. *Magazin der Entomologie* 2: 301-304.
- Germar EF (1824) *Coleopterorum species novae aut minus cognitae, descriptionibus illustratae*. J.C. Hendelii et Filii, Halae. xxiv + 624 pp. + 2 pls. Note. This book has two title pages, the other one reads “*Insectorum species novae aut minus cognitae, descriptionibus illustratae. Volumen primum. Coleoptera.*”
- Germar EF (1840a) Beschreibung der Arten von *Rhysodes*, von Eduard Newman, Esq.; aus dem Magazine of natural history, new series, Decemb. 1838. S. 663-667 übersetzt, mit Bemerkungen. *Zeitschrift für die Entomologie* 2: 342-352 [DP: July–September 1840 (*Foreign Quart. Rev.*)]
- Germar EF (1840b) Ueber *Carabus vaporariorum* et *ferrugineus* Linn. *Zeitschrift für die Entomologie* 2: 442-443 [DP: July–September 1840 (*Foreign Quart. Rev.*)]
- Gernet C (1867) Beiträge zur Käferlarvenkunde. *Horae Societatis Entomologica Rossicae* 5 [1867-68]: 7-22 + pls 1-2 [DP: probably 7 December 1867 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Gestro R (1910a) Rhysodidae. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars 1*. W. Junk, Berlin. 11 pp.
- Gestro R (1910b) Paussinae. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars 5*. W. Junk, Berlin. Pp. 4-31.

- Giachino PM (2011) A description of two new species of Anillina from North Carolina with notes about the geographical distribution of the genus *Anillinus* Casey, 1918 (Coleoptera: Carabidae: Bembidiini). *Studies and Reports, Taxonomical Series* 7: 109-116 [DP: 1 September 2011]
- Giachino PM, Guéorguiev B, Vailati D (2011) A new remarkable subterranean beetle of the Rhodopes: *Paralovricia* gen.n. *beroni* sp.n. belonging to Lovriciina new subtribe (Coleoptera, Carabidae, Trechinae, Bembidiini). *ZooKeys* 117: 59-72 [DP: 8 July 2011]
- Gidaspow T (1959) North American caterpillar hunters of the genera *Calosoma* and *Callisthenes* (Coleoptera, Carabidae). *Bulletin of the American Museum of Natural History* 116: 225-343 [DP: 12 January 1959]
- Gidaspow T (1963) The genus *Calosoma* in Central America, the Antilles, and South America (Coleoptera, Carabidae). *Bulletin of the American Museum of Natural History* 124: 275-313 [DP: 18 March 1963]
- Gidaspow T (1968) A revision of the ground beetles belonging to *Scaphinotus*, subgenus *Brennus* (Coleoptera, Carabidae). *Bulletin of the American Museum of Natural History* 140: 135-192 [DP: 20 December 1968]
- Gidaspow T (1973) Revision of ground beetles of American genus *Cychrus* and four subgenera of genus *Scaphinotus* (Coleoptera, Carabidae). *Bulletin of the American Museum of Natural History* 152: 51-102 [DP: 24 September 1973]
- Gistel J (1829) Entomologische Beobachtungen. *Isis von Oken* 22: 1067-1069.
- Gistel J (1834) *Die Insecten-Doubletten aus der Sammlung des Herrn Grafen Rudolph von Jenison Walworth zu Regensburg, welche sowohl im Kauf als im Tausche abgegeben werden. Nro. I. Käfer*. George Jaquet, München. 35 pp.
- Gistel J (1837) *Systema insectorum, secundum classes, ordines, genera, species, cum characteribus, synonymis, annotationibus, locis et iconibus. Tomus Imus. Coleoptera. Fasciculus Imus. Manti-chora–Dromica. Cum tabula aeneo incisa*. Fleischmann, Monachii. xvi + 64 pp. + 1 pl. [DP: 13 April 1837 (*Lit. Zeit.*)]
- Gistel J (1840) *Systema insectorum, secundum classes, ordines, genera, species, cum characteribus, synonymis, annotationibus, locis et iconibus. Tomus Imus. Coleoptera. Fasciculus IIdus. Cicindela–Cymindis*. C.A. Jenni, filium, Bernae. Pp. 65-132 [DP: 15 September 1840 (*Sera-peum*)]
- Gistel J (1848a) *Naturgeschichte des Thierreichs für höhere Schulen*. Hoffmann, Stuttgart. xvi + 216 pp. + 32 pls [DP: 15 August 1848 (*Serapeum*)]
- Gistel J (1848b) *Faunula monacensis cantharologica*. *Isis von Oken* (1848) (6): [1-3].
- Gistel J (1850) Literarische Umschau. *Isis. Encyclopädische Zeitschrift, vorzüglich für Naturgeschichte, Physiologie &c.* (1850): 74-80.
- Gistel J (1856) *Die Mysterien der europäischen Insectenwelt. Ein geheimer Schlüssel für Sammler aller Insecten-Ordnungen und Stände, behufs des Fangs, des Aufenthalts-Orts, der Wohnung, Tag- und Jahreszeit u.s.w., oder autoptische Darstellung des Insectenstaats in seinem Zusammenhange zum Bestehen des Naturhaushaltes überhaupt und insbesondere in seinem Einflusse auf die phanerogamische und cryptogamische Pflanzenbevölkerung Europa's*. Tobias Dannheimer, Kempten. 12 + 532 pp. [DP: 18 February 1856 (Evenhuis 1997a: 305)]

- Gistel J (1857) *Achthundert und zwanzig neue oder unbeschriebene wirbellose Thiere*. Schorner, Straubing. 94 pp.
- Glaser J (1996) A brief survey of Maryland Cychrini (Coleoptera: Carabidae). *The Maryland Naturalist* 40: 3-6.
- Glesne RS, Brenner G, LaBonte JR (2000) Terrestrial riparian arthropod investigations in the Big Beaver Creek Research Natural Area, North Cascades National Park Service Complex, 1995-1996: part V, analysis of arthropod community characteristics and habitat associations. North Cascades National Park Service Complex, Sedro Woolley (WA). viii + 94 pp. [DP: December 2000]
- Gmelin JF (1790) *Caroli a Linné Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima tertia, aucta, reformata. Tom. I. Pars IV*. Georg. Emanuel. Beer, Lipsiae. Pp. 1517-2224 [DP: 21 May 1790 (Hopkinson 1907, *Proc. Zool. Soc. London* 1907: 1036)]
- Goeze JAE (1777) *Entomologische Beyträge zu des Ritter Linné zwölften Ausgabe des Natursystems. Erster Theil*. Weidmann, Leipzig. xvi + 736 pp. [DP: 13 April 1777 (Evenhuis 1997a: 322)]
- Goldman A (2006) The Field Museum's carabid type-specimen photo booklet. [92] pp. Available at: <http://archive.org/stream/fieldmuseumscara00anna#page/> [accessed 10 May 2012]
- Gory HL (1833) Centurie de carabiques nouveaux. *Annales de la Société Entomologique de France* 2: 168-247 [DP: 19 August 1833 (*Acad. Sci.* published in *Institut, Jour. Acad. Soc. Scient.* 1: 121)]
- Gosse PH (1840) *The Canadian naturalist. A series of conversations on the natural history of Lower Canada*. John van Voorst, London. xii + 372 pp. [DP: 7 March 1840 (*Spectator*)]
- Gould AA (1834) On the Cicindelae of Massachusetts. *Boston Journal of Natural History* 1 [1834-37]: 41-54 [DP: May 1834]
- Goulet H (1969) Description of two new species of subg. *Europhilus* (*Agonum*; Col. Carabidae) from eastern North America. *Opuscula Entomologica* 34: 278-282 [DP: 14 November 1969]
- Goulet H (1974a) Biology and relationships of *Pterostichus adstrictus* Eschscholtz and *Pterostichus pennsylvanicus* LeConte (Coleoptera: Carabidae). *Quaestiones Entomologicae* 10: 3-33 [DP: 5 March 1974 (CAL stamp)]
- Goulet H (1974b) Classification of the North and Middle American species of the genus *Pelmatellus* Bates (Coleoptera: Carabidae: Harpalini). *Quaestiones Entomologicae* 10: 80-102 [DP: 13 May 1974 (CAL stamp)]
- Goulet H (1983) The genera of Holarctic Elaphrini and species of *Elaphrus* Fabricius (Coleoptera: Carabidae): classification, phylogeny and zoogeography. *Quaestiones Entomologicae* 19: 219-481 [DP: 10 November 1983 (CAL stamp)]
- Goulet H (2003) Subfamily Elaphrinae Erichson, 1837. Pp. 206-207 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Goulet H, Baum BR (1982) Analysis of variation in the *Elaphrus americanus* complex of North America (Coleoptera: Carabidae). *Canadian Journal of Zoology* 59 [1981]: 2253-2274 [DP: 19 January 1982]

- Goulet H, Bousquet Y (1983) Description of a new *Pterostichus* (Coleoptera: Carabidae) from beaver houses in eastern North America. *The Canadian Entomologist* 115: 281-286 [DP: 24 February 1983 (CAL stamp)]
- Goulet H, Lafer GS, Morita S (2009) A redescription of *Blethisa multipunctata aurata* Fischer von Waldheim, 1828 (Coleoptera: Carabidae: Elaphrinae). *Zootaxa* 2121: 27-34 [DP: 29 May 2009]
- Goulet H, Smetana A (1983) A new species of *Blethisa* Bonelli from Alaska, with proposed phylogeny, biogeography and key to known species (Coleoptera: Carabidae). *The Canadian Entomologist* 115: 551-558 [DP: 10 May 1983 (CAL stamp)]
- Goulet H, Smetana A (1997) Additions to the knowledge of the genus *Elaphrus* Fabricius, 1775 (Coleoptera, Carabidae). *Elytra* 25: 201-220 [DP: 15 May 1997]
- Gozis M des (1875) *Catalogue des coléoptères de France et de la faune Gallo-Rhénane*. Montluçon. ii + 106 pp. [DP: October 1875]
- Gozis M des (1882) Mémoire sur les pores sétigères prothoraciques dans la tribu des carnivores. *Mittheilungen der Schweizerischen Entomologischen Gesellschaft* [Bulletin de la Société Suisse d'Entomologie] 6 [1880-83]: 285-300 [DP: 6 May 1882]
- Gozis M des (1886) *Recherche de l'espèce typique de quelques anciens genres. Rectifications synonymiques et notes diverses*. Herbin, Montluçon. 36 pp. [DP: 10 March 1886 (Soc. Ent. Fr.)]
- Grämer R (1960) Verzeichnis der Typen des Staatl. Museums für Tierkunde in Dresden. Coleoptera, Carabidae I. *Abhandlungen und Berichte aus dem Staatlichen Museum für Tierkunde in Dresden* 25: 91-106 [DP: November 1960]
- Grammer GL (2009) A breeding population record of *Cicindela pamphila* in Mississippi and observations on the scavenging behavior of *C. severa* and *C. hamata*. *Cicindela* 41: 75-80.
- Graves RC, Brzoska DW (1991) The tiger beetles of Ohio (Coleoptera: Cicindelidae). Bulletin of the Ohio Biological Survey (new series) Vol. 8 (No. 4). vi + 42 pp.
- Graves RC, Krejci ME, Graves ACF (1988) Geographic variation in the North American tiger beetle, *Cicindela hirticollis* Say, with a description of five new subspecies (Coleoptera: Cicindelidae). *The Canadian Entomologist* 120: 647-678 [DP: 26 July 1988 (CAL stamp)]
- Graves RC, Pearson DL (1973) The tiger beetles of Arkansas, Louisiana, and Mississippi (Coleoptera: Cicindelidae). *Transactions of the American Entomological Society* 99: 157-203 [DP: 26 July 1973]
- Graves RC, Suter WR (1979) *Lebia scapula* Horn (Coleoptera: Carabidae) in Texas. *Cordulia* 5: 6-7 [DP: 18 September 1979 (CAL stamp)]
- Gray B (1937) The Coleoptera of Washington: Carabide Agonini. *University of Washington Publications, Theses Series* 2: 309-313.
- Gray B, Hatch MH (1941) The Coleoptera of Washington: Carabidae: Agonini. *University of Washington Publications in Biology* 10: 5-45 [DP: 15 August 1941]
- Gray GR (1831) Notices of new genera and species. In Griffith E, Pidgeon E. *The class Insecta arranged by the Baron Cuvier, with supplementary additions to each order. Volume The First*. Whittaker, Treacher, & Co., London. viii + 570 pp. + 53 pls [DP: (pp. 1-192), June 1831; (pp. 193-384), September 1831; (pp. 385-570), December 1831 (Evenhuis 1997a: 328)] Note. This book constitutes volume 14 of the entire work, a translation of the second edi-



- tion of Cuvier's "*Le Règne Animal*." Although dated 1832, the book was published in 1831 in three parts.
- Grebennikov VV (1999) Larvae of the supertribe Siagonitae: genera *Siagona* Latreille and *Encekladus* Bonelli (Coleoptera: Carabidae). *Koleopterologische Rundschau* 69: 1-10 [DP: June 1999]
- Grebennikov VV (2002) Description of the first-instar larva of *Geocharidius* (Coleoptera: Carabidae: Trechitae) with a discussion of the phylogeny of the subtribe Anillina. *European Journal of Entomology* 99: 523-527 [DP: 10 December 2002]
- Grebennikov VV, Bousquet Y (1999) Larvae of Pogonini (Coleoptera: Carabidae): genera *Pogonus*, *Pogonistes*, *Cardiaderus*, and *Thalassotrechus*. *Acta Societatis Zoologicae Bohemicae* 63: 427-441 [DP: 28 December 1999]
- Grebennikov VV, Maddison DR (2000) Larvae of Bembidiini (Coleoptera: Carabidae): subtribes Tachyina and Xystosomina. *European Journal of Entomology* 97: 223-240 [DP: 10 July 2000]
- Grebennikov VV, Maddison DR (2005) Phylogenetic analysis of Trechitae (Coleoptera: Carabidae) based on larval morphology, with a description of first-instar *Phrypeus* and a key to genera. *Systematic Entomology* 30: 38-59 [DP: January 2005]
- Greene A (1975) Biology of the five species of Cychrini (Coleoptera: Carabidae) in the steppe region of southeastern Washington. *Melanderia* 19: 1-43 [DP: 5 May 1975 (CUL stamp)]
- Greene A (1976) Notes on the synonymy of *Scaphinotus klahowya* Perrault, 1973, with *S. johnsoni* Van Dyke, 1924 (Coleoptera: Carabidae). *The Coleopterists Bulletin* 30: 325-330 [DP: 31 December 1976]
- Griffith HG (1900) Coleopterous fauna of Phoenix, Arizona, and surrounding regions. *Entomological News* 11: 561-570 [DP: 5 October 1900 (CUL stamp)]
- Grossbeck JA (1912) Types of insects, except Lepidoptera and Formicidae, in the American Museum of Natural History additional to those previously listed. *Bulletin of the American Museum of Natural History* 31: 353-379 [DP: 12 December 1912]
- Grundmann E (1955) Beitrag zur Kenntnis der Carabiden-Subfamilie Chlaeniinae (Coleoptera Carabidae). *Mémoires de la Société Royale d'Entomologie de Belgique* 27: 276-288 [DP: >22 May 1955]
- Grundmann E (1956) Beitrag zur Kenntnis der Carabiden-Subfamilie Chlaeniinae (Col.). IV. *Bulletin & Annales de la Société Royale d'Entomologie de Belgique* 92: 265-266 [DP: >6 October 1956]
- Guérin-Ménéville FE (1827) Ophone. *Ophonus*. P. 244 in: *Dictionnaire classique d'histoire naturelle*, par Messieurs Audouin, Isid. Bordon, Ad. Brongniart, De Candolle, Dandebard de Férussac, A. Desmoulins, Drapiez, Edwards, Flourens, Geoffroy de Saint-Hilaire, A. De Jussieu, Kunth, G. de Lafosse, Lamouroux, Latreille, Lucas fils, Presle-Duplessis, C. Prévost, A. Richard, Thiébaud de Berneaud, et Bory de Saint-Vincent. Ouvrage dirigé par ce dernier collaborateur, et dans lequel on a ajouté, pour le porter au niveau de la science, un grand nombre de mots qui n'avaient pu faire partie de la plupart des dictionnaires antérieurs. Tome douzième. NUA-PAM. Ray et Gravier & Baudoin Frères, Paris. 634 + [1] pp. [DP: 18 August 1827 (Evenhuis 1997a: 111)]

- Guérin-Méneville FE (1829) *Iconographie du Règne Animal de G. Cuvier, ou représentation d'après nature de l'une des espèces les plus remarquables, et souvent non encore figurées, de chaque genre d'animaux. Avec un texte descriptif mis au courant de la science. Ouvrage pouvant servir d'atlas à tous les traités de zoologie*. 2<sup>e</sup> livraison. J.B. Baillière, Paris. 10 pls (including pls 6 and 7 of insects) [DP: 18 July 1829 (*Bibl. Fr.*)] Note. This work was published from 1829 to 1837 and in 1844. It contains 450 plates that appeared in 45 livraisons of 10 plates each from 1829 to 1837; the text was issued in 1844. The section on insects contains 576 pages and 110 plates (see Cowan 1971, *J. Soc. Bibl. Nat. Hist.* 6: 18-29).
- Guérin-Méneville FE (1840) Cicindèles nouvelles, découvertes à Pensacola (Am. Bor.), par M.E. De Saulcy. *Revue Zoologique* [3]: 37 [DP: 2 March 1840 (*Acad. Sci.*)]
- Guérin-Méneville FE (1844a) *Iconographie du Règne Animal de G. Cuvier, ou représentation d'après nature de l'une des espèces les plus remarquables, et souvent non encore figurées, de chaque genre d'animaux. Avec un texte descriptif mis au courant de la science. Ouvrage pouvant servir d'atlas à tous les traités de zoologie. Insectes*. J.B. Baillière, Paris [&] Londres. 576 pp. [DP: 12 August 1844 (Evenhuis 1997a: 333)] Note. This constitutes livraisons 46-50 of the entire work; the previous 45 livraisons contain plates only.
- Guérin-Méneville FE (1844b) Description de quelques coléoptères de la Nouvelle-Grenade. *Revue Zoologique* [7]: 8-19.
- Guérin-Méneville FE (1844c) Description de coléoptères nouveaux découverts par M. A. Niéto dans l'intérieur du Mexique. *Revue Zoologique* [7]: 253-262 [DP: 12 August 1844 (*Acad. Sci.*)]
- Guérin-Méneville FE (1844d) [Descriptions du genre *Pleurosoma* et de *P. sulcatum*]. *Magasin de Zoologie, d'Anatomie Comparée et de Paléontologie* (deuxième série) 6: 1-2 (pl. 136).
- Guérin-Méneville FE (1849) [Descriptions du genre *Dromochorus* et de *D. pilatei*]. *Magasin de Zoologie, d'Anatomie Comparée et de Paléontologie* (deuxième série) 7 [1845]: 1-4 (pl. 162).
- Gundlach J (1891) *Contribucion á la entomologia Cubana. Tomo III*. La Habana. 494 pp. Note. The sole copy I saw of this book had no publication date but the date of 1891 is generally attributed to it (e.g., Blackwelder 1957: 1106; Peck 2005: 7; Derksen and Scheiding-Göllner 1965, *Index Litteraturae Entomologicae* Band II, p. 236). However, as indicated on the wrappers of the issues of the *Anales de la Real Academia de Ciencias Medicas, fisicas y naturales de La Habana (Revista Científica)* for the years 1892 to 1896 (tomes 29-32), this work was originally published under the title "Contribución al estudio de los Coléopteros de la isla de Cuba" as separate sheets ("pliego aparte") to the journal. Unfortunately, no information was found to fix the dates of publication of the various parts. For that reason I am retaining the date of 1891.
- Gyllenhal L (1810) *Insecta Suecica. Classis I. Coleoptera sive Eleuterata. Tom. I. Pars II*. Leverentz, Scaris. xix + 660 pp.
- Gyllenhal L (1813) *Insecta Suecica. Classis I. Coleoptera sive Eleuterata. Tom. I. Pars III*. Leverentz, Scaris. [2] + 730 + [2] pp.
- Gyllenhal L (1827) *Insecta Suecica. Classis I. Coleoptera sive Eleuterata. Tom. I. Pars IV*. Friedericum Fleischer, Lipsiae. viii + [2] + 761 + [1] pp. [DP: July–October 1827 (*Foreign Quart. Rev.*)]

- Haberman H (1968) *Eesti jooksiklased (Coleoptera, Carabidae)*. Kirjastus „Valgus”, Tallinn. 598 pp. [DP: 5 January 1968]
- Habu A (1942) *Curtonotus* (*Paracurtonotus* subgen. nov.) *giganteus* Motschulsky [in Japanese]. *The Entomological World* 10 (102): 494-497.
- Habu A (1953) Notes on the species of the genus *Curtonotus* from Japan (Coleoptera, Carabidae). *Kontyû* 20: 39-44 [DP: 25 October 1953]
- Habu A (1954a) Species of the genus *Trichotichnus* (Coleoptera, Carabidae) from Mt. Hiko, Kyushu (the Carabidae-fauna of Mt. Hiko, VI). *The Bulletin of the National Institute of Agricultural Sciences* (series C) 4: 245-263 [DP: March 1954]
- Habu A (1954b) Descriptions of some new carabid-beetles (Coleoptera) from Japan. *The Bulletin of the National Institute of Agricultural Sciences* (series C) 4: 281-294 [DP: March 1954]
- Habu A (1956a) On the species of *Diplocheila* (Coleoptera, Carabidae) and its allied genera of Japan. *The Bulletin of the National Institute of Agricultural Sciences* (series C) 6: 49-73 [DP: July 1956]
- Habu A (1956b) On the genera and species of the Oodini (Coleoptera, Carabidae) from Japan. *The Bulletin of the National Institute of Agricultural Sciences* (series C) 6: 75-101 [DP: July 1956]
- Habu A (1956c) A new species of *Agonum*, with some notes on the genus *Agonum* and its subgeneric divisions (Coleoptera, Carabidae). *Kontyû* 24: 166-169 [DP: 5 August 1956]
- Habu A (1958) Genus *Nippononebria* and its species (Coleoptera, Carabidae). *The Bulletin of the National Institute of Agricultural Sciences* (series C) 10: 67-81 [DP: August 1958]
- Habu A (1960) *Callida*-species of Japan (Coleoptera, Carabidae). *The Bulletin of the National Institute of Agricultural Sciences* (series C) 12: 155-169 [DP: November 1960]
- Habu A (1963) Notes on *Aspidoglossa subangulata* (Chaudoir) found in Japan (Carabidae, Col.) [in Japanese]. *Akitu* 11: 19-20 [DP: 1 September 1963]
- Habu A (1967) *Carabidae Truncatipennes group (Insecta: Coleoptera)*. Fauna Japonica. Biogeographical Society of Japan, Tokyo. xiv + 338 pp. + 27 pls [DP: May 1967]
- Habu A (1968) Revision of the Japanese species belonging to the subgenus-group *Ophonus* of the genus *Harpalus* (Coleoptera, Carabidae). *The Bulletin of the National Institute of Agricultural Sciences* (series C) 22: 283-324 [DP: March 1968]
- Habu A (1972) On some Carabidae found by Dr. S.-I. Uéno in Hokkaido, north Japan (Coleoptera, Carabidae). *Mushi* 46: 29-38 [DP: 25 July 1972]
- Habu A (1973a) *Carabidae: Harpalini (Insecta: Coleoptera)*. Fauna Japonica. Keigaku Publishing Co., Tokyo. xiii + 430 pp. + 24 pls [DP: March 1973]
- Habu A (1973b) A new subgenus of *Platynus* and its peculiar tibial characteristic (Coleoptera, Carabidae). *The Entomological Review of Japan* 25: 11-12 [DP: 31 August 1973]
- Habu A (1978) *Carabidae: Platynini (Insecta: Coleoptera)*. Fauna Japonica. Keigaku Publishing Co., Tokyo. viii + 447 pp. + 36 pls [DP: March 1978]
- Habu A (1981) *Acupalpus (Setacupalpus) hilaris* Tschitschérine found in Japan (Coleoptera, Carabidae). *The Entomological Review of Japan* 35: 41-44 [DP: 22 June 1981 (CAL stamp)]
- Habu A (1982) Revised and supplementary notes on and descriptions of the Truncatipennes group of Japan (I) (Coleoptera, Carabidae). *The Entomological Review of Japan* 36: 85-142 [DP: 30 January 1982]

- Habu A, Baba K (1962) A new subspecies of *Cymindis subarcticus* Kano found in Niigata Prefecture, Japan (Coleoptera, Carabidae). *Akitu* 10 (4): 13-14 [DP: 30 December 1962]
- Habu A, Uéno S-I (1955) A new subgenus and two new species of the tribe Bembidiini (the Carabidae-fauna of Mt. Hiko, III). *Mushi* 28: 43-47 [DP: 30 March 1955]
- Häckel M, Farkač J, Wrase DW (2010) A check-list of the tribe Broscini Hope, 1838 of the world (Coleoptera: Carabidae). *Studies and Reports, Taxonomical Series* 6: 43-84 [DP: 1 September 2010]
- Hacker HA (1968) The species of the subgenus *Leptoferonia* Casey (Coleoptera: Carabidae: *Pterostichus*). *Proceedings of the United States National Museum* 124 (3649): 1-61 [DP: 23 April 1968]
- Hagen HA (1889) Dr. Christian Zimmermann. *The Canadian Entomologist* 21: 53-57 [DP: 7 March 1889], 71-73 [DP: 8 April 1889]
- Hajek AE, Hannam JJ, Nielsen C, Bell AJ, Liebherr JK (2007) Distribution and abundance of Carabidae (Coleoptera) associated with soybean aphid (Hemiptera: Aphididae) populations in central New York. *Annals of the Entomological Society of America* 100: 876-886.
- Hajek AE, Hannam JJ, Nielsen C, Bell AJ, Liebherr JK (2009) Erratum: *Harpalus rufipes* (Coleoptera: Carabidae) is not known from New York state. *Annals of the Entomological Society of America* 102: 913 [DP: 25 November 2009 (CAL stamp)]
- Halbert SE (2007) Entomology section. *Tri-ology* 46 (3): 5-9.
- Haldeman SS (1843a) Catalogue of the carabideous Coleoptera of south-eastern Pennsylvania. *Proceedings of the Academy of Natural Sciences of Philadelphia* 1 [1841-43]: 295-298 [DP: 17 November 1843 (*Amer. Phil. Soc.*)]
- Haldeman SS (1843b) Descriptions of North American species of Coleoptera, presumed to be undescribed. *Proceedings of the Academy of Natural Sciences of Philadelphia* 1 [1841-43]: 298-304 [DP: 17 November 1843 (*Amer. Phil. Soc.*)]
- Haldeman SS (1843c) [Description of *Pasimachus substriatus*]. *Proceedings of the Academy of Natural Sciences of Philadelphia* 1 [1841-43]: 313 [DP: 17 November 1843 (*Amer. Phil. Soc.*)]
- Haldeman SS (1844) Descriptions of insects, presumed to be undescribed. *Proceedings of the Academy of Natural Sciences of Philadelphia* 2 [1844-45]: 53-55 [DP: 21 June 1844 (*Amer. Phil. Soc.*)]
- Haldeman SS (1847) Descriptions of several new species and one new genus of insects. *Proceedings of the Academy of Natural Sciences of Philadelphia* 3 [1846-47]: 149-151 [DP: 7 May 1847 (*Amer. Phil. Soc.*)]
- Haldeman SS (1852) Appendix C. - Insects. Pp. 366-378 in Stranbury, H. *Exploration and survey of the valley of the Great Salt Lake of Utah, including a reconnaissance of a new route through the Rocky Mountains. Printed by order of the Senate of the United States*. Lippincott, Grambo & Co., Philadelphia. 487 pp. + 57 pls [DP: 3 August 1852 (*Acad. Nat. Sci. Phil.*)]
- Haldeman SS (1853) Descriptions of some new species of insects, with observations on described species. *Proceedings of the Academy of Natural Sciences of Philadelphia* 6 [1852-53]: 361-365 [DP: 19 August 1853 (*Amer. Phil. Soc.*)]

- Hamilton CC (1925) Studies on the morphology, taxonomy, and ecology of the larvae of Holarctic tiger-beetles (family Cicindelidae). *Proceedings of the United States National Museum* 65 (2530): 1-87 [DP: 7 May 1925 (CAL stamp)]
- Hamilton J (1889a) Notes on Coleoptera.- No. 5. *The Canadian Entomologist* 21: 29-34 [DP: 9 February 1889]
- Hamilton J (1889b) Catalogue of the Coleoptera common to North America, northern Asia and Europe, with the distribution and bibliography. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 16: 88-162 [DP: 25 April 1889 (*Amer. Ent. Soc.*)]
- Hamilton J (1893) Descriptions of some species of Coleoptera occurring near Allegheny, heretofore undescribed. *The Canadian Entomologist* 25: 305-310.
- Hamilton J (1894a) Catalogue of the Coleoptera of Alaska, with the synonymy and distribution. *Transactions of the American Entomological Society* 21: 1-38 [DP: 14 April 1894 (CUL stamp)]
- Hamilton J (1894b) Catalogue of the Coleoptera common to North America, northern Asia and Europe, with distribution and bibliography. Second edition. *Transactions of the American Entomological Society* 21: 345-416.
- Hamilton J (1895) Catalogue of the Coleoptera of southwestern Pennsylvania, with notes and descriptions. *Transactions of the American Entomological Society* 22: 317-381 [DP: 20 January 1896 (CUL stamp)]
- Hammond PM (1979) Wing-folding mechanisms of beetles, with special reference to investigations of Adephagan phylogeny (Coleoptera). Pp. 113-180 in Erwin TL, Ball GE, Whitehead DR, Halpern AL (Eds). *Carabid beetles: their evolution, natural history, and classification*. Proceedings of the First International Symposium of Carabidology Smithsonian Institution, Washington D.C. August 21, 23, and 25, 1976. Dr W. Junk bv Publishers, The Hague. 635 pp.
- Hansen AK, Ortega YK, Six DL (2009) Comparison of ground beetle (Coleoptera: Carabidae) assemblages in Rocky Mountain Savannas invaded and un-invaded by an exotic forb, spotted knapweed. *Northwest Science* 83: 348-360 [DP: October 2009]
- Hansen M, Martin O (2000) The type material of Coleoptera described by J.C. Schiødte. *Steenstrupia* 25: 209-219.
- Hardy AR, Andrews FG, Kavanaugh DH (1986) *The collected LeConte papers on entomology. Volume VII. LeConte & Horn 1876. J.E. LeConte 1824-1859*. Scarabaeus Associates, Sacramento (California). iv + 563 pp.
- Harold E von (1868) Zur Nomenclatur der Gattung *Calathus*. *Coleopterologische Hefte* 3: 90-93 [DP: 2 November 1868 (*Ent. Soc. London*)]
- Harris DL, Whitcomb WH (1974) Effects of fire on populations of certain species of ground beetles (Coleoptera: Carabidae). *The Florida Entomologist* 57: 97-103 [DP: 3 May 1974]
- Harris ED (1901) A new variety of *Cicindela vulgaris*. *The Canadian Entomologist* 33: 226 [DP: 3 August 1901]
- Harris ED (1911) *List of North American Cicindelidae in the Harris Collection*. Truan Press, Yonkers (N.Y.). [2] + 68 pp. [DP: >31 May 1911]



- Harris ED (1913) Three new Cicindelids. *Journal of the New York Entomological Society* 21: 67-69 [DP: 17 April 1913 (CUL stamp)]
- Harris ED, Leng CW (1916) *The Cicindelinae of North America as arranged by Dr. Walther Horn in Genera Insectorum*. New York. v + [1] + 23 pp. [DP: >15 April 1916]
- Harris TW (1828a) Contributions to entomology. No. I. *The New England Farmer, and Horticultural Journal* 7: 90-91 [DP: 10 October 1828]
- Harris TW (1828b) Contributions to entomology. No. II. *The New England Farmer, and Horticultural Journal* 7: 117-118 [DP: 31 October 1828]
- Harris TW (1828c) Contributions to entomology. No. III. *The New England Farmer, and Horticultural Journal* 7: 122-123 [DP: 7 November 1828]
- Harris TW (1828d) Contributions to entomology. No. IV. *The New England Farmer, and Horticultural Journal* 7: 132 [DP: 14 November 1828]
- Harris TW (1829) Corrections and additions for the "contributions to entomology." *The New England Farmer, and Horticultural Journal* 8: 1-2 [DP: 24 July 1829]
- Harris TW (1833) Insects. Pp. 566-595 in Hitchcock E (Ed.). *Report on the geology, mineralogy, botany, and zoology of Massachusetts*. J.S. and C. Adams, Amherst. 692 pp.
- Harris TW (1835) Insects. Pp. 553-602 in Hitchcock E (Ed.). *Report on the geology, mineralogy, botany, and zoology of Massachusetts. Second edition, corrected and enlarged*. J.S. and C. Adams, Amherst. 700 pp.
- Harris TW (1836) Characteristics of some previously described North American coleopterous insects, and descriptions of others which appear to be new, in the collection of Mr. Abraham Halsey. *Transactions of the Natural History Society of Hartford* 1: 65-91 [DP: >11 July 1836]
- Harris TW (1839) Remarks upon the North American insects belonging to the genus *Cychrus* of Fabricius; with descriptions of some newly detected species. *Boston Journal of Natural History* 2 [1838-39]: 189-204 [DP: February 1839]
- Harris TW (1852) The *Cicindela* or tiger beetles. *The Family Visitor* 2: 305 [DP: 3 February 1852] Note. The reference for this paper is usually cited as "Family Visitor 2: No. 39." The journal included 52 numbered issues per volume and the pages were successively numbered. On page 305 of volume 2, which is page 1 of No. 39, there are two papers by Harris: the first one is entitled "Elytra of American species of *Cicindela*" and the second is the one reported here.
- Harvey FL, Knight OW (1897) Insects collected at Jackman, Maine. *Psyche* 8 [1897-99]: 77-79 [DP: 1 June 1897 (CUL stamp)]
- Hatch MH (1925) A list of Coleoptera from Charlevoix County, Michigan. *Papers of the Michigan Academy of Science, Arts and Letters* 4 [1924]: 543-586 [DP: February 1925]
- Hatch MH (1926) *Anchomenus decorus* ab. *syracusensis* nov. *Journal of the New York Entomological Society* 34: 247-248 [DP: 13 October 1926]
- Hatch MH (1929) A new *Bembidion* (Coleop.). *The Canadian Entomologist* 61: 135 [DP: 6 July 1929]
- Hatch MH (1932) The *pennsylvanicus* group of *Harpalus*. *Bulletin of the Brooklyn Entomological Society* 27: 173-176 [DP: 8 October 1832]

- Hatch MH (1933a) Records of Coleoptera from Montana. *The Canadian Entomologist* 65: 5-15 [DP: 11 February 1933]
- Hatch MH (1933b) The species of *Miscodera* (Coleoptera - Carabidae). *The Pan-Pacific Entomologist* 9: 7-8 [DP: 10 February 1933]
- Hatch MH (1933c) Notes on Carabidae. *The Pan-Pacific Entomologist* 9: 117-121 [DP: 8 September 1933]
- Hatch MH (1935) Two remarkable blind beetles from northeastern Oregon (Carabidae, Leiodidae). *The Pan-Pacific Entomologist* 11: 115-118 [DP: 8 October 1935]
- Hatch MH (1936) Studies on *Pterostichus* (Carabidae: Coleoptera). *Annals of the Entomological Society of America* 29: 701-706 [DP: 24 December 1936]
- Hatch MH (1938) The Coleoptera of Washington: Carabidae: Cicindelinae. *University of Washington Publications in Biology* 1: 225-239 [DP: December 1938]
- Hatch MH (1939a) A key to the species of *Nebria* of northwestern North America (Coleoptera, Carabidae). *The Pan-Pacific Entomologist* 15: 117-122 [DP: 9 August 1939]
- Hatch MH (1939b) *Preliminary list of the Coleoptera of Washington*. University of Washington, Seattle. 44 pp.
- Hatch MH (1946) Notes on European Coleoptera in Washington, including a new species of *Megasternum*. *The Pan-Pacific Entomologist* 22: 77-80 [DP: 12 June 1946]
- Hatch MH (1949a) Studies on the Coleoptera of the Pacific Northwest III: Carabidae: Harpalinae. *Bulletin of the Brooklyn Entomological Society* 44: 80-88 [DP: 8 June 1949]
- Hatch MH (1949b) Studies on the Coleoptera of the Pacific Northwest I. *The Pan-Pacific Entomologist* 25: 113-118 [DP: 29 July 1949]
- Hatch MH (1949c) Studies on the fauna of Pacific Northwest greenhouses (Isopoda, Coleoptera, Dermaptera, Orthoptera, Gastropoda). *Journal of the New York Entomological Society* 57: 141-165 [DP: 12 September 1949]
- Hatch MH (1950) Studies on the Coleoptera of the Pacific Northwest II: Carabidae: Bembidiini. *The Pan-Pacific Entomologist* 26: 97-106 [DP: 27 September 1950]
- Hatch MH (1951) Studies on the Coleoptera of the Pacific Northwest IV: Carabidae, Dytiscidae, Gyrinidae. *Bulletin of the Brooklyn Entomological Society* 46: 113-122 [DP: 31 December 1951]
- Hatch MH (1953) The beetles of the Pacific Northwest. Part I: Introduction and Adephaga. *University of Washington Publications in Biology* 16: 1-340 [DP: September 1953]
- Hatch MH, Fender KM (1944) Notes on *Zacotus matthewsii* LeC. *The Canadian Entomologist* 76: 188 [DP: 19 October 1944]
- Hatch MH, Kincaid T (1958) *A list of Coleoptera from the vicinity of Willapa Bay, Washington*. The Calliostoma Company, Seattle. 21 pp. + 1 pl.
- Hatch MH, Ortenburger AI (1930) Records and new species of Coleoptera from Oklahoma. *Publications of the University of Oklahoma Biological Survey* 2: 7-14 [DP: 18 June 1930]
- Hatten TD, Bosque-Pérez NA, Labonte JR, Guy SO, Eigenbrode SD (2007) Effects of tillage on the activity density and biological diversity of carabid beetles in spring and winter crops. *Environmental Entomology* 36: 356-368 [DP: 27 April 2007 (McD stamp)]

- Hatten TD, Merz N, Looney C (2011) *Synuchus impunctatus* (Say) (Coleoptera: Carabidae) in Idaho, U.S.A.: new state record. *The Coleopterists Bulletin* 65: 325-326 [DP: 20 September 2011]
- Haubold VL (1951) Distribution of the Carabidae (Coleoptera) of Boulder County, Colorado. *The American Midland Naturalist* 45: 683-710 [DP: 26 July 1951]
- Hausen JF (1890) A new Canadian *Platynus*. *The Canadian Record of Science* 4 [1890-91]: 235-236 [DP: October 1890]
- Hausen JF (1891a) Aids to the study of Canadian Coleoptera. *The Canadian Record of Science* 4 [1890-91]: 251-255 [DP: January 1891]
- Hausen JF (1891b) Descriptions d'espèces nouvelles. *Le Naturaliste Canadien* 20 [1890-91]: 155-160, 162-163 [DP: February 1891]
- Hayward R (1897) On the species of *Bembidium* of America north of Mexico. *Transactions of the American Entomological Society* 24: 32-143 [DP: (pp. 32-104), 26 July 1897 (CUL stamp); (pp. 105-143), 10 August 1897 (CUL stamp)]
- Hayward R (1900) A study of the species of *Tachys* of boreal America. *Transactions of the American Entomological Society* 26 [1899-1900]: 191-238.
- Hayward R (1901) Synonymical notes on *Bembidium* and descriptions of new species. *Transactions of the American Entomological Society* 27 [1900-01]: 156-158 [DP: 1 April 1901 (CUL stamp)]
- Hayward R (1908) Studies in *Amara*. *Transactions of the American Entomological Society* 34: 13-65 [DP: 17 April 1908 (CUL stamp)]
- Heading JM (1964) A taxonomic revision of the genus *Agonoderus* (Coleoptera: Carabidae) of the United States. M.Sc. Thesis, The Pennsylvania State University. v + 53 pp.
- Heer O (1837) *Die Käfer der Schweiz, mit besonderer Berücksichtigung ihrer geographischen Verbreitung. Als dritter Theil der auf Veranstaltung der allgemeinen schweizerischen Gesellschaft für die gesammten Naturwissenschaften entworfenen Fauna Helvetica. Erster Theil. Erste Lieferung. Aus dem zweiten Bande der Neue Denkschriften der allgemeinen schweizerischen Gesellschaft für die gesammten Naturwissenschaften besonders abgedruckt.* Petitpierre, Neuchâtel. vi + 96 [first section] + 55 [second section] pp. [DP: >10 December 1837] Note. This article was also published in 1838 in volume 2 of *Neue Denkschriften der allg. schweizerischen Gesellschaft für die gesammten Naturwissenschaften* [Nouveaux Mémoires de la Société Helvétique des Sciences Naturelles].
- Heer O (1838) *Fauna Coleopterorum Helvetica. Pars I. Fasciculus primus.* Orellii, Fuesslini et Sociorum, Turici. xii + pp. 1-144 [DP: October–December 1838 (*Foreign Quart. Rev.*)] Note. The entire work was issued in three fascicles, 1838-1841, and contains xii + 652 pp.
- Heer O (1878) *Die Miocene flora des Grinnell-Landes gegründet auf die von Capitän H. W. Feilden und Dr. E. Moss in der Nähe des Kap Murchison gesammelten fossilen Pflanzen. Mit 9 Tafeln und einer Ansicht und Karte von der Fundstelle.* J. Wurster & Comp., Zürich. 38 pp. + 9 pls.
- Hellén W (1930) Verzeichnis der in Ostfennoskandien nur aus den russischen und norwegischen Teilen bekannten Käferarten nebst Bemerkungen über ihr heutiges Vorkommen in Finnland. (Mit einer Karte). *Notulae Entomologicae* 10: 1-17 [DP: 1 April 1930]
- Hellén W (1934) Koleopterologische Mitteilungen aus Finnland XI. *Notulae Entomologicae* 14: 52-59 [DP: 1 June 1934]

- Hendrickson GO (1930) Studies on the insect fauna of Iowa prairies. *Iowa State College Journal of Science* 4 [1929-30]: 49-179.
- Hennessey MK (1990) Insect type specimens in the Staten Island Institute of Arts and Sciences, New York. *The Florida Entomologist* 73: 465-476 [DP: 1 September 1990]
- Henriksen KL (1939) A revised index of the insects of Grønland containing a supplement to the insect list in Kai L. Henriksen & Will. Lundbeck: Grønlands Landarthropoder (Medd. om Grønland. Bd. 22. 1917). *Meddelelser om Grønland* 119 (10): 1-112 [DP: 24 May 1939]
- Henshaw S (1882) Index to the Coleoptera described by J.L. LeConte, M.D. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 9 [1881-82]: 197-272.
- Henshaw S (1885) *List of the Coleoptera of America, north of Mexico*. American Entomological Society, Philadelphia. [2] + 161 pp. [DP: October 1885 (*Ent. Amer.* 1: 179)]
- Henshaw S (1887) First supplement to the list of Coleoptera of America, north of Mexico. *Entomologica Americana* 2 [1886-87]: 213-220 [DP: February 1887]
- Henshaw S (1889) Second supplement to the list of Coleoptera of America, north of Mexico. *Entomologica Americana* 5: 127-138 [DP: 10 July 1889 (CUL stamp)]
- Henshaw S (1895) *Third supplement to the list of Coleoptera of America, north of Mexico*. American Entomological Society, Philadelphia. [1] + 62 pp.
- Hentz NM (1830) Description of eleven new species of North American insects. *Transactions of the American Philosophical Society* (new series) 3: 253-258.
- Herbst JFW (1784) Kritisches Verzeichniss meiner Insektensammlung. *Archiv der Insektengeschichte* 5: 73-151. Note. This work was started in volume 4 (pp. 1-72) of the *Archiv der Insektengeschichte* issued in 1783.
- Herbst JFW (1806) *Natursystem aller bekannten in- und ausländischen Insekten, als eine Fortsetzung der von Büffonschen Naturgeschichte. Der Käfer zehnter Theil*. Joachim Pauli, Berlin. viii + 285 pp. + pls 159-177.
- Herman LH (1986) Revision of *Bledius*. Part IV. Classification of species groups, phylogeny, natural history, and catalogue (Coleoptera, Staphylinidae, Oxytelinae). *Bulletin of the American Museum of Natural History* 184: 1-367 [DP: 25 June 1986]
- Heyden L von (1870) *Entomologische Reise nach dem südlichen Spanien, der Sierra Guadarrama und Sierra Morena, Portugal und den Cantabrischen Gebirgen beschrieben von Lucas von Heyden, mit Beschreibungen der neuen Arten von L. v. Heyden und den Mitgliedern des Berliner entomol. Vereins: H. Allard (Paris), Ch. Brisout de Barneville (Saint-Germain-en-Laye), Desbrochers des Loges (Gannat), G. Dieck (Merseburg), v. Harold (München), v. Kiesenwetter (Bautzen), Kirsch (Dresden), Kraatz (Berlin), Löw (Guben), F. de Saulcy (Metz), Scriba (Wimpfen), Seidlitz (Dorpat) und einem Anhang: v. Heyden: Revision der europäischen Hymenoptera-Arten, Allard: Révision des curculionides Byrsopsides*. Dr. G. Kraatz [&] Nicolai, Berlin; Friedrich Fleischer, Leipzig; L. Buquet, Paris. 218 pp. + 2 pls. Note. This work was issued as a supplement to volume 14 of the *Berliner Entomologische Zeitschrift*. It is divided into four parts: the first one (pp. 1-56) is an account by Heyden of his voyage through Spain and Portugal; the second one (pp. 57 [75 in error]-176) contains the descriptions of several new genera and 141 new species by Heyden and several members of the Berlin Entomological Society; the third one (pp. 177-183) is a revision of the European species of



*Hymenoplia*; the fourth one contains a revision of the curculionid genera *Rhytirhinus* and *Gronops* (pp. 185-206) and a revision of the genus *Sphenophorus* (pp. 207-210) by Ernest Allard.

- Heyden L von (1879) Die *Carabus*-Arten der Hudsonsbay. *Deutsche Entomologische Zeitschrift* 23: 161-167 [DP: May 1879]
- Heyne A (1893) *Die exotischen Käfer in Wort und Bild*. [First *Lieferung*]. Ernst Heyne, Leipzig. vii + pp. 1-6, pls 1, 16. Note. This work was issued in 27 *Lieferungen*, 1893-1908. The first 12 were authored by Alexander Heyne, the other ones by Heyne and Otto Taschenberg (see Blackwelder 1957: 1117).
- Hieke F (1972) Ergebnisse der zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei. 291. Die *Amara*-Arten der Mongolei (Col., Carabidae). *Folia Entomologica Hungarica* (series nova) 25: 413-443 [DP: 15 September 1972]
- Hieke F (1973) Beitrag zur Synonymie der paläarktischen *Amara*-Arten (Coleoptera, Carabidae). *Deutsche Entomologische Zeitschrift* (neue Folge) 20: 1-125 [DP: 15 July 1973]
- Hieke F (1975) Beiträge zur Kenntnis der Gattung *Amara* Bon. (Col., Carabidae). *Deutsche Entomologische Zeitschrift* (neue Folge) 22: 257-342 [DP: 18 November 1975]
- Hieke F (1978) Revision der *Amara*-Untergattung *Percosia* Zimm. und Bemerkungen zu anderen *Amara*-Arten (Col., Carabidae). *Deutsche Entomologische Zeitschrift* (neue Folge) 25: 215-326 [DP: 30 November 1978]
- Hieke F (1990) Neue und wenig bekannte *Amara*-Arten aus Amerika und Asien (Coleoptera, Carabidae). *Mitteilungen aus dem Zoologischen Museum in Berlin* 66: 195-292 [DP: 28 September 1990]
- Hieke F (1993) Die Untergattung *Harpalodema* Reitter, 1888, von *Amara* Bon. sowie über *Amara*-Arten anderer Subgenera (Coleoptera, Carabidae). *Deutsche Entomologische Zeitschrift* (neue Folge) 40: 1-160 [DP: 5 March 1993]
- Hieke F (1994) Sieben neue asiatische Arten und weitere neue Synonyme aus der Gattung *Amara* Bon. (Coleoptera, Carabidae). *Deutsche Entomologische Zeitschrift* (neue Folge) 41: 299-350 [DP: 2 September 1994]
- Hieke F (1995a) Namensverzeichnis der Gattung *Amara* Bonelli, 1810 (Coleoptera Carabidae). Coleoptera - Schwanfelder Coleopterologische Mitteilungen - Sonderheft II. 163 pp. [DP: 1 March 1995]
- Hieke F (1995b) Neue Arten und neue Synonyme in der Gattung *Amara* Bon. (Coleoptera, Carabidae). *Deutsche Entomologische Zeitschrift* (neue Folge) 42: 287-328 [DP: 1 September 1995]
- Hieke F (1997) Neue Arten und weitere neue Synonyme in der Gattung *Amara* Bonelli, 1810 (Coleoptera, Carabidae). *Mitteilungen aus dem Zoologischen Museum in Berlin* 73: 193-264 [DP: 28 October 1997]
- Hieke F (1999a) The *Amara* of the subgenus *Reductocelia* Lafer, 1989 (Coleoptera Carabidae Zabryini). Pp. 333-362 in Zamotajlov A, Sciaky R (Eds). *Advances in carabidology. Papers dedicated to the memory of Prof. Dr. Oleg L. Kryzhanovskij*. MUIISO Publishers, Krasnodar. 473 pp. [DP: 24 September 1999]
- Hieke F (1999b) Zwei neue Arten und 22 neue Synonyme in der Gattung *Amara* (Coleoptera: Carabidae). *Folia Heyrovskyana* 7: 151-199 [DP: 15 December 1999]



- Hieke F (2000) Revision einiger Gruppen und neue Arten der Gattung *Amara* Bonelli, 1810 (Coleoptera: Carabidae). *Annales Historico-Naturales Musei Nationalis Hungarici* 92: 41–143.
- Hieke F (2001) Das *Amara*-Subgenus *Xenocelia* subg.n. (Coleoptera: Carabidae). *Folia Heyrovskyana Supplementum* No. 7. 153 pp [DP: 31 March 2001]
- Hieke F (2002) Neue Arten der Gattung *Amara* Bonelli 1810 (Coleoptera: Carabidae). *Linzer Biologische Beiträge* 34: 619–720 [DP: 30 August 2002]
- Hieke F (2003a) Subtribe Amarina C. Zimmermann, 1831. Pp. 547–568 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Hieke F (2003b) Die Gruppe der *Amara* (*Amara*) *cupreolata* Putzeys 1866 (Coleoptera: Carabidae). *Linzer Biologische Beiträge* 35: 201–216 [DP: 30 June 2003]
- Hieke F (2006) Die *Paracelia*-Gruppe der Gattung *Amara* Bonelli, 1810 (Insecta: Coleoptera: Carabidae). Pp. 245–314 in Hartmann M, Weipert J (Eds). *Biodiversität und Naturlandschaft im Himalaya II = Biodiversity and natural heritage of the Himalaya II*. Verein der Freunde & Förderer des Naturkundemuseums Erfurt, Erfurt. 533 pp. + 12 pls.
- Hieke F (2007) Aktueller Katalog der Gattung *Amara* Bonelli, 1810. Available at: <http://download.naturkundemuseum-berlin.de/fritz.hieke/Amkatal.doc> [accessed 26 June 2008]
- Hieke F (2010) Die chinesischen *Amara*-Arten des Subgenus *Curtonotus* Stephens, 1827 und zwei weitere neue Arten anderer Subgenera (Coleoptera, Carabidae, Zabrinini). *Entomologische Blätter für Biologie und Systematik der Käfer* 106: 89–126 [DP: 30 December 2010]
- Hilburn DJ, Gordon RD (1989) Coleoptera of Bermuda. *The Florida Entomologist* 72: 673–692 [DP: 22 December 1989]
- Hilchie GJ (1985) The tiger beetles of Alberta (Coleoptera: Carabidae, Cicindelini). *Quaestiones Entomologicae* 21: 319–347 [DP: 13 August 1985 (CAL & CUL stamps)]
- Hildebrandt DA, Maddison DR (2011) A new species of *Bembidion* Latrielle [sic] 1802 from the Ozarks, with a review of the North American species of subgenus *Trichoplataphus* Netolitzky 1914 (Coleoptera, Carabidae, Bembidiini). *ZooKeys* 147: 261–275 [DP: 16 November 2011]
- Hincks WD (1950) *Coleopterorum catalogus supplementa. Pars 1: (edition secunda) Rhysodidae*. Uitgeverij Dr W. Junk, 's-Gravenhage. 18 pp.
- Hine JS (1906) A second contribution to the entomology of the region of the Gulf Biologic Station. *Gulf Biological Station Bulletin* 6: 65–79.
- Hinton HE (1945) *A monograph of the beetles associated with stored products. Volume I*. The Trustees of the British Museum, London. viii + 443 pp. [DP: 23 March 1945]
- Hippisley ME [Mrs. W.W.] (1922) Notes on northern British Columbian Coleoptera. *The Canadian Entomologist* 54: 63–66 [DP: 26 May 1922]
- Hlavac TF (1967) A revision of the genus *Clivina* Latreille (Col. Carabidae: Scaritini) in America north of Mexico – except *Paraclivina* and the *americana* complex. M.Sc. Thesis, Michigan State University. iii + 43 pp.
- Hoebeke ER, Lieberr JK, Bell RT (1991) Revised distribution of the immigrant carabid *Bembidion obtusum* (Coleoptera: Carabidae) in eastern North America. *Entomological News* 102: 173–178 [DP: 26 September 1991]

- Hoffman RL (1982) Rediscovery and distribution of *Bembidion plagiatum* Zimmermann (Coleoptera: Carabidae). *Brimleyana* 7: 145-150 [DP: 21 September 1982]
- Hoffman RL (1998) On the occurrence of several species of pterostichine ground beetles in Virginia (Carabidae: Pterostichini). *Banisteria, a Journal devoted to the Natural History of Virginia* 12: 36-40.
- Hoffman RL (2010) Ground beetles from the Quantico Marine Corps Base: 2. Thirty-six additional species from recent collections (Coleoptera: Carabidae). *Banisteria, a Journal devoted to the Natural History of Virginia* 36: 20-24.
- Hoffman RL, Roble SM (2000) Fourteen ground beetles new to the Virginia fauna (Coleoptera: Carabidae). *Banisteria, a Journal devoted to the Natural History of Virginia* 16: 36-41.
- Hoffman RL, Roble SM, Davidson RL (2006) Thirty ground beetles new to the fauna of Virginia, and a milestone (Coleoptera: Carabidae). *Banisteria, a Journal devoted to the Natural History of Virginia* 27: 16-30.
- Holeski PM, Graves RC (1982) New distribution records of *Bembidion texanum* Chaudoir and a note on the habitat of the species (Coleoptera: Carabidae). *The Coleopterists Bulletin* 36: 216-217 [DP: 16 December 1982]
- Holliday NJ (1982) Carabidae from Churchill, Manitoba with ecological notes and two new distribution records (Coleoptera). *The Coleopterists Bulletin* 36: 116-117 [DP: 29 November 1982]
- Hood JD (1952) The story of *Hartonymus hoodi* Casey (Coleoptera: Carabidae). *Journal of the New York Entomological Society* 60: 173-177 [DP: 21 October 1952]
- Hooper RR (1977) Collecting Carabidae at ultra-violet light in Saskatchewan. *Cordulia* 3: 51-52 [DP: 2 September 1977 (CAL stamp)]
- Hooper RR (1978) *Sphaeroderus nitidicollis brevoorti* in Saskatchewan. *Cordulia* 4: 19 [DP: 23 May 1978 (CAL stamp)]
- Hooper RR (1980) Three new carabid records for Saskatchewan, Canada. *Cordulia* 5 [1979]: 65 [DP: 12 March 1980 (CAL stamp)]
- Hope FW (1831) Synopsis of the new species of Nepaul insects in the collection of Major General Hardwicke. *The Zoological Miscellany* [1]: 21-32 [DP: 5 November 1831 (*Lit. Gaz.*)]
- Hope FW (1838) *The coleopterist's manual, part the second, containing the predaceous land and water beetles of Linneus and Fabricius*. Henry G. Bohn, London. xvi + 168 pp. + 3 pls.
- Hope FW (1845) On the entomology of China, with descriptions of the new species sent to England by Dr. Cantor from Chusan and Canton. *The Transactions of the Entomological Society of London* 4 [1845-47]: 4-17 [DP: 7 April 1845 (Wheeler 1912, *Trans. Entomol. Soc. London* 1911: 754)]
- Hopping R (1925) New Coleoptera from western Canada. *The Canadian Entomologist* 57: 206-208 [DP: 24 August 1925]
- Horn GH (1861) Descriptions of new North American Coleoptera, in the cabinet of the Entomological Society of Philadelphia. *Proceedings of the Academy of Natural Sciences of Philadelphia* [12]: 569-571 [DP: 31 March 1861 (*Bost. Soc. Nat. Hist.*)]
- Horn GH (1867a) Descriptions of some new Cicindelidae from the Pacific Coast of the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* [18]: 394-397 [DP: 20

- July 1867 (see Fox 1913 in *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xiii)]
- Horn GH (1867b) Description of a new *Pseudomorpha* from California, with notes on the Pseudomorphidae. *Transactions of the American Entomological Society* 1 [1867-68]: 151-154.
- Horn GH (1869a) Catalogue of Coleoptera from south western Virginia. *Transactions of the American Entomological Society* 2 [1868-69]: 123-128 [DP: 8 February 1869 (*Amer. Ent. Soc.*)]
- Horn GH (1869b) New species of Coleoptera from the Pacific district of the United States. *Transactions of the American Entomological Society* 2 [1868-69]: 129-140 [DP: 8 February 1869 (*Amer. Ent. Soc.*)]
- Horn GH (1870a) Contributions to the coleopterology of the United States. *Transactions of the American Entomological Society* 3 [1870-71]: 69-97.
- Horn GH (1870b) Descriptive catalogue of the species of *Nebria* and *Pelophila* of the United States. *Transactions of the American Entomological Society* 3 [1870-71]: 97-105.
- Horn GH (1871) Descriptions of new Coleoptera of the United States, with notes on known species. *Transactions of the American Entomological Society* 3 [1870-71]: 325-344.
- Horn GH (1872a) Revision of the species of *Lebia* of the United States. *Transactions of the American Entomological Society* 4 [1872-73]: 130-142.
- Horn GH (1872b) Descriptions of some new North American Coleoptera. *Transactions of the American Entomological Society* 4 [1872-73]: 143-152.
- Horn GH (1872c) Coleoptera. Pp. 382-392 in Hayden, F.V. *Preliminary report of the United States Geological Survey of Montana and portions of adjacent territories; being a fifth annual report of progress. Conducted under authority of the Secretary of the Interior*. Government Printing Office, Washington. vi + 538 pp. [DP: 9 May 1872 (*Nature* 6: 40)]
- Horn GH (1874) Descriptions of new species of United States Coleoptera. *Transactions of the American Entomological Society* 5 [1874-76]: 20-43.
- Horn GH (1875) Synonymical notes and description of new species of North American Coleoptera. *Transactions of the American Entomological Society* 5 [1874-76]: 126-156.
- Horn GH (1876a) The sexual characters of North American Cicindelidae with notes on some groups of *Cicindela*. *Transactions of the American Entomological Society* 5 [1874-76]: 232-240.
- Horn GH (1876b) Notes on some coleopterous remains from the bone cave at Port Kennedy, Penna. *Transactions of the American Entomological Society* 5 [1874-76]: 241-245.
- Horn GH (1876c) Synoptic tables of some genera of Coleoptera with notes and synonymy. *Transactions of the American Entomological Society* 5 [1874-76]: 246-252.
- Horn GH (1876d) Revision of the species of *Chlaenius* of the United States. *Transactions of the American Entomological Society* 5 [1874-76]: 253-276.
- Horn GH (1876e) Synonymy of the Coleoptera of the Fauna Boreali-Americana, Kirby. *The Canadian Entomologist* 8: 126-130.
- Horn GH (1878a) Descriptions of the larvae of the North American genera of Cicindelidae, also of *Dicaelus* with a note on *Rhynchophorus*. *Transactions of the American Entomological*

- Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 7 [1878-79]: 28-39.
- Horn GH (1878b) Contributions to the coleopterology of the United States, No. 2. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 7 [1878-79]: 51-60.
- Horn GH (1878c) Synoptic table [of *Loricera*]. *Bulletin of the Brooklyn Entomological Society* 1 [1878-79]: 29-30.
- Horn GH (1879) Synopsis of the species of *Cychnus* inhabiting boreal America. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 7 [1878-79]: 168-185 [DP: 12 September 1879 (*Amer. Ent. Soc.*)]
- Horn GH (1880a) Contributions to the coleopterology of the United States, No. 3. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 8: 139-154.
- Horn GH (1880b) [Synonymy in the genus *Dicaelus*]. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 8: xvii.
- Horn GH (1880c) [Synoptic tables of Coleoptera] *Dicaelus*, Bon.; *Diplochila*, Brull. *Bulletin of the Brooklyn Entomological Society* 3 [1880-81]: 51-52.
- Horn GH (1880d) A review of the species of *Anisodactylus* inhabiting the United States. *Proceedings of the American Philosophical Society* 19 [1880-81]: 162-178 [DP: 5 May 1880]
- Horn GH (1880e) Critical notes on the species of *Selenophorus* of the United States. *Proceedings of the American Philosophical Society* 19 [1880-81]: 178-183 [DP: 5 May 1880]
- Horn GH (1880f) [Miscellaneous notes]. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 8: xix-xx.
- Horn GH (1881) On the genera of Carabidae with special reference to the fauna of boreal America. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 9 [1881-82]: 91-196 [DP: 12 December 1881 (*Amer. Ent. Soc.*)]
- Horn GH (1882) Synopsis of the species of the tribe Lebiini. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 10 [1882-83]: 126-163.
- Horn GH (1883a) Synoptic tables of Coleoptera. *Tachycellus* Moraw, *Discoderus* Lec. *Bulletin of the Brooklyn Entomological Society* 6 [1883-84]: 51-53.
- Horn GH (1883b) Miscellaneous notes and short studies of North American Coleoptera. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 10 [1882-83]: 269-312.
- Horn GH (1883c) [Species of Coleoptera with erroneous localities]. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 10 [1882-83]: iii-v.
- Horn GH (1885a) Contributions to the coleopterology of the United States. (No 4.). *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 12: 128-162.

- Horn GH (1885b) Synonymical notes. (No. 3.). *Entomologica Americana* 1 [1885-86]: 108-113 [DP: 24 September 1885 (*Amer. Ent. Soc.*)]
- Horn GH (1886a) Notes on the “Biologia Centrali-Americana.” *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 13: vii-ix.
- Horn GH (1886b) Notes from the Museum at Cambridge. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 13: xi-xvi.
- Horn GH (1888) Miscellaneous coleopterous studies. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 15: 26-48.
- Horn GH (1890) [Description of *Cychrus merkelii* Horn]. *Entomologica Americana* 6: 71-72 [DP: 24 April 1890 (*Amer. Ent. Soc.*)]
- Horn GH (1891) New species and miscellaneous notes. *Transactions of the American Entomological Society* 18: 32-47 [DP: 27 June 1891 (CUL stamp)]
- Horn GH (1892a) Notes on *Amara* s.g. *Triaena*. *Transactions of the American Entomological Society* 19: 18-19 [DP: 2 May 1892 (CUL stamp)]
- Horn GH (1892b) A study of *Amara* s.g. *Celia*. *Transactions of the American Entomological Society* 19: 19-40 [DP: 2 May 1892 (CUL stamp)]
- Horn GH (1892c) Random studies in North American Coleoptera. *Transactions of the American Entomological Society* 19: 40-48 [DP: 2 May 1892 (CUL stamp)]
- Horn GH (1892d) *Carabus nemoralis* Müll. *Entomological News* 3: 60-61 [DP: 1 March 1892]
- Horn GH (1893) *Amblychila cylindriciformis* Say. *Entomological News* 4: 281-283 [DP: 3 November 1893 (CUL stamp)]
- Horn GH (1894) The Coleoptera of Baja California. *Proceedings of the California Academy of Sciences* (second series) 4 [1893-94]: 302-449 [DP: 28 September 1894]
- Horn GH (1895) Coleoptera of Baja California. (Supplement I.). *Proceedings of the California Academy of Sciences* (second series) 5: 225-259 [DP: 18 November 1895]
- Horn GH (1897) Coleoptera of Baja California. (Supplement II.). *Proceedings of the California Academy of Sciences* (second series) 6 [1896]: 367-381 [DP: 1 March 1897]
- Horn S, Ulyshen MD (2009) The importance of streamside sandbars to ground beetle (Coleoptera, Carabidae) communities in a deciduous forest. *Journal of Insect Conservation* 13: 119-123.
- Horn W (1892a) Fünf Dekaden neuer Cicindeleten. *Deutsche Entomologische Zeitschrift* (Jahrgang 1892): 65-92 [DP: August 1892]
- Horn W (1892b) Die Cicindeliden des Wiener Hof-Museums. Ein II. Beitrag zur Kenntniss der Cicindeliden. *Deutsche Entomologische Zeitschrift* (Jahrgang 1892): 92-98 [DP: August 1892]
- Horn W (1897a) Beitrag zur Synonymie der Cicindeliden. *Deutsche Entomologische Zeitschrift* (Jahrgang 1896): 353-357 [DP: January 1897]
- Horn W (1897b) Drei neue Cicindelen und über *Neolaphyra* Bedel. *Entomologische Nachrichten* 23: 17-20 [DP: January 1897]



- Horn W (1900) Über einige U.S.A.-Cicindelen. *Entomologische Nachrichten* 26: 116-119 [DP: April 1900]
- Horn W (1902a) Briefe eines reisenden Entomologen. I. *Deutsche Entomologische Zeitschrift* (Jahrgang 1902): 231-239 [DP: July 1902]
- Horn W (1902b) Briefe eines reisenden Entomologen. II. *Deutsche Entomologische Zeitschrift* (Jahrgang 1902): 369-396 [DP: October 1902]
- Horn W (1903a) Briefe eines reisenden Entomologen. III. *Deutsche Entomologische Zeitschrift* (Jahrgang 1903): 177-198 [DP: August 1903]
- Horn W (1903b) List of the Cicindelidae of Mexico and on their relationship with the species of the United States. *Journal of the New York Entomological Society* 11: 213-221.
- Horn W (1904) Ueber die Cicindeliden-Sammlungen von Paris und London. *Deutsche Entomologische Zeitschrift* (Jahrgang 1904): 81-99 [DP: January 1904]
- Horn W (1905) Systematischer Index der Cicindeliden. *Deutsche Entomologische Zeitschrift* (Jahrgang 1905, Supplement): 1-55 [DP: February 1905]
- Horn W (1906) Ueber das Vorkommen von *Tetracha carolina* L. im preussischen Bernstein und die Phylogenie der *Cicindela*-Arten. *Deutsche Entomologische Zeitschrift* (Jahrgang 1906): 329-336 [DP: 10 September 1906]
- Horn W (1907a) Zur Kenntnis der Gattung *Cicindela*. (Col.). *Deutsche Entomologische Zeitschrift* (Jahrgang 1907): 20-25 [DP: January 1907]
- Horn W (1907b) Brullés „*Odontochila* aus dem baltischen Bernstein“ und die Phylogenie der Cicindeliden. (Col.). *Deutsche Entomologische Zeitschrift* (Jahrgang 1907): 461-466 [DP: 1 September 1907]
- Horn W (1908a) [Larve von *Amblychila* (Schwarzi Horn?)]. *Deutsche Entomologische Zeitschrift* (Jahrgang 1908): 285-286 [DP: 1 March 1908]
- Horn W (1908b) [Über *Cicindela venusta* LeC.]. *Deutsche Entomologische Zeitschrift* (Jahrgang 1908): 738 [DP: 1 November 1908]
- Horn W (1910a) *Coleoptera Adephaga. Fam. Carabidae: subfam. Cicindelinae*. Genera Insectorum. Fasc. 82<sup>B</sup>. Wytsman, Bruxelles. Pp. 105-208 + pls 6-15 [DP: 12 July 1910 (Evenhuis 1994, *Arch. Nat. Hist.* 21: 54)]
- Horn W (1910b) Une forme nouvelle d'*Omus* (Cicindel., Col.). *Annales de la Société Entomologique de Belgique* 54: 293-295 [DP: 1 October 1910]
- Horn W (1913) Diesjährige *Omus*-Funde von F.W. Nunenmacher (Col.). *Entomologische Mitteilungen* 2: 346-351 [DP: 1 November 1913]
- Horn W (1915) *Coleoptera Adephaga. Fam. Carabidae: subfam. Cicindelinae*. Genera Insectorum. Fasc. 82<sup>C</sup>. Wytsman, Bruxelles. Pp. 209-486 + pls 16-23 [DP: 12 July 1915 (Evenhuis 1994, *Arch. Nat. Hist.* 21: 54)]
- Horn W (1926) Carabidae: Cicindelinae. In Junk W, Schenkling S (Eds). *Coleopterorum catalogus. Pars* 86. W. Junk, Berlin. 345 pp. [DP: 10 May 1926]
- Horn W (1928) Notes and records on the tiger beetles of Minnesota. *University of Minnesota Agricultural Experiment Station, Technical Bulletin* 56. Pp. 9-13 [DP: October 1928] Note. This bulletin has a title page reading “The tiger beetles of Minnesota” authored by R.W. Dawson and Walter Horn. It consists of two articles, one by each author.

- Horn W (1930) Notes on the races of *Omus californicus* and a list of the Cicindelidae of America north of Mexico (Coleoptera). *Transactions of the American Entomological Society* 56: 73-86 [DP: 10 April 1930]
- Horn W (1935) On some Cicindelae from the Pacific Coast of Mexico, the West Indies and United States. *The Pan-Pacific Entomologist* 11: 65-66 [DP: 5 July 1935]
- Horn W (1938) 2000 Zeichnungen von Cicindelinae. *Entomologische Beihefte aus Berlin-Dahlem* 5: 1-71 + 90 pls [DP: 28 March 1938]
- Horn W, Kahle I, Friese G, Gaedike R (1990a) *Collectiones entomologicae. Eine Kompendium über den Verbleib entomologischer Sammlungen der Welt bis 1960. Teil I: A bis K. Aus dem Institut für Pflanzenschutzforschung Kleinmachnow - Bereich Eberswalde, Abteilung Taxonomie der Insekten - der Akademie der Landwirtschaftswissenschaften der DDR*. Akademie der Landwirtschaftswissenschaften der Deutsche Demokratischen Republik, Berlin. 220 pp.
- Horn W, Kahle I, Friese G, Gaedike R (1990b) *Collectiones entomologicae. Eine Kompendium über den Verbleib entomologischer Sammlungen der Welt bis 1960. Teil II: L bis Z. Aus dem Institut für Pflanzenschutzforschung Kleinmachnow - Bereich Eberswalde, Abteilung Taxonomie der Insekten - der Akademie der Landwirtschaftswissenschaften der DDR*. Akademie der Landwirtschaftswissenschaften der Deutsche Demokratischen Republik, Berlin. Pp. 221-573.
- Horning DS Jr., Barr WF (1970) Insects of Craters of the Moon National Monument Idaho. University of Idaho, College of Agriculture Miscellaneous Series No. 8. 118 pp.
- Houghton CO (1905) Coleoptera at light in Delaware. *Entomological News* 16: 210-213 [DP: 2 September 1905 (CUL stamp)]
- House GJ, All JN (1981) Carabid beetles in soybean agroecosystems. *Environmental Entomology* 10: 194-196 [DP: 15 April 1981]
- Houston WWK, Luff ML (1975) The larvae of the British Carabidae (Coleoptera) III. Patrobini. *Entomologist's Gazette* 26: 59-64 [DP: 28 January 1975]
- Hovorka O (1991) Descriptions of the larvae of some *Laemostenus* species, with taxonomical notes (Coleoptera, Carabidae). *Acta Universitatis Carolinae Biologica* 35: 97-110 [DP: 15 November 1991]
- Hovorka O, Sciaky R (2003) Subtribe Dolichina Audouin & Brullé, 1834. Pp. 529-530 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Howden HF (1970) First South Dakota records for *Amblychila cylindriciformis*. *Cicindela* 2 (3): 8 [DP: 18 November 1970 (CAL stamp)]
- Hubbard HG (1875) Description of the larva of *Galerita janus*. *Psyche* 1: 49-52 [DP: 12 March 1875]
- Hubbard HG (1880) Description of a new *Anophthalmus* from Mammoth Cave. *The American Entomologist: An Illustrated Magazine of Popular and Practical Entomology* 3: 52 [DP: February 1880]
- Hubbard HG (1888) [Description of the larva of *Anophthalmus* sp.]. Pp. 77-78 in Packard, A.S. The cave fauna of North America, with remarks on the anatomy of the brain and origin of the blind species. *Memoirs of the National Academy of Sciences* 4 [1888-89]: 3-156 (+ pls 1-27).

- Hubbard HG, Schwarz EA (1878) The Coleoptera of Michigan. *Proceedings of the American Philosophical Society* 17 [1877-78]: 593-669 [DP: 18 April 1878]
- Huber RL (1978) First Wyoming record for *Amblycheila cylindriformis* (Say) with further distributional data. *Cicindela* 9 [1977]: 75-76 [DP: 20 July 1978 (CUL stamp), 8 August 1978 (CAL stamp)]
- Huk T, Kühne B (2000) Egg laying strategy and aspects of larval biology of two *Carabus* species (Coleoptera, Carabidae). Pp. 161-168 in Brandmayr P, Lövei GL, Zetto Brandmayr T, Casale A, Vigna Taglianti A (Eds). *Natural history and applied ecology of carabid beetles*. Proceedings of the IX<sup>th</sup> European carabidologists' meeting (26-31 July 1998, Camigliatello, Cosenza, Italy). Pensoft, Sofia-Moscow. xiv + 304 pp. [DP: December 2000]
- Hummel AD (1822) *Essais entomologiques. No II. Sur les insectes de Saint-Petersbourg, pendant l'été 1822. Lettre à la Société Impériale des Naturalistes de Moscou*. Imprimerie de la Chancellerie privée du Ministère de l'Intérieur, St. Pétersbourg. [2] + 30 pp. [DP: November 1822 (Sahlberg 1875: 89)]
- Hunt T, Bergsten J, Levkanicova Z, Papadopoulou A, St. John O, Wild R, Hammond PM, Ahrens D, Balke M, Caterino MS, Gómez-Zurita J, Ribera I, Barraclough TG, Bocakova M, Bocak L, Vogler AP (2007) A comprehensive phylogeny of beetles reveals the evolutionary origins of a superradiation. *Science* 318: 1913-1916 [DP: 21 December 2007]
- Hunting W (2009) A taxonomic revision of the *Cymindis* (Pinacodera) *limbata* species group (Coleoptera: Carabidae: Lebiini), with notes about evolutionary considerations. M.Sc. Thesis, University of Alberta. [14] + 164 pp.
- Hůrka K (1969) Über die Larven der mitteleuropäischen *Cymindis* Arten (Col., Carabidae). *Acta Entomologica Bohemoslovaca* 66: 100-108.
- Hůrka K (1971) Die Larven der mitteleuropäischen *Carabus*- und *Procerus*- Arten. Morphologisch-taxonomische Studie. *Rozprawy Československé Akademie Věd (Řada Matematických a Přírodních Věd)* 80 (8): 1-136.
- Hůrka K (1978) Bestimmungstabellen. 5.1 Cicindelidae; 5.2 Carabidae. Pp. 51-69 in Klausnitzer B (Ed.). *Ordnung Coleoptera (Larven)*. Dr. W. Junk b.v. Publishers, The Hague. vi + 378 pp.
- Hůrka K (1986) Larval taxonomy and breeding type of Palearctic *Cymindis* (Coleoptera, Carabidae). *Acta Entomologica Bohemoslovaca* 83: 30-61 [DP: 31 January 1986]
- Hůrka K (1997) The status of *Tetraplatypus* (Coleoptera: Carabidae: Stenolophina) and larval description of *Bradycellus ruficollis* and *B. verbasci*. *Acta Societatis Zoologicae Bohemicae* 61: 191-197 [DP: 17 October 1997]
- Hůrka K (2003) Subfamily Psydrinae LeConte, 1853. Pp. 346 in Löbl I, Smetana A (Eds). *Catalogue of Palearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Hůrka K, Ducháč V (1980a) Larvae and the breeding type of the central European species of the subgenera *Bradytus* and *Pseudobradytus* (Coleoptera, Carabidae, *Amara*). *Věstník Československé Společnosti Zoologické* 44: 166-182 [DP: August 1980]
- Hůrka K, Ducháč V (1980b) Larval descriptions and the breeding type of the central European species of *Amara* (*Curtonotus*) (Coleoptera, Carabidae). *Acta Entomologica Bohemoslovaca* 77: 258-270 [DP: 27 July 1980]

- Hůrka K, Papoušek Z (2002) *Harpalus* larvae (Coleoptera: Carabidae: Harpalina): description of several species and taxonomic remarks. *Acta Societatis Zoologicae Bohemicae* 66: 99-119 [DP: 28 June 2002]
- Hůrka K, Růžicková A (1999) Classification of the *Amara* (*Amara*) *communis* species aggregate based on the egg and larval stage characters (Coleoptera: Carabidae: Amarina). *Acta Societatis Zoologicae Bohemicae* 63: 451-461 [DP: 28 December 1999]
- Hylton CD Jr. (1980) Adult ground beetles (Coleoptera: Carabidae) collected from tobacco fields and adjacent pastures and woodlands in east Tennessee. M.Sc. Thesis, The University of Tennessee. ix + 96 pp.
- Iablokoff-Khnzorian SM (1960) New beetles from Baltic amber [in Russian]. *Paleontologicheskii Zhurnal* (1960) (3): 90-101 [DP: 25 November 1960 (NRC stamp)]
- Iablokoff-Khnzorian SM (1964) Über die *Cyrtonotus*-Arten der Gattung *Amara* (Coleoptera, Carabidae) aus dem Kaukasus. *Annales Historico-Naturales Musei Nationalis Hungarici* 56: 281-283.
- Iablokoff-Khnzorian SM (1971) Un nouveau Trechini de l'Altai (Coléoptères, Carabidae). *Nouvelle Revue d'Entomologie* 1: 155-157 [DP: 30 June 1971]
- Iablokoff-Khnzorian SM (1975) Notes carabologiques (II). *L'Entomologiste* 31: 24-29 [DP: 19 April 1975 (CUL stamp)]
- ICZN [International Commission on Zoological Nomenclature] (1950) “*Harpalus*” Latreille [1802-1803] and “*Ophonus*” Stephens, 1827, “*Lebia*” Latreille [1802-1803], “*Tachys*” Stephens, 1828, and “*Trechus*” Schellenberg, 1806 (Class Insecta, Order Coleoptera) (application for the use of the plenary powers for): consideration postponed for additional information to be obtained. *The Bulletin of Zoological Nomenclature* 4: 446-448 [DP: 9 June 1950]
- ICZN (1954) Opinion 243. Designation, under the Plenary Powers, for the nominal genus “*Carabus*” Linnaeus, 1758 (Class Insecta, Order Coleoptera) of a type species in harmony with current nomenclatorial usage. *Opinions and Declarations Rendered by the International Commission on Zoological Nomenclature* 5: 45-56 [DP: 21 May 1954]
- ICZN (1964) Opinion 710. *Enhydrus* Laporte, 1834 (Insecta, Coleoptera): validated under the plenary powers. *The Bulletin of Zoological Nomenclature* 21: 242-245 [DP: 16 October 1964]
- ICZN (1968) Opinion 862. *Galerita* Fabricius, 1801 (Insecta, Coleoptera): validation under the plenary powers. *The Bulletin of Zoological Nomenclature* 25: 98-99 [DP: 27 September 1968]
- ICZN (1990) Opinion 1598. *Ophonus* Dejean, 1821 and *Tachys* Dejean, 1821 (Insecta, Coleoptera): *Carabus sabulicola* Panzer, 1796 and *Tachys scutellaris* Stephens, 1828 designated as the respective type species. *The Bulletin of Zoological Nomenclature* 47: 158-159 [DP: 29 June 1990]
- ICZN (1996) Opinion 1855. *Agonus* Bloch & Schneider, 1801 (Osteichthyes, Scorpaeniformes): conserved; and Agonidae Kirby, 1837 (Insecta, Coleoptera): spelling emended to Agonumidae, so removing the homonymy with Agonidae Swainson, 1839 (Osteichthyes, Scorpaeniformes). *The Bulletin of Zoological Nomenclature* 53: 223-225 [DP: 30 September 1996]

- ICZN (1999) *International Code of Zoological Nomenclature, fourth edition, adopted by the International Union of Biological Sciences*. International Trust for Zoological Nomenclature, London. xxix + 306 pp.
- ICZN (2006) Opinion 2149 (Case 3291). Dromiidae Bonelli, 1810 (Insecta, Coleoptera, Caraboidea): emended to Dromiidae to remove homonymy with Dromiidae De Haan, 1833 (Crustacea, Decapoda, Brachyura, Dromioidea). *The Bulletin of Zoological Nomenclature* 63: 138-139 [DP: 30 June 2006]
- ICZN (2011) Opinion 2272 (Case 3484). Nomiidae Gozis, 1875 (Insecta, Coleoptera): spelling emended to Nomiidae to remove homonymy with Nomiinae Robertson, 1904 (Insecta, Hymenoptera). *The Bulletin of Zoological Nomenclature* 68: 147-149 [DP: 30 June 2011]
- Illiger JKW (1798) *Verzeichniss der Käfer Preussens. Entworfen von Johann Gottlieb Kugelann Apotheker in Osterode. Mit einer Vorrede des Professors und Pagenhofmeisters Hellwig in Braunschweig, und dem angehängten Versuche einer natürlichen Ordnungs- und Gattungs-Folge der Insekten*. Johann Jacob Gebauer, Halle. xlii + [1] + 510 + [1] pp. [DP: 19 September 1798 (*Intel. Allg. Lit. Zeit.*)]
- Illiger JKW (1801) Nachtrag und Berichtigungen zum Verzeichnisse der Käfer Preussens. *Magazin für Insektenkunde* 1: 1-94 [DP: 16 September 1801 (*Allg. Lit. Zeit.*)]
- Illiger JKW (1807) Vorschlag zur Aufnahme im Fabricischen Systeme fehlender Käfergattungen. *Magazin für Insektenkunde* 6: 318-349.
- Imura Y (2002) Proposal of eighteen new genera and subgenera of the subtribe Carabina (Coleoptera, Carabidae). *Special Bulletin of the Japanese Society of Coleopterology* 5: 129-147 [DP: 31 March 2002]
- IUCN [International Union for the Conservation of Nature, Natural Resources] (2007) 2007 IUCN Red List of Threatened Species. Available at: [www.iucnredlist.org](http://www.iucnredlist.org). [accessed 19 October 2007]
- Ivie MA, Marske KA, Foley IA, Ivie LL (2008) Appendix 2. Species lists of the beetles, non-beetle hexapods and non-hexapod invertebrates of Montserrat. Pp. 237-311 in Young RP (Ed.). A biodiversity assessment of the Centre Hills, Montserrat. Durrell Conservation Monograph No.1. 319 pp.
- Jacobson GG (1905) *Beetles of Russia and West Europe. Guide to identification of beetles* [in Russian]. A.F. Devriena, St.-Petersburg. Pp. 1-240 + pls 1-27 [DP: (pp. 1-80), 7 January 1905; (pp. 81-160), 28 July 1905; (pp. 161-240), 28 December 1905 (see Griffin 1932, *Ent. Monthly Mag.* 68: 66)]
- Jacobson GG (1906) *Beetles of Russia and West Europe. Guide to identification of beetles* [in Russian]. A.F. Devriena, St.-Petersburg. Pp. 241-320 + pls 28, 30-33, 36, 38 [DP: 10 September 1906 (Griffin 1932, *Ent. Monthly Mag.* 68: 66)]
- Jacobson GG (1907) *Beetles of Russia and West Europe. Guide to identification of beetles* [in Russian]. A.F. Devriena, St.-Petersburg. Pp. 321-400 + pls 37, 39-42, 44-46 [DP: 1 June 1907 (Griffin 1932, *Ent. Monthly Mag.* 68: 66)]
- Jacobson GG (1924) Annotationes synonymicae et systematicae de Coleopteris. *Revue Russe d'Entomologie* 18 [1922-24]: 237-243.



- Jacquelin du Val PNC (1851) De Bembidiis Europaeis. *Annales de la Société Entomologique de France* (deuxième série) 9: 441-512 [DP: 1 November 1851]
- Jacquelin du Val PNC (1852) De Bembidiis Europaeis. *Annales de la Société Entomologique de France* (deuxième série) 10: 181-236 [DP: 11 August 1852] Note. This entire work was published in the *Annales de la Société Entomologique de France* (deuxième série) 9 [1851]: 441-512, 513-576 [DP: 28 January 1852], 10: 101-180 [DP: 10 June 1852], 181-236, 523-528 [DP: 10 November 1852]
- Jacquelin du Val PNC (1855) *Manuel entomologique. Genera des coléoptères d'Europe comprenant leur classification en familles naturelles, la description de tous les genres, des tableaux dichotomiques destinés à faciliter l'étude, le catalogue de toutes les espèces, de nombreux dessins au trait de caractères et plus de treize cents types représentant un ou plusieurs insectes de chaque genre dessinés et peints d'après nature avec le plus grand soin par M. Jules Migneaux. Tome premier.* A. Deyrolle, Paris. 140 pp. + 43 pls. Note. Pages 1-140 constitute livraisons 14-30 of the work; some of the pages of livraisons 14-30 may have been published in 1856. Pages i-cclxxvi, constituting the "Introduction," make livraisons 31-44 and were probably issued in 1856.
- Jacquelin du Val PNC (1857) Ordre des coléoptères, Lin. Pp. 1-328 in: *Histoire physique, politique et naturelle de l'Ile de Cuba. Animaux articulés à pieds articulés, par M. F.E. Guérin-Méneville.* Arthus Bertrand, Paris. lxxxvii + 868 pp. + 20 pls [DP: 22 December 1857 (*Acad. Nat. Sci. Phil.*)] Note. This volume constitutes tome 7 (livraisons 78-80) of Ramon de la Sagra's *Histoire physique, politique et naturelle de l'Ile de Cuba*, 1837-1857. The entire series was published in French, in 8vo, and in Spanish, in 4to. Evenhuis (1997b: 679) considers that both Spanish and French versions of volume 7 were published simultaneously until further evidence is found.
- Jaeger B (2008) Die westpaläarktischen Arten der *Bradycellus*-Untergattung *Bradycellus* Erichson 1837 unter besonderer Berücksichtigung des Mittelmeerraumes (Coleoptera, Carabidae). *Linzer Biologische Beiträge* 40: 1509-1577 [DP: 19 December 2008]
- Jaeger B, Kataev BM (2003) Subtribe Stenolophina Kirby, 1837. Pp. 397-406 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga.* Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Janssens E (1953) *Coleopterorum catalogus supplementa. Pars 5: (Edition secunda) Cupesidae, Paussidae.* Uitgeverij Dr W. Junk, 's-Gravenhage. 84 pp. [DP: 3 June 1953]
- Jacqués HE, Redlinger L (1946) A preliminary list of the Carabidae known to occur in Iowa. *Proceedings of the Iowa Academy of Science* 52 [1945]: 293-298 [DP: July 1946]
- Jarrett JR, Scudder GGE (2001) Carabidae (Coleoptera) new to British Columbia, with one species new to Canada. *The Coleopterists Bulletin* 55: 378-384 [DP: 14 September 2001]
- Jeanne C (1969) Les *Haptoderus* lusitaniens (Coleoptera, Pterostichidae). *Miscelánea Zoológica* 2 (4): 33-38 [DP: June 1969]
- Jeanne C (1972) Carabiques de la Péninsule Ibérique (14<sup>e</sup> note). *Bulletin de la Société Linnéenne de Bordeaux* 2: 99-116 [DP: 9 August 1972 (CUL stamp)]
- Jeanne C (1973) Sur la classification des bembidiides endogés de la région euro-méditerranéenne (Col. Carabidae, Bembidiinae, Anillini). *Nouvelle Revue d'Entomologie* 3: 83-102 [DP: 30 June 1973]

- Jeanne C (1988) Carabiques nouveaux ou remarquables (9ème note). *Bulletin de la Société Linnéenne de Bordeaux* 16: 69-87 [DP: 30 November 1988]
- Jeannel R (1914) Sur la systématique des Sphodridés [Col. Carabidae] (note préliminaire). *Bulletin de la Société Entomologique de France* (année 1914): 235-240 [DP: 13 May 1914]
- Jeannel R (1920a) Les larves des Trechini (Coleoptera, Carabidae). *Archives de Zoologie Expérimentale et Générale* 59: 509-542 [DP: 1 July 1920]
- Jeannel R (1920b) Notes sur les Trechini [Col. Carabidae]. *Bulletin de la Société Entomologique de France* (année 1920): 150-155 [DP: 20 July 1920]
- Jeannel R (1926) Monographie des Trechinae. Morphologie comparée et distribution géographique d'un groupe de coléoptères. (Première livraison). *L'Abeille, Journal d'Entomologie* 32: 221-550 [DP: 1 June 1926]
- Jeannel R (1927) Monographie des Trechinae. Morphologie comparée et distribution géographique d'un groupe de coléoptères. (Deuxième livraison). *L'Abeille, Journal d'Entomologie* 33: 1-592 [DP: 31 January 1927]
- Jeannel R (1928) Monographie des Trechinae. Morphologie comparée et distribution géographique d'un groupe de coléoptères. (Troisième livraison). Les Trechini cavernicoles. *L'Abeille, Journal d'Entomologie* 35: 1-808 [DP: 1 December 1928]
- Jeannel R (1931) Campagne spéologique de C. Bolivar et R. Jeannel dans l'Amérique du Nord (1928). 9. Insectes coléoptères et révision des Trechinae de l'Amérique du Nord. *Archives de Zoologie Expérimentale et Générale* 71: 403-499 [DP: 30 June 1931]
- Jeannel R (1937a) Les bembidiides endogés [Col. Carabidae]. Monographie d'une lignée gondwanienne. *Revue Française d'Entomologie* 3 [1936]: 241-399 [DP: 1 February 1937]
- Jeannel R (1937b) Notes sur les carabiques (première note). *Revue Française d'Entomologie* 4: 1-23 [DP: 1 April 1937]
- Jeannel R (1937c) Nouveaux Trechinae paléarctiques [Col. Carabidae]. *Bulletin de la Société Entomologique de France* 42: 82-88 [DP: 13 May 1937]
- Jeannel R (1938a) Les hilétides [Coleoptera Adephaga], une lignée africano-brésilienne. *Revue Française d'Entomologie* 4 [1937]: 202-219 [DP: 15 January 1938]
- Jeannel R (1938b) Les migadopides [Coleoptera Adephaga], une lignée subantarctique. *Revue Française d'Entomologie* 5: 1-55 [DP: 15 April 1938]
- Jeannel R (1940) Les calosomes [Coleoptera Carabidae]. *Mémoires du Muséum National d'Histoire Naturelle* (nouvelle série) 13: 1-240 [DP: 15 May 1940]
- Jeannel R (1941a) Les bembidiides alpins du groupe *Testediolum* Ganglbauer [Coleoptera Trechidae]. *Revue Française d'Entomologie* 7 [1940]: 97-105 [DP: 9 January 1941]
- Jeannel R (1941b) *Coléoptères carabiques. Première partie*. Faune de France 39. Paul Lechevalier et Fils, Paris. 571 pp. [DP: 1 September 1941]
- Jeannel R (1942) *Coléoptères carabiques. Deuxième partie*. Faune de France 40. Paul Lechevalier et Fils, Paris. Pp. 573-1173 [DP: 15 February 1942]
- Jeannel R (1946) *Coléoptères carabiques de la région Malgache (première partie)*. Faune de l'Empire Français VI. Muséum national d'Histoire naturelle, Paris. 372 pp. [DP: 1 December 1946]

- Jeannel R (1948a) *Coléoptères carabiques de la région Malgache (deuxième partie)*. Faune de l'Empire Français X. Muséum national d'Histoire naturelle, Paris. Pp. 373-765 [DP: 1 July 1948]
- Jeannel R (1948b) Sur deux larves de carabiques. *Revue Française d'Entomologie* 15: 74-78 [DP: 4 June 1948]
- Jeannel R (1949a) *Coléoptères carabiques de la région Malgache (troisième partie)*. Faune de l'Empire Français XI. Muséum national d'Histoire naturelle, Paris. Pp. 767-1146.
- Jeannel R (1949b) Etude systématique. Pp. 37-104 in Jeannel R, Henrot H. Les coléoptères cavernicoles de la région des Appalaches. *Notes Biospéologiques* 4: 37-104 [DP: March 1949]
- Jeannel R (1962) Les trechides de la Paléantarctide occidentale. Pp. 527-655 in Delamare Deboutteville C, Rapoport E (Eds). *Biologie de l'Amérique australe. Volume I. Etudes sur la faune du sol*. Centre National de la Recherche Scientifique, Paris. 657 pp. [DP: September 1962]
- Jeannel R (1963a) Monographie des «Anillini», bembidiides endogés [Coleoptera Trechidae]. *Mémoires du Muséum National d'Histoire Naturelle (Série A) Zoologie* 28: 33-204 [DP: 30 April 1963]
- Jeannel R (1963b) Supplément à la monographie des Anillini. Sur quelques espèces nouvelles de l'Amérique du Nord. *Revue Française d'Entomologie* 30: 145-152 [DP: 19 October 1963]
- Jedlička A (1932) Neue Carabiden aus Süd-China (III. Teil). *Časopis Československé Společnosti Entomologické* [Acta Societatis Entomologicae Cechosloveniae] 29: 38-48 [DP: 2 April 1932]
- Jedlička A (1937) Neue *Pterostichus*-Arten aus Ostasien. *Časopis Československé Společnosti Entomologické* [Acta Societatis Entomologicae Cechosloveniae] 34: 44-47 [DP: 20 January 1937]
- Jedlička A (1941) *Versuch einer Monographie der pal. Carabiden-Gattungen mit abgestutzten Flügeldecken (Truncatipennen) mit Berücksichtigung der indischen Fauna*. B. Stýblo, Prague. 27 pp. + 2 pls [DP: 2 May 1941]
- Jedlička A (1952) Nouveaux carabides de la collection du Musée Silésien à Opava. *Časopis Slezského Musea v Opavě* [Acta Musei Silesiae (Series A - Historia Naturalis)] 2: 51-53.
- Jedlička A (1953) Revision der Tribus Pterostichini (Col., Carabidae). *Ročenka Československé Společnosti Entomologické* [Acta Societatis Entomologicae Cechosloveniae] 50: 85-112.
- Jedlička A (1957a) Beitrag zur Kenntnis der Carabiden aus der palaearktischen Region (Coleoptera). *Časopis Slezského Musea (Vědy přírodní)* [Acta Musei Silesiae - Scientiae Naturales] 6: 22-34.
- Jedlička A (1957b) Neue Carabiden aus der palaearktischen Region (Coleoptera). *Sborník Entomologického Oddělení Národního Musea v Praze* [Acta Entomologica Musei Nationalis Pragae] 31: 91-101 [DP: 15 July 1957]
- Jedlička A (1963) Monographie der Truncatipennen aus Ostasien. Lebiinae - Odacanthinae - Brachyninae (Coleoptera, Carabidae). *Entomologische Abhandlungen* 28 [1962-64]: 269-304 [DP: 11 December 1963] Note. Jedlička's paper covers pages 269 to 579; pages 305-352 were issued on 9 January 1964 and pages 353-580 on 30 April 1964.

- Jedlička A (1964) Ergebnisse der zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei. 5. Neue Carabiden (Coleoptera). *Annales Historico-Naturales Musei Nationalis Hungarici* 56: 289-296.
- Jedlička A (1966) Carabidae II. Ergebnisse der zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei (Coleoptera). *Reichenbachia* 7: 205-223 [DP: 10 August 1966]
- Johnson JW (1978) A preliminary list of south Texas Carabidae. *Cordulia* 4: 66-68 [DP: 7 November 1978 (CAL stamp)]
- Johnson PJ, Clark WH (1989) Notes on the western United States distribution of *Geopinus incrassatus* LeConte (Coleoptera: Carabidae). *The Pan-Pacific Entomologist* 65: 443-446 [DP: 21 November 1989]
- Johnson WF, Carpenter GH (1898) The larva of *Pelophila*. *The Transactions of the Royal Entomological Society of London for the year 1898* [1898-99]: 133-140 [DP: 29 June 1898]
- Johnson WN (1990a) A new subspecies of *Cicindela patruela* from west-central Wisconsin. *Cicindela* 21 [1989]: 27-32 [DP: 6 October 1990]
- Johnson WN (1990b) A new subspecies of *Cicindela pusilla* Say from northern Arizona. *Cicindela* 22: 1-12 [DP: 21 December 1990]
- Johnson WN (1991) A new subspecies of *Cicindela limbata* Say from Labrador (Coleoptera: Cicindelidae). *Le Naturaliste Canadien* 116 [1989]: 261-266 [DP: 13 March 1991 (CAL stamp)]
- Johnson WN (1992) A new species of *Dromochorus* from southern Texas (Coleoptera: Cicindelidae). *Cicindela* 23 [1991]: 49-53 [DP: 5 February 1992]
- Johnson WN (1993a) Notes on *Cicindela yucatana* W. Horn. *Cicindela* 25: 41-44 [DP: 30 December 1993]
- Johnson WN (1993b) A new subspecies of *Cicindela circumpicta* from North Dakota (Coleoptera: Cicindelidae). *Cicindela* 25: 53-59 [DP: 30 December 1993]
- Kabak I (2003) Tribe Lebiini Bonelli, 1810. Pp. 408-439 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Kanehisa K, Murase M (1977) Comparative study of the pygidial defensive systems of carabid beetles. *Applied Entomology and Zoology* 12: 225-235 [DP: 14 November 1977 (CAL stamp)]
- Kanehisa K, Shiraga T (1978) Morphological study of the pygidial defensive systems in carabid beetles. *Berichte des Ohara Instituts für Landwirtschaftliche Biologie Okayama Universität* 17: 83-94.
- Kangas E (1980) Merkmale und Verbreitung einer neuen und zweier bekannter Unterarten des Laufkäfers *Bembidion petrosum* (Coleoptera: Carabidae). *Entomologia Generalis* 6: 363-365 [DP: 28 November 1980]
- Kano T (1933) Coleopterous insects from the northern Kuriles, with some considerations on the insect fauna of the Kurile Islands. *Bulletin of the Biogeographical Society of Japan* 4: 91-121 [DP: November 1933]
- Karrow PE, Morris TF, McAndrews JH, Morgan AV, Smith AJ, Walker IR (2007) A diverse late-glacial (Mackinaw Phase) biota from Leamington, Ontario. *Canadian Journal of Earth Sciences* 44: 287-296.



- Kataev BM (1989) New data on carabid beetles of the genera *Pangus* and *Harpalus* (Coleoptera, Carabidae) of Mongolia with revision of some Palaearctic species groups [in Russian]. Pp. 188-278 in: *Insects of Mongolia, number 10*. Nauka, Leningrad. 623 pp. [DP: 14 April 1989 (Kerzhner 1993, *Zoosyst. Ross.* 2: 246)]
- Kataev BM (1990) Carabids of the *Harpalus vittatus* species group (Coleoptera, Carabidae) [in Russian]. *Entomologicheskoe Obozrenie* 69: 391-400 [DP: >18 June 1990; <3 October 1990 (CAL stamp)] Note. An English translation was issued in *Entomological Review* 69(8): 30-40.
- Kataev BM (2002) On the types of some Palaearctic *Harpalus* in the Muséum National d'Histoire Naturelle, Paris. *Russian Entomological Journal* 11: 191-195 [DP: September 2002]
- Kataev BM (2010) Description of a new species of the carabid genus *Harpalus* Latr. from the southwestern United States, with remarks on the composition of the subgenus *Glanodes* Casey (Coleoptera, Carabidae) [in Russian]. *Entomologicheskoe Obozrenie* 89: 828-834. Note. An English translation was issued in *Entomological Review* 91: 90-95.
- Kataev BM, Wrase DW, Ito N (2003) Subtribe Harpalina Bonelli, 1810. Pp. 367-397 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Kaulbars MM, Freitag R (1993a) Geographical variation, classification, reconstructed phylogeny, and geographical history of the *Cicindela sexguttata* group (Coleoptera: Cicindelidae). *The Canadian Entomologist* 125: 267-316 [DP: 6 April 1993 (CAL stamp)]
- Kaulbars MM, Freitag R (1993b) A description of the third instar larva of *Cicindela denikei* Brown. *Cicindela* 25: 45-48 [DP: 30 December 1993]
- Kavanaugh DH (1971) A new species of *Nebria* Latreille from Utah. *Journal of the Kansas Entomological Society* 44: 40-46 [DP: 26 February 1971]
- Kavanaugh DH (1978) The Nearctic species of *Nebria* Latreille (Coleoptera: Carabidae: Nebriini): classification, phylogeny, zoogeography, and natural history. Ph.D. Thesis, University of Alberta. xlviii + 1041 pp.
- Kavanaugh DH (1979a) Studies on the Nebriini (Coleoptera: Carabidae), III. New Nearctic *Nebria* species and subspecies, nomenclatural notes, and lectotype designations. *Proceedings of the California Academy of Sciences* 42: 87-133 [DP: 22 December 1979]
- Kavanaugh DH (1979b) Investigations on present climatic refugia in North America through studies on the distributions of carabid beetles: concepts, methodology and prospectus. Pp. 369-381 in Erwin TL, Ball GE, Whitehead DR, Halpern AL (Eds). *Carabid beetles: their evolution, natural history, and classification*. Proceedings of the First International Symposium of Carabidology Smithsonian Institution, Washington D.C. August 21, 23, and 25, 1976. Dr W. Junk bv Publishers, The Hague. 635 pp.
- Kavanaugh DH (1981a) Insects of western Canada, with special reference to certain Carabidae (Coleoptera): present distribution patterns and their origins. *The Canadian Entomologist* 112 [1980]: 1129-1144 [DP: 16 January 1981]
- Kavanaugh DH (1981b) Studies on the Nebriini (Coleoptera: Carabidae), IV. Four new *Nebria* taxa from western North America. *Proceedings of the California Academy of Sciences* 42: 435-442 [DP: 26 October 1981]



- Kavanaugh DH (1984) Studies on Nebriini (Coleoptera: Carabidae), V. New Nearctic *Nebria* taxa and changes in nomenclature. *Proceedings of the California Academy of Sciences* 43: 159-177 [DP: 12 July 1984]
- Kavanaugh DH (1985) On wing atrophy in carabid beetles (Coleoptera: Carabidae), with special reference to Nearctic *Nebria*. Pp. 408-431 in Ball GE (Ed.). *Taxonomy, phylogeny and zoogeography of beetles and ants. A volume dedicated to the memory of Philip Jackson Darlington, Jr. (1904-1983)*. Series Entomologica, volume 33. Dr W. Junk Publishers, Dordrecht / Boston / Lancaster. 514 pp. [DP: 16 October 1985 (CAL stamp)]
- Kavanaugh DH (1986) A systematic review of amphizoid beetles (Amphizoidae: Coleoptera) and their phylogenetic relationships to other Adephaga. *Proceedings of the California Academy of Sciences* 44: 67-109 [DP: 7 February 1986]
- Kavanaugh DH (1988) The insect fauna of the Pacific Northwest Coast of North America: present patterns and affinities and their origins. Pp. 125-149 in Downes JA, Kavanaugh DH (Eds). *Origins of the North American insect fauna*. Memoirs of the Entomological Society of Canada No. 144. 168 pp. [DP: 15 December 1988 (*Can. Ent.* 127: 992)]
- Kavanaugh DH (1992) Carabid beetles (Insecta: Coleoptera: Carabidae) of the Queen Charlotte Islands, British Columbia. *Memoirs of the California Academy of Sciences* No 16. vii + 113 pp. [DP: 24 January 1992]
- Kavanaugh DH (1995) Genus *Nippononebria* in the Nearctic Region, with description of a new subgenus, *Vancouveria* (Coleoptera: Carabidae). *Entomological News* 106: 153-160 [DP: 29 September 1995]
- Kavanaugh DH (1996) Phylogenetic relationships of genus *Pelophila* Dejean to other basal grade Carabidae (Coleoptera). *Annales Zoologici Fennici* 33: 31-37 [DP: 14 June 1996]
- Kavanaugh DH (1998) Investigations of phylogenetic relationships among some basal grade Carabidae (Coleoptera): a report on work in progress. Pp. 329-342 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Kavanaugh DH (2008) A new species of *Nebria* Latreille (Coleoptera: Carabidae: Nebriini) from the Grand Canyon, Arizona. *Annals of Carnegie Museum* 77: 1-5 [DP: 20 July 2008]
- Kavanaugh DH (2010) Discovery of the Eurasian carabid beetle species, *Carabus granulatus* Linnaeus (Coleoptera: Carabidae: Carabini), in the Haida Gwaii (Queen Charlotte Islands) of British Columbia, Canada. *Proceedings of the California Academy of Sciences* (fourth series) 61: 385-386 [DP: 31 March 2010]
- Kavanaugh DH, Archambeault SL, Roopnarine PD, Ledford J (2011) A re-consideration of the taxonomic status of *Nebria lacustris* Casey (Coleoptera, Carabidae, Nebriini) based on multiple datasets – a single species or a species complex? *ZooKeys* 147: 199-228 [DP: 16 November 2011]
- Kavanaugh DH, Erwin TL (1985) *Trechus obtusus* Erichson (Coleoptera: Carabidae), a European ground beetle, on the Pacific Coast of North America: its distribution, introduction, and spread. *The Pan-Pacific Entomologist* 61: 170-179 [DP: 30 April 1985]

- Kavanaugh DH, Erwin TL (1991) The tribe Cicindini Bänninger (Coleoptera: Carabidae): comparative morphology, classification, natural history, and evolution. *Proceedings of the Entomological Society of Washington* 93: 356-389 [DP: 11 June 1991]
- Kavanaugh DH, Erwin TL (1992) Extinct or extant? A new species of intertidal bembidiine (Coleoptera: Carabidae: Bembidiini) from the Palos Verdes Peninsula, California. *The Coleopterists Bulletin* 46: 311-320 [DP: 15 September 1992]
- Kavanaugh DH, LaBonte JR (2006) *Pterostichus brachylobus* Kavanaugh and LaBonte, a new species of the carabid beetle subgenus *Hypherpes* Chaudoir, 1838, from the central coast of Oregon (Insecta: Coleoptera: Carabidae: Pterostichini). *Proceedings of the California Academy of Sciences* (fourth series) 57: 215-223 [DP: 18 April 2006]
- Kavanaugh DH, LaBonte JR (2008) Discovery of *Nebria brevicollis* (Fabricius) (Coleoptera: Carabidae: Nebriini), a European ground beetle, established in the Willamette Valley, Oregon. *Proceedings of the California Academy of Sciences* (fourth series) 59: 481-488 [DP: 30 September 2008]
- Kavanaugh DH, Nègre J (1983) Notiokasiini - a new tribe of Carabidae (Coleoptera) from southeastern South America. *The Coleopterists Bulletin* 36 [1982]: 549-566 [DP: 26 April 1983]
- Kavanaugh DH, Schoville SD (2009) A new and endemic species of *Nebria* Latreille (Insecta: Coleoptera: Carabidae: Nebriini), threatened by climate change in the Trinity Alps of northern California. *Proceedings of the California Academy of Sciences* (fourth series) 60: 73-84 [DP: 7 May 2009]
- Keleinikova SI (1976) V.I. Motschulsky's types of Coleoptera in the collection of the Zoological Museum MGU. I. Carabidae [in Russian]. *Sbornik Trudov Zoologicheskogo Muzeia MGU* 15: 183-224.
- Kemner NA (1913) Beiträge zur Kenntnis einiger schwedischen Coleopterenlarven. II. Das analsegment und die Rektalschläuche einiger Carabidenlarven. *Arkiv för Zoologi* 8(13) [1913-14]: 1-23 + 2 pls [DP: 9 September 1913]
- Kharboutli MS, Mack TP (1991) Relative and seasonal abundance of predaceous arthropods in Alabama peanut fields as indexed by pitfall traps. *Journal of Economic Entomology* 84: 1015-1023 [DP: 25 June 1991 (CAL stamp)]
- Kincaid T (1900) Papers from the Harriman Alaska Expedition. VIII. Entomological results (2): the metamorphoses of some Alaska Coleoptera. *Proceedings of the Washington Academy of Sciences* 2: 367-388 [DP: 24 November 1900]
- King IN (1914) The Coleoptera of Henry County, Iowa. *Proceedings of the Iowa Academy of Science* 21: 317-340.
- Kippenhan MG (1990) A survey of the tiger beetles (Coleoptera: Cicindelidae) of Colorado. *Entomological News* 101: 307-315 [DP: 5 October 1990]
- Kippenhan MG (1994) The tiger beetles (Coleoptera: Cicindelidae) of Colorado. *Transactions of the American Entomological Society* 120: 1-86 [DP: 7 June 1994 (CAL stamp)]
- Kippenhan MG (1996a) Lectotype designation and redescription of *Cicindela fulgida pseudowillistoni* W. Horn (Coleoptera: Cicindelidae) with notes on populations of *C. fulgida* from northwestern Colorado. *Cicindela* 27: 37-43 [DP: 13 March 1996 (CML stamp), 14 March 1996 (CUL stamp)]

- Kippenhan MG (1996b) List of the primary and secondary types of Cicindelidae (Coleoptera) in the Field Museum of Natural History collection, Chicago, Illinois. *Cicindela* 27: 51-63 [DP: 13 March 1996 (CML stamp), 14 March 1996 (CUL stamp)]
- Kippenhan MG (2002) A new state record for *Cicindela nigrocoerulea nigrocoerulea* LeConte (Coleoptera: Cicindelidae) in Nevada. *Western North American Naturalist* 62: 381-382 [DP: 30 July 2002]
- Kippenhan MG (2005) Notes on the biogeography and dorsal coloration of *Cicindela amargosae* Dahl (Coleoptera: Carabidae). *Western North American Naturalist* 65: 145-152 [DP: 29 April 2005]
- Kippenhan MG (2007) The taxonomic status of *Cicindela* (*Cylindera*) *terricola continua* and the description of a new subspecies of *Cicindela* (*Cy.*) *terricola* from California (Coleoptera: Carabidae: Cicindelinae). *Cicindela* 39: 1-26 [DP: 17 September 2007]
- Kippenhan MG, Knisley CB (2009) Redescription of *Cicindela* (*Cylindera*) *lunalonga* Schaupp (Coleoptera: Carabidae: Cicindelinae). *Cicindela* 41: 29-36 [DP: 11 August 2009]
- Kirby W (1823a) A description of some insects which appear to exemplify Mr. William S. MacLeay's doctrine of affinity and analogy. *The Transactions of the Linnean Society of London* 14: 93-110 [DP: 12 June 1823 (Raphael 1970, *Biol. J. Linn. Soc.* 2: 65)]
- Kirby W (1823b) A description of some insects which appear to exemplify Mr. William S. Macleay's doctrine of affinity and analogy. *The Annals of Philosophy* (new series) 6: 417-426 [DP: December 1823]
- Kirby W (1825) A description of such genera and species of insects, alluded to in the "Introduction to Entomology" of Messrs. Kirby and Spence, as appear not to have been before sufficiently noticed or described. *The Transactions of the Linnean Society of London* 14: 563-572 [DP: 31 May 1825 (Raphael 1970, *Biol. J. Linn. Soc.* 2: 65)]
- Kirby W (1830) The characters of *Clinidium*, a new genus of insects in the order Coleoptera, with a description of *Clinidium Guildingii*. *The Zoological Journal* 5 (17): 6-10. Note. Various dates are indicated on volume 5 of *The Zoological Journal*. Kirby's paper appeared in the first part which is dated May 1829–February 1830 in the Table of Contents. I have followed Sherborn (1922, *Index animalium*, p. 1362) in accepting the February 1830 date for Kirby's article.
- Kirby W (1837) *Fauna Boreali-Americana; or the zoology of the northern parts of British America: containing descriptions of the objects of natural history collected on the late Northern Land Expeditions, under command of captain Sir John Franklin, R.N. Part the fourth and last. The insects.* J. Fletcher, Norwich. xxxix + 329 + [1] pp. + 8 pls [DP: 23 October 1837 (Evenhuis 1997b: 646)]
- Kirchner RF, Kondratieff BC (1999) New records for threatened tiger beetles of West Virginia and a new state record for Mason County (Coleoptera: Cicindelidae). *Cicindela* 31: 83-85 [DP: 30 December 1999 (CML stamp)]
- Kirk VM (1969) A list of the beetles of South Carolina. Part 1 - Northern Coastal Plain. South Carolina Agricultural Experiment Station Technical Bulletin 1033. 124 pp. [DP: December 1969]

- Kirk VM (1970) A list of the beetles of South Carolina. Part 2 - Mountain, Piedmont, and southern Coastal Plain. South Carolina Agricultural Experiment Station Technical Bulletin 1038. 117 pp. [DP: August 1970]
- Kirk VM (1971) Ground beetles in cropland in South Dakota. *Annals of the Entomological Society of America* 64: 238-241 [DP: 15 January 1971]
- Kirk VM (1972) Identification of ground beetle larvae found in cropland in South Dakota. *Annals of the Entomological Society of America* 65: 1349-1356 [DP: 15 November 1972]
- Kirk VM (1976) Identification of the larva of *Anisodactylus sanctaecrucis*, a ground beetle found in South Dakota croplands (Coleoptera: Carabidae). *The Coleopterists Bulletin* 29 [1975]: 353-354 [DP: 10 January 1976]
- Kirk VM (1981) Identification of the larva of *Galerita janus*, a ground beetle found in South Dakota croplands (Coleoptera: Carabidae). *The Coleopterists Bulletin* 34 [1980]: 367-368 [DP: 29 January 1981]
- Kirk VM, Balsbaugh EUJr. (1975) A list of the beetles of South Dakota. South Dakota State University Agricultural Experiment Station Technical Bulletin 42. 139 pp. [DP: April 1975]
- Kirschenhofer E (1997) Beitrag zur Faunistik und Taxonomie der Carabidae (Coleoptera) Koreas. *Annales Historico-Naturales Musei Nationalis Hungarici* 89: 103-122.
- Kirschenhofer E (2000) Taxonomische Änderungen im Genus *Chlaenius* Bonelli, 1810 (Coleoptera, Carabidae). *Entomofauna, Zeitschrift für Entomologie* 21 (7): 57-61 [DP: 30 April 2000]
- Kiselev SV (1981) *Late Cenozoic Coleoptera of northeastern Siberia* [in Russian]. Izdatel'stvo «Nauka», Moskva. 115 + [1] pp.
- Klausnitzer B (2003) Käferlarven (Insecta: Coleoptera) in Baltischem Bernstein - Möglichkeiten und Grenzen der Bestimmung. *Entomologische Abhandlungen* 61: 103-108 [DP: 12 September 2003]
- Kleintjes PK, Christensen AM, Barnes WJ, Lyons LA (2003) Ground beetles (Coleoptera: Carabidae) inhabiting stands of reed canary grass *Phalaris arundinacea* on islands in the lower Chippewa River, Wisconsin. *The Great Lakes Entomologist* 35 [2002]: 79-83 [DP: 8 July 2003 (CAL stamp)]
- Klug JCF (1821) Entomologiae Brasilianae specimen. *Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum* 10 (2): 279-324.
- Klug JCF (1834) *Jahrbücher der Insektenkunde, mit besonderer Rücksicht auf die Sammlung im Königl. Museum zu Berlin. Erster Band.* Theod. Chr. Friedr. Enslin, Berlin. viii + 396 pp. + 2 pls [DP: 19 November 1834 (Soc. Ent. Fr.)]
- Knaus W (1885) Additions to the catalogue of Kansas Coleoptera for 1883 and 1884. *Transactions of the Kansas Academy of Science* 9 [1883-84]: 57-61 [DP: 24 September 1885 (Amer. Ent. Soc.)]
- Knaus W (1887) Additions for 1885 and 1886 to the list of Kansas Coleoptera. *Transactions of the Kansas Academy of Science* 10 [1885-86]: 86-88.
- Knaus W (1898) Additions to the list of Kansas Coleoptera. *Transactions of the Kansas Academy of Science* 15 [1895-96]: 18-20 [DP: 25 April 1898 (NRC stamp)]

- Knaus W (1901) Additions to the list of Kansas Coleoptera for the years 1899 and 1900. *Transactions of the Kansas Academy of Science* 17 [1899-1900]: 109-114 [DP: 8 November 1901 (NRC stamp)]
- Knaus W (1903) Additions to the list of Kansas Coleoptera for the years 1901 and 1902. *Transactions of the Kansas Academy of Science* 18: 187-190 [DP: 18 June 1903 (NRC stamp)]
- Knaus W (1905a) Additions to the list of Kansas Coleoptera, 1903-'04. *Transactions of the Kansas Academy of Science* 19: 218-220 [DP: 26 June 1905 (NRC stamp)]
- Knaus W (1905b) Central Texas Coleoptera. *The Canadian Entomologist* 37: 348-352 [DP: 30 September 1905]
- Knaus W (1907) Additions to the list of Kansas Coleoptera for 1906. *Transactions of the Kansas Academy of Science* 20 (2) [1906]: 233-234 [DP: >1 March 1907]
- Knaus W (1923) Two new forms of *Cicindela* with remarks on other forms. *Journal of the New York Entomological Society* 30 [1922]: 194-197 [DP: 9 February 1923]
- Knaus W (1924) A color form of *Cicindela repanda-unijuncta*. *Journal of the New York Entomological Society* 32: 126 [DP: 15 September 1924]
- Knaus W (1925) Three new forms of Coleoptera. *The Pan-Pacific Entomologist* 1 [1924-25]: 182-183 [DP: 22 May 1925]
- Knaus W (1928) A new name for *Cicindela violacea* Fab. *Journal of the Kansas Entomological Society* 2 [1929]: 23-24 [DP: 31 December 1928]
- Knaus W (1929) A new *Cicindela* (Coleoptera, Cicindelidae). *Journal of the Kansas Entomological Society* 2: 47-48 [DP: 1 April 1929]
- Knisley CB, Brzoska DW, Schrock JR (1990) Distribution, checklist and key to adult tiger beetles (Coleoptera: Cicindelidae) of Indiana. *Proceedings of the Indiana Academy of Science* 97 [1987]: 279-294.
- Knisley CB, Fenster MS (2006) Apparent extinction of the tiger beetle, *Cicindela hirticollis abrupta* (Coleoptera: Carabidae: Cicindelinae). *The Coleopterists Bulletin* 59 [2005]: 451-458 [DP: 17 January 2006]
- Knisley CB, Haines RD (2007) Description and conservation status of a new subspecies of *Cicindela tranquebarica* (Coleoptera: Cicindelidae), from the San Joaquin Valley of California, U.S.A. *Entomological News* 118: 109-126 [DP: 18 June 2007]
- Knisley CB, Haines RD (2010) Distribution and conservation status of *Omus submetallicus* G. Horn and its confusion with *Omus californicus lecontei* G. Horn (Coleoptera: Carabidae). *The Coleopterists Bulletin* 64: 243-248 [DP: 20 September 2010]
- Knisley CB, Pearson DL (1984) Biosystematics of larval tiger beetles of the Sulphur Springs Valley, Arizona. Descriptions of species and a review of larval characters for *Cicindela* (Coleoptera: Cicindelidae). *Transactions of the American Entomological Society* 110: 465-551 [DP: 31 December 1984]
- Knisley CB, Schultz TD (1997) The biology of tiger beetles and a guide to the species of the South Atlantic states. Virginia Museum of Natural History Special Publication No. 5. viii + 210 pp.
- Knisley CB, Woodcock MR, Kippenhan MG (2012) A morphological and mtDNA analysis of the badlands tiger beetle, *Cicindela* (*s.str.*) *decemnotata* Say, 1817 (Coleoptera: Carabidae:



- Cicindelinae) with the description of three new subspecies. *Insecta Mundi* 0214: 1-49 [DP: 23 March 2012]
- Knisley CB, Woodcock MR, Vogler AP (2008) A new subspecies of *Cicindela limbata* (Coleoptera: Cicindelidae) from Alaska, and further review of the *maritima* group by using mitochondrial DNA analysis. *Annals of the Entomological Society of America* 101: 277-288 [DP: 1 April 2008 (CAL stamp)]
- Knoch AW (1801) *Neue Beyträge zur Insektenkunde. Mit Abbildungen. Erster Theil*. Schwickert, Leipzig. xii + 208 pp. + 9 pls.
- Knowlton GF (1939) Utah Coleoptera. Utah Agricultural Experiment Station Mimeograph Series 200 (Technical) Part 3. 25 pp.
- Knowlton GF, Wood SL (1947) Distributional notes on Utah Coleoptera. *Proceedings of the Utah Academy of Sciences, Arts and Letters* 23 [1945-46]: 91-96 [DP: February 1947]
- Knudsen JW (1985) A brief review of *Cicindela fulgida* with descriptions of three new subspecies from New Mexico (Coleoptera: Cicindelidae). *Entomological News* 96: 177-187 [DP: 1 December 1985]
- Kolbe HJ (1880) Natürliches System der carnivoren Coleoptera. *Deutsche Entomologische Zeitschrift* 24: 258-280 [DP: October 1880]
- Kolbe HJ (1895) Über die in Afrika gefundenen montanen und subalpinen Gattungen der mit *Calosoma* verwandten Coleopteren. *Sitzungs-Berichte der Gesellschaft Naturforschender Freunde zu Berlin* (Jahrgang 1895): 50-69.
- Kollar V (1836) Species insectorum Coleopterorum novae. *Annalen des Wiener Museums der Naturgeschichte* 1: 327-336.
- Kondratieff BC, Schmidt JP, Opler PA, Garhart MC (2005) Survey of selected arthropod taxa of Fort Sill, Comanche County, Oklahoma. III. Arachnida: Ixodidae, Scorpiones, Hexapoda: Ephemeroptera, Hemiptera, Homoptera, Coleoptera, Neuroptera, Trichoptera, Lepidoptera, and Diptera. Pp. 67-259 in Opler PA (Ed.). *Insects of western North America 4. Survey of selected arthropod taxa of Fort Sill, Comanche County, Oklahoma. Part 3*. C.P. Gillette Museum of Arthropod Diversity, Colorado State University, Fort Collins. [1] + 262 pp. [DP: January 2005]
- Kopecký T (2003) Subtribe Tachyina Motschulsky, 1862. Pp. 273-280 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Kraatz G (1878) [Bemerkungen auf einigen *Carabus*-Arten]. *Deutsche Entomologische Zeitschrift* 22: 158 [DP: May 1878]
- Kraatz G (1880) Ueber Sculptur-Abweichungen bei *Carabus*. *Deutsche Entomologische Zeitschrift* 24: 337-338 [DP: October 1880]
- Kraim AM (1983) Taxonomic study of the tribe Harpalini (Coleoptera: Carabidae) of Arkansas. Ph.D. Thesis, University of Arkansas. xiv + 353 pp.
- Krekeler CH (1958) Speciation in cave beetles of the genus *Pseudanophthalmus* (Coleoptera, Carabidae). *The American Midland Naturalist* 59: 167-189 [DP: January 1958]
- Krekeler CH (1973) Cave beetles of the genus *Pseudanophthalmus* (Coleoptera, Carabidae) from the Kentucky Bluegrass and vicinity. *Fieldiana Zoology* 62: 35-83 [DP: 26 November 1973]

- Krell F-T, Brookhart JO (2012) The plateau giant tiger beetle, *Amblycheila picolomini* Reiche, 1839, in Utah: new state record (Coleoptera: Carabidae: Cicindelinae). *Western North American Naturalist* 72: 110-111 [DP: 20 April 2012]
- Krinsky WL, Oliver MK (2001) Ground beetles of Connecticut (Coleoptera: Carabidae, excluding Cicindelini): an annotated checklist. State Geological and Natural History Survey Bulletin 117. a-d + 308 pp.
- Krinsky WL, Oliver MK (2004) Additional records of carabids from Connecticut (Coleoptera: Carabidae). *The Coleopterists Bulletin* 58: 396-397 [DP: 18 October 2004]
- Kritsky G, Horner L (1998) Geographic variation in *Cicindela tranquebarica* Herbst (Coleoptera: Cicindelidae). *Cicindela* 30: 13-32 [DP: 30 December 1998]
- Kryzhanovskij OL (1968) On the type materials of the tribes Carabini and Cychrini (Coleoptera, Carabidae), described by V.I. Motschulsky [in Russian]. *Sbornik Trudov Zoologicheskogo Muzeia MGU* 11: 169-188.
- Kryzhanovskij OL (1974) New and little known species of the genus *Curtonotus* Steph. (Coleoptera, Carabidae) from middle Asia. (Studies on the tribe Amarini, I) [in Russian]. *Entomologicheskoe Obozrenie* 53: 176-193 [DP: >20 February 1974; <18 June 1974 (CAL stamp)] Note. An English translation was published in *Entomological Review* 53(1): 126-137.
- Kryzhanovskij OL (1975) The ground-beetles of the genus *Curtonotus* Stephens (Coleoptera, Carabidae) from the Mongolian People's Republic and adjacent regions. (Studies on the tribe Amarini, II) [in Russian]. Pp. 90-98 in Kerzhner IM, Emelyanov AF, Koslov MA, Chogsomzhav L (Eds). *Insects of Mongolia Number 3 (Biological resources and natural conditions of the Mongolian People's Republic Volume VI)*. Nauka, Leningrad. 675 pp. [DP: 25 December 1975]
- Kryzhanovskij OL (1976a) An attempt at a revised classification of the family Carabidae (Coleoptera) [in Russian]. *Entomologicheskoe Obozrenie* 55: 80-91 [DP: >19 February 1976; <7 June 1976 (CAL stamp)] Note. An English translation was issued in *Entomological Review* 55(1): 56-64.
- Kryzhanovskij OL (1976b) A review of carabids of the tribe Callistini (Coleoptera, Carabidae) of the Far East [in Russian]. *Trudy Biologo-Pochvennogo Instituta* (novaya seriya) 43: 8-17.
- Kryzhanovskij OL (1983) *Fauna USSR. Coleoptera. Vol. 1, part 2. Beetles of the suborder Adephaga: families Rhysodidae, Trachypachidae; family Carabidae (introductory part and review of USSR fauna)* [in Russian]. Nauka, Leningrad. 341 pp. [DP: >25 August 1983]
- Kryzhanovskij OL, Abdurakhmanov GM (1983) New and little known species of the supertribe Pterostichitae (Coleoptera, Carabidae) from the Caucasus [in Russian]. *Entomologicheskoe Obozrenie* 62: 529-537 [DP: >4 August 1983; <5 December 1983 (CAL stamp)] Note. An English translation was issued in *Entomological Review* 62(3): 83-92.
- Kryzhanovskij OL, Belousov IA, Kabak II, Kataev BM, Makarov KV, Shilenkov VG (1995) *A checklist of the ground-beetles of Russia and adjacent lands (Insecta, Coleoptera, Carabidae)*. Pensoft Series Faunistica No. 3. Pensoft, Sofia-Moscow. 271 pp. [DP: July 1995]
- Kryzhanovskij OL, Okhotina MV, Bromlei GF, Lafer GSh (1975) A survey of Carabidae (Coleoptera) from the Kuril Islands [in Russian]. *Trudy Biologo-Pochvennogo Instituta* (novaya seriya) 28(131): 119-142.

- Kult K (1947) The 3rd study to the knowledge of tribus Clivinini (Col., Carab.). *Časopis Československé Společnosti Entomologické* [Acta Societatis Entomologicae Čechosloveniae] 44: 26-37 [DP: 1 June 1947]
- Kult K (1950a) New neotropical species of group Clivinina (Carab. Col.). *Časopis Československé Společnosti Entomologické* [Acta Societatis Entomologicae Čechosloveniae] 47: 129-149.
- Kult K (1950b) New Neotropical species of the group Ardistominina (Carabidae, Col.). *Arthropoda* 1: 299-325.
- Kult K (1961) Beitrag zur Kenntnis der Tachyiini aus Iran (Coleoptera, Carabidae) (31. Beitrag zur Kenntnis der Carabiden) (Ergebnisse der Entomologischen Reisen Willi Richter, Stuttgart, im Iran 1954 und 1956- Nr. 39). *Stuttgarter Beiträge zur Naturkunde* No. 57. 4 pp. [DP: 5 October 1961]
- Kůrka A (1971) Larvae of the Czechoslovak species of the genus *Calathus* Bonelli (Coleoptera, Carabidae). *Acta Entomologica Bohemoslovaca* 68: 233-262 [DP: 25 July 1971]
- Kurnakov VN (1960) Contribution à la faune des carabiques du Caucase. II. Description de nouveaux *Deltomerus* du Caucase et note préliminaire sur la systématique des Deltomerini. *Revue Française d'Entomologie* 27: 267-277 [DP: 30 November 1960]
- Kwon YJ, Lee S-M (1984) *Classification of the subfamily Carabinae from Korea (Coleoptera: Carabidae)*. Insecta Koreana Series 4. Editorial Committee of Insecta Koreana, Seoul. 363 pp.
- LaBonte JR (1988) *Cychrus hemphilli rickseckeri* LeConte (Coleoptera: Carabidae) in Oregon. *The Coleopterists Bulletin* 42: 264 [DP: 19 September 1988]
- LaBonte JR (1989) *Trechus obtusus* Erichson in Idaho and eastern Washington (Coleoptera: Carabidae). *The Coleopterists Bulletin* 43: 17 [DP: 22 March 1989]
- LaBonte JR (1996) *Thalpius rufulus* (LeConte) (Coleoptera: Carabidae) in Oregon: new state record and habitat data. *The Coleopterists Bulletin* 50: 357-359 [DP: 30 December 1996]
- LaBonte JR (2006) *Pterostichus lattini* LaBonte, a new species of carabid beetle (Coleoptera: Carabidae: Pterostichini) from Oregon. *Proceedings of the California Academy of Sciences* (fourth series) 57: 203-213 [DP: 18 April 2006]
- LaBonte JR (2011) *Nebria brevicollis* (Fabricius, 1792) in North America, benign or malign? (Coleoptera, Carabidae, Nebriini). *ZooKeys* 147: 497-543 [DP: 16 November 2011]
- LaBonte JR, Johnson PJ (1989) Distribution, ecological, and behavioral notes on *Blethisa* in Montana and Oregon (Coleoptera: Carabidae). *The Coleopterists Bulletin* 43: 170-172 [DP: 30 June 1989]
- LaBonte JR, Nelson RE (1998) North American distribution and habitat of *Elaphropus parvulus* (Dejean), an introduced, non-synanthropic carabid beetle (Coleoptera: Carabidae). *The Coleopterists Bulletin* 52: 35-42 [DP: 25 March 1998]
- Laboulbène A (1862) Descriptions de plusieurs larves de coléoptères, avec remarques. *Annales de la Société Entomologique de France* (quatrième série) 2: 559-575 [DP: 10 December 1862]
- Lacordaire JT (1854) *Histoire naturelle des insectes. Genera des coléoptères ou exposé méthodique et critique de tous les genres proposés jusqu'ici dans cet ordre d'insectes. Tome premier contenant les familles des cicindélètes, carabiques, dytiscides, gyrinides et palpicornes*. Roret, Paris. xx + 486 pp. [DP: 8 February 1854 (Soc. Ent. Fr.)]

- Lafer GSh (1975) On the ground beetle species of *Chrysobraceon* Net. and *Bracteon* Bed. subgenera, genus *Bembidion* Latr. (Coleoptera, Carabidae) from Primorye, USSR [in Russian]. *Trudy Biologo-Pochvennogo Instituta* (novaya seriya) 27 (130): 58-61.
- Lafer GSh (1984) Status of the subgenus *Lagarus* Chaud. and its relationship to the other close subgenera of the genus *Pterostichus* Bon. (Coleoptera, Carabidae). 2. Systematic review of eastern Asiatic species of the subgenus *Lagarus* Chaud. [in Russian]. Pp. 18-30 in Ler PA (Ed.). *Systematics of insects from the Far East*. Akademiya Nauk SSSR, Vladivostok. 143 pp.
- Lafer GSh (1989) 4. Family Carabidae - ground beetles [in Russian]. Pp. 71-222 in Ler PA (Ed.). *Identifications keys of insects of Far East of USSR in six volumes. Tome III. Beetles. Part 1*. Nauka, Leningrad. 576 pp. [DP: >28 July 1989]
- Lafer GSh (1992) 4. Family Carabidae - ground beetles [in Russian]. Pp. 602-621 in Ler PA (Ed.). *Identifications keys of insects of Far East of USSR in six volumes. Tom III. Beetles. Part 2*. Nauka, Leningrad. 704 pp. [DP: >28 January 1992]
- Lafer GSh, Kataev BM (2008) On the species of the genus *Diplocheila* Brullé (Coleoptera: Carabidae) of the Far East of Russia, with a brief review of the East Asian species [in Russian]. *Entomologicheskoe Obozrenie* 87: 604-623 [DP: >29 August 2008] Note. An English translation was issued in *Entomological Review* 88: 679-695.
- LaFerté-Sénéctère F de (1841a) Description de dix carabiques nouveaux du Texas et d'une espèce nouvelle de buprestide de France. *Revue Zoologique* [4]: 37-50 [DP: 8 March 1841 (*Acad. Sci.*)]
- LaFerté-Sénéctère F de (1841b) Notice sur un nouveau genre de carabique de la tribu des harpaliens. *Annales de la Société Entomologique de France* 10: 201-204 [DP: 17 November 1841]
- LaFerté-Sénéctère F de (1851) Révision de la tribu des patellimanes de Dejean, coléoptères pentamères de la famille des carabiques. *Annales de la Société Entomologique de France* (deuxième série) 9: 209-294 [DP: 23 July 1851]
- Lago PK, Zucarro AE Jr. (1984) A Mississippi record for *Omophron grossum* Casey (Coleoptera: Carabidae), with notes on behavior and habitat. *The Coleopterists Bulletin* 38: 118 [DP: 21 September 1984]
- Lago PK, Zuccaro AE Jr., Testa III, S (2002) The terrestrial Coleoptera of Point Clear Island and surrounding marshlands, Hancock County, Mississippi. *Journal of the Mississippi Academy of Sciences* 47: 197-209 [DP: 16 October 2002 (CUL stamp)]
- Lamarck JBAP (1817) *Histoire naturelle des animaux sans vertèbres, présentant les caractères généraux et particuliers de ces animaux, leur distribution, leurs classes, leurs familles, leurs genres, et la citation des principales espèces qui s'y rapportent; précédée d'une introduction offrant la détermination des caractères essentiels de l'animal, sa distinction du végétal et des autres corps naturels, enfin, l'exposition des principes fondamentaux de la zoologie. Tome quatrième*. Deterville [&] Verdière, Paris. 603 pp. [DP: March 1817]
- Lamb WK (1971) *Canada's five centuries. From discovery to present day*. McGraw-Hill, Toronto. 327 pp.
- Landry J-F, Bousquet Y (1984) The genus *Omophron* Latreille (Coleoptera: Carabidae): redescription of the larval stage and phylogenetic considerations. *The Canadian Entomologist* 116: 1557-1569 [DP: 20 November 1984 (CAL stamp)]

- Landry J-F, Rancourt J-F (1976) Seconde station de l'*Harpalus rufibarbis* Fabricius (Coleoptera: Carabidae) en Amérique du Nord. *Cordulia* 2: 53-54 [DP: 1 September 1976 (CAL stamp)]
- Langor D, Pohl G, Hammond J (2006) A coarse-filter approach to conserving arthropod biodiversity in Canadian forests. *Arthropods of Canadian Forests* 2: 9-13 [DP: April 2006]
- Laplanche S, Bousquet Y, Bélanger P, Chantal C (1991) Liste des espèces de coléoptères du Québec. Fabriques Supplément 6. 136 pp. [DP: November 1991]
- Laporte FL de [comte de Castelnau] (1833) Mémoire sur cinquante espèces nouvelles ou peu connues d'insectes. *Annales de la Société Entomologique de France* 1 [1832]: 386-415.
- Laporte FL de [comte de Castelnau] (1834) *Etudes entomologiques, ou description d'insectes nouveaux: et observations sur leur synonymie*. Méquignon-Marvis Père et Fils, Paris. Pp. 1-94 + pls 1-2 [DP: 9 August 1834 (*Bibl. Fr.*)]
- Laporte FL de [comte de Castelnau] (1835) *Etudes entomologiques, ou description d'insectes nouveaux: et observations sur leur synonymie*. Méquignon-Marvis Père et Fils, Paris. Pp. 95-159 + pls 3-4 [DP: 3 June 1835 (*Soc. Ent. Fr.*)]
- Laporte FL de [comte de Castelnau] (1836) Études entomologiques, ou descriptions d'insectes nouveaux et observations sur la synonymie. *Revue Entomologique* 4: 5-60.
- Laporte FL de [comte de Castelnau] (1840) *Histoire naturelle des insectes coléoptères; avec une introduction renfermant l'anatomie et la physiologie des animaux articulés, par M. Brullé. Tome premier*. P. Duménil, Paris. cxxv + 324 pp. + 43 pls [DP: 26 December 1840 (*Acad. Sci.*)]
- Laporte FL de [comte de Castelnau] (1867) *Notes on Australian Coleoptera*. Royal Society of Victoria, Melbourne. 139 pp. Note. Separates were available in 1867 prior to publication in 1868 in *Transactions and Proceedings of the Royal Society of Victoria* 8: 30-38, 95-225.
- Lapouge G Vacher de (1905) Tableaux de détermination des larves de carabes et de calosomes. *L'Échange, Revue Linnéenne* 21: 159-160, 164-165, 171-173.
- Lapouge G Vacher de (1907) Descriptions des larves de *Carabus* et de *Calosoma*. *Bulletin de la Société Scientifique et Médicale de l'Ouest* 16: 34-54.
- Lapouge G Vacher de (1908a) Tableaux de détermination des formes du genre «*Carabus*» (suite). *L'Échange, Revue Linnéenne* 24: 18-20.
- Lapouge G Vacher de (1908b) Descriptions des larves de *Carabus* et de *Calosoma*. *Bulletin de la Société Scientifique et Médicale de l'Ouest* 17: 150-177.
- Lapouge G Vacher de (1924) Calosomes nouveaux ou mal connus [Col. Carabidae]. *Miscellanea Entomologica* 28 [1924-25]: 37-44 [= 29-36] [DP: 30 October 1924] Note. Pages 26 to 40 of this issue of *Miscellanea Entomologica* were incorrectly numbered 34 to 48.
- Lapouge G Vacher de (1925) Carabes nouveaux ou mal connus (suite). *Miscellanea Entomologica* 28 [1924-25]: 177-192. Note. This work was inserted as supplement with separate pagination in volume 28 of *Miscellanea Entomologica*.
- Lapouge G Vacher de (1927) Utilisation des larves pour la classification des Carabinae. Pp. 435-449 in: *Comptes rendus du congrès des sociétés savantes de Paris et des départements tenu à Poitiers en 1926. Section des sciences*. Imprimerie nationale, Paris. 490 pp.
- Lapouge G Vacher de (1929a) *Coleoptera Adephaga. Fam. Carabidae: subfam. Carabinae. Première partie*. Genera insectorum. 192<sup>me</sup> Fascicule. 153 pp. + 7 cards + 1 pl [DP: 4 November 1929 (Evenhuis 1994, *Arch. Nat. Hist.* 21: 59)]



- Lapouge G Vacher de (1929b) Sous-tribu des Calosomina. *Miscellanea Entomologica* 32 [1929-30]: 1-10. Note. This work was inserted as supplement with separate pagination in volume 32 of *Miscellanea Entomologica*.
- Lapouge G Vacher de (1930) *Coleoptera Adephaga. Fam. Carabidae: subfam. Carabinae. Deuxième partie*. Genera insectorum. Fascicule 192<sup>A</sup>. Desmet-Verteneuil, Bruxelles. Pp. 155-291 [DP: 18 June 1930 (Evenhuis 1994, *Arch. Nat. Hist.* 21: 59)]
- Lapouge G Vacher de (1931) *Coleoptera Adephaga. Fam. Carabidae: subfam. Carabinae. Troisième partie*. Genera insectorum. Fasc. 192<sup>B</sup>. Desmet-Verteneuil, Bruxelles. Pp. 293-580 [DP: 13 May 1931 (Evenhuis 1994, *Arch. Nat. Hist.* 21: 59)]
- Lapouge G Vacher de (1933) *Coleoptera Adephaga. Fam. Carabidae: subfam. Carabinae. Quatrième partie*. Genera insectorum. Fasc. 192<sup>C</sup>. Desmet-Verteneuil, Bruxelles. Pp. 581-747 [DP: 1 May 1933 (Evenhuis 1994, *Arch. Nat. Hist.* 21: 59)]
- La Rivers I (1946) Some food habits of *Feronia ater* Dejean (Coleoptera, Carabidae). *The Pan-Pacific Entomologist* 22: 102 [DP: 28 September 1946]
- La Rivers I (1947) An annotated list of Carabinae known to occur in Nevada (Coleoptera: Carabidae). *Bulletin of the Southern California Academy of Sciences* 45 [1946]: 133-140 [DP: 10 January 1947]
- Larochelle A (1975) Les Carabidae du Québec et du Labrador. Département de Biologie du Collège Bourget, Rigaud, Bulletin 1. 255 pp. [DP: >3 August 1975]
- Larochelle A (1976) Manuel d'identification des Carabidae du Québec. Cordulia Supplément 1. 127 pp.
- Larochelle A (1979) Liste des coléoptères du Québec. Cordulia Supplément 9. 54 pp.
- Larochelle A, Larivière M-C (1989a) First records of *Broscus cephalotes* (Linnaeus) (Coleoptera: Carabidae: Broscini) for North America. *The Coleopterists Bulletin* 43: 69-73 [DP: 22 March 1989]
- Larochelle A, Larivière M-C (1989b) Further spreading of *Harpalus (Ophonus) puncticeps* (Stephens) in northeastern North America (Coleoptera: Carabidae). *The Coleopterists Bulletin* 43: 75-76 [DP: 22 March 1989]
- Larochelle A, Larivière M-C (1990a) Premières mentions de Carabidae (Coleoptera) pour le Maine, le Nouveau-Brunswick, la Nouvelle-Écosse et l'Île-du-Prince-Édouard. *Fabriques* 15: 25-37 [DP: June 1990]
- Larochelle A, Larivière M-C (1990b) *Notiophilus palustris* (Coleoptera: Carabidae), a Eurasian carabid beetle new to North America. *Entomological News* 101: 211-212 [DP: 28 December 1990]
- Larochelle A, Larivière M-C (2001) *Carabidae (Insecta: Coleoptera): catalogue*. Fauna of New Zealand No 43. Manaaki Whenua Press, Lincoln, Canterbury, New Zealand. 285 pp.
- Larochelle A, Larivière M-C (2005) *Harpalini (Insecta: Coleoptera: Carabidae: Harpalinae)*. Fauna of New Zealand No 53. Manaaki Whenua Press, Lincoln, Canterbury, New Zealand. 160 pp.
- Larsen KJ, Purrington FF (2010) New distribution records of ground beetles (Coleoptera: Carabidae) from Iowa and South Dakota, U.S.A. *Entomological News* 120: 570-573 [DP: 13 December 2010]

- Larsen KJ, Willis HL (2008) Range extension into South Dakota for *Cicindela pulchra* (Coleoptera: Carabidae). *The Coleopterists Bulletin* 62: 480 [DP: 24 December 2008]
- Larsen KJ, Work TT, Purrington FF (2003) Habitat use patterns by ground beetles (Coleoptera: Carabidae) of northeastern Iowa. *Pedobiologia* 47: 288-299.
- Larson DJ (1968) Two new species of *Dyschirius* from the United States (Coleoptera: Carabidae: Scaritini). *The Canadian Entomologist* 100: 1108-1113 [DP: 17 September 1968]
- Larson DJ (1969) A revision of the genera *Philophuga* Motschoulsky and *Tecnophilus* Chaudoir with notes on the North American Callidina (Coleoptera: Carabidae). *Quaestiones Entomologicae* 5: 15-84 [DP: 13 January 1969]
- Larson DJ (1978) *Leistus ferrugineus* (L.) (Coleoptera: Carabidae), new to North America. *The Coleopterists Bulletin* 32: 307-309 [DP: 29 December 1978]
- Larson DJ (1998) *Dromius fenestratus* (Fabricius) (Carabidae: Lebiini: Drominiina) possibly established in North America. *The Coleopterists Bulletin* 52: 126 [DP: 2 June 1998]
- Larson DJ, Langor DW (1982) The carabid beetles of insular Newfoundland (Coleoptera: Carabidae: Cicindelidae) - 30 years after Lindroth. *The Canadian Entomologist* 114: 591-597 [DP: 26 June 1982 (CAL stamp)]
- Larsson SG (1941) Larver. Pp. 243-360 in Hansen, V. *Biller. XI. Sandspringere og løbebiller (Cicindelidae og Carabidae)*. Danmarks Fauna 47. Gads Forlag, Kobenhavn. 380 pp.
- Larsson SG (1968) Løbebillernes larver. Pp. 282-433 in Hansen, V. *Biller. XXIV. Sandspringere og løbebiller (Cicindelidae og Carabidae)*. Danmarks Fauna 76. Gads Forlag, Kobenhavn. 451 pp. [DP: 6 November 1968 (*Ent. Soc. London*)]
- Larsson SG, Gíjja G (1959) *Coleoptera 1. Synopsis of the species*. The Zoology of Iceland. Volume III, Part 46a. Ejnar Munksgaard, Copenhagen and Reykjavik. 218 pp. [DP: 1 August 1959]
- LaRue DA (1991) New California distribution records for two species of *Cicindela* Linnaeus (Coleoptera: Cicindelidae). *Cicindela* 22 [1990]: 49-52 [DP: 19 September 1991 (CUL stamp)]
- Latreille PA (1802) *Histoire naturelle, générale et particulière des crustacés et des insectes. Ouvrage faisant suite à l'histoire naturelle générale et particulière, composée par Leclerc de Buffon, et rédigée par C.S. Sonnini, membre de plusieurs sociétés savantes. Familles naturelles des genres. Tome troisième*. F. Dufart, Paris. xii + pp. 13-467 [DP: 6 November 1802 (Evenhuis 1997b : 439)]
- Latreille PA (1804) *Histoire naturelle, générale et particulière, des crustacés et des insectes. Ouvrage faisant suite aux oeuvres de Leclerc de Buffon, et partie du cours complet d'histoire naturelle rédigé par C.S. Sonnini, membre de plusieurs sociétés savantes. Tome huitième*. Dufart, Paris. 411 pp. [DP: February–March 1804 (Dupuis 1986, *Ann. Soc. Entomol. France* (n.s.) 22: 208)]
- Latreille PA (1805) *Genera crustaceorum et insectorum secundum ordinem naturalem in familias disposita, iconibus exemplisque plurimis explicata. Tomus primus*. Amand Koenig, Parisiis et Argentorati. xviii + 302 + [1] pp. + 16 pls [DP: 28 September 1805 (*Intel. Allg. Lit. Zeit.*)] Note. Although dated 1806 on the title page, this book was published in 1805.
- Latreille PA (1806) *Genera crustaceorum et insectorum secundum ordinem naturalem in familias disposita, iconibus exemplisque plurimis explicata. Tomus secundus*. Amand Koenig, Parisiis et

- Argentorati. 280 pp. Note. Although dated 1807 on the title page, this book was published in 1806 according to the *Journal général de la Littérature de France*, 1806, 9 (11): 321.
- Latreille PA (1810) *Considérations générales sur l'ordre naturel des animaux composant les classes des crustacés, des arachnides, et des insectes; avec un tableau méthodique de leurs genres, disposés en familles*. F. Schoell, Paris. 444 pp. [DP: 23 May 1810 (Evenhuis 1997b: 440)]
- Latreille PA (1812) Mémoire sur un insecte que les Anciens réputoient fort venimeux, et qu'ils nommoient Bupreste. *Annales du Muséum National d'Histoire Naturelle* 19: 129-143.
- Latreille PA (1816) *Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Par M. le Ch<sup>re</sup>. Cuvier. Avec figures, dessinées d'après nature. Tome III, contenant les crustacés, les arachnides et les insectes*. Déterville, Paris. xxix + 653 pp. [DP: 2 December 1816 (Roux 1976, *J. Soc. Bibliogr. Nat. Hist.* 8: 31)]
- Latreille PA (1818) *Tableau encyclopédique et méthodique des trois règnes de la nature. Vingt-quatrième partie. Crustacés, arachnides et insectes*. Agasse, Paris. 38 + [1] pp. + pls 269-397 [DP: 8 August 1818 (Evenhuis 1997a: 228)]
- Latreille PA (1818) Morion, *Morio*. Pp. 385-386 in *Nouveau dictionnaire d'histoire naturelle appliquée aux arts, à l'agriculture, à l'économie rurale et domestique, à la médecine, etc. par une société de naturalistes et d'agriculteurs: nouvelle édition presque entièrement refondue et considérablement augmentée; avec des figures tirées des trois règnes de la nature. Tome XXI*. Déterville, Paris. 612 pp. + 5 pls [DP: 30 May 1818 (Evenhuis 1997a: 199)]
- Latreille PA (1829) *Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Par M. le Baron Cuvier. Avec figures, dessinées d'après nature. Nouvelle édition, revue et augmentée. Tome IV. Crustacés, arachnides et partie des insectes*. Déterville, Paris. xxvii + 584 pp. [DP: 11 April 1829 (*Bibl. Fr.*)] Note. This volume was also issued under the title "Les crustacés, les arachnides et les insectes, distribués en familles naturelles, ouvrage formant les tomes 4 et 5 de celui de M. le Baron Cuvier sur le règne animal (deuxième édition). Tome premier" by the same publisher.
- Latreille PA, Dejean PFMA (1824) *Histoire naturelle et iconographie des insectes coléoptères d'Europe*. 2<sup>e</sup> livraison. Crevot, Paris. Pp. 91-134 + pls 6-10 [DP: 20 November 1824 (*Bibl. Fr.*)] Note. The entire work was issued in three livraisons (see Bousquet 2004a: 41). As stated on page 38 in the first livraison, Latreille was responsible for the generalities and systematics, while Dejean was responsible for the descriptions of the species.
- Latreille PA, Lepeletier [comte de Saint-Fargeau] ALM, Audinet-Serville JG, Guérin-Ménéville FE (1825) *Encyclopédie méthodique, ou par ordre de matières; par une société de gens de lettres, de savans et d'artistes; précédée d'un vocabulaire universel, servant de table pour tout l'ouvrage, ornée des portraits de Mm. Diderot & d'Alembert, premiers éditeurs de l'Encyclopédie. Histoire naturelle. Entomologie, ou histoire naturelle des crustacés, des arachnides et des insectes. Tome dixième. Livraison 96*. Agasse, Paris. Pp. 1-344 [DP: 1 October 1825 (Evenhuis 1997a: 228)].
- Latreille PA, Lepeletier [comte de Saint-Fargeau] ALM, Audinet-Serville JG, Guérin-Ménéville FE (1828) *Encyclopédie méthodique, ou par ordre de matières; par une société de gens de lettres, de savans et d'artistes; précédée d'un vocabulaire universel, servant de table pour tout l'ouvrage, ornée des portraits de Mm. Diderot & d'Alembert, premiers éditeurs de l'Encyclopédie. Histoire*

- naturelle. Entomologie, ou histoire naturelle des crustacés, des arachnides et des insectes. Tome dixième. Livraison 100. Agasse, Paris. Pp. 345-832 [DP: 13 December 1828 (Evenhuis 1997a: 228)]*
- Laudermilk EL, Wright C, Gibson LD, Burnett G (2010) Four new state record tiger beetle taxa (Coleoptera: Cicindelidae) from Kentucky. *Cicindela* 42: 25-31 [DP: 17 August 2010 (CML stamp)]
- Lavigne R (1977) Checklist of the Carabidae of Wyoming, U.S.A. *Cordulia* 3: 43-48 [DP: 2 September 1977 (CAL stamp)]
- Lavigne R (1978) The effect of resource enrichment on the abundance of individual carabid species (Coleoptera). *Cordulia* 4: 100-107 [DP: 12 January 1979 (CAL stamp)]
- Lawrence JF (1973) Horn and Dietz collections move to Harvard. *The Coleopterists Bulletin* 27: 151 [DP: 29 September 1973]
- Lawrence JF, Newton AF Jr. (1995) Families and subfamilies of Coleoptera (with selected genera, notes, references and data on family-group names). Pp. 779-1006 in Pakaluk J, Ślipiński SA (Eds). *Biology, phylogeny, and classification of Coleoptera: papers celebrating the 80th birthday of Roy A. Crowson. Volume 2*. Muzeum i Instytut Zoologii PAN, Warszawa. vi + pp. 559-1092 [DP: 31 March 1995 (Bouchard *et al.* 2011: 751)]
- Lawrence JF, Ślipiński A, Seago AE, Thayer MK, Newton AF, Marvaldi AE (2011) Phylogeny of the Coleoptera based on morphological characters of adults and larvae. *Annales Zoologici* 61: 1-217 [DP: 30 March 2011]
- Lawton JK (1971) A new northern record for *Megacephala virginica*. *Cicindela* 3: 57 [DP: 25 November 1971]
- Lawton T (2008) New *Cicindela* records for northwestern Ontario, with notes on Manitoba. *Cicindela* 40: 71-75 [DP: 22 December 2008]
- Leach WE (1815) Entomology. Pp. 57-172 in: *The Edinburgh Encyclopaedia; conducted by David Brewster, with the assistance of gentleman eminent in science and literature. In eighteen volumes. Volume IX [part I]*. William Blackwood, Edinburgh [DP: April 1815 (Sherborn 1937, *J. Soc. Bibliogr. Nat. Hist.* 1: 112)]
- LeConte JE (1849) Coleopterous insects. [Appendix] pp. 25-36 in White, G. *Statistics of the state of Georgia including an account of its natural, civil, and ecclesiastical history; together with a particular description of each county, notices of the manners and customs of its aboriginal tribes, and a correct map of the State*. W. Thorne Williams, Savannah. 624 + 77 pp.
- LeConte JL (1844) Descriptions of new species of North American Coleoptera. *Proceedings of the Academy of Natural Sciences of Philadelphia* 2 [1844-45]: 48-53 [DP: 21 June 1844 (*Amer. Phil. Soc.*)]
- LeConte JL (1845a) Descriptions of some new species of coleopterous insects inhabiting the United States. *Proceedings of the Boston Society of Natural History* 1 [1844]: 201 [DP: 2 September 1845 (*Acad. Nat. Sci. Phil.*)]
- LeConte JL (1845b) Descriptions of some new and interesting insects, inhabiting the United States. *Boston Journal of Natural History* 5 [1845-47]: 203-209 [DP: 15 October 1845]
- LeConte JL (1846a) Monograph of the species of *Pasimachus* inhabiting the United States; with descriptions of two new genera, belonging to the family Carabica. *Annals of the Lyceum of Natural History of New York* 4 [1846-48]: 141-154 [DP: February 1846]

- LeConte JL (1846b) A descriptive catalogue of the geodephagous Coleoptera inhabiting the United States east of the Rocky Mountains. *Annals of the Lyceum of Natural History of New York* 4 [1846-48]: 173-354 [= 173-254] [DP: August 1846] Note. This paper was issued in nos 6-7 (pp. 173-354), published August 1846 (date on wrapper), of volume 4 of the *Annals*, 8-9 (pp. 355-416), published April 1847 (wrapper), 10-11 (pp. 417-464), published July 1847 (wrapper), and 12 (pp. 465-474), published September 1848 (wrapper). Due to a printing error, pages after 233 are numbered 100 too high; so the last page, although numbered 474, is actually the 374th page.
- LeConte JL (1847) A descriptive catalogue of the geodephagous Coleoptera inhabiting the United States east of the Rocky Mountains. *Annals of the Lyceum of Natural History of New York* 4 [1846-48]: 355-464 [= 255-364] [DP: (pp. 355-416), April 1847; (pp. 417-464), July 1847]
- LeConte JL (1848) A descriptive catalogue of the geodephagous Coleoptera inhabiting the United States east of the Rocky Mountains. *Annals of the Lyceum of Natural History of New York* 4 [1846-48]: 465-474 [= 365-374] [DP: September 1848]
- LeConte JL (1850) General remarks upon the Coleoptera of Lake Superior. Pp. 201-242 in Agassiz, J.L.R. *Lake Superior: its physical character, vegetation, and animals, compared with those of other and similar regions. With a narrative of the tour, by J. Eliott Cabot. And contributions by other scientific gentlemen.* Gould, Kendall and Lincoln, Boston. x + [2] + 428 pp. + 8 pls. [DP: 16 March 1850 (*The Literary World* 163: 285)]
- LeConte JL (1851) Descriptions of new species of Coleoptera, from California. *Annals of the Lyceum of Natural History of New York* 5 [1851-52]: 125-184 [DP: September 1851]
- LeConte JL (1852a) Descriptions of new species of Coleoptera, from California. *Annals of the Lyceum of Natural History of New York* 5 [1851-52]: 185-216 [DP: February 1852]
- LeConte JL (1852b) Remarks on some coleopterous insects collected by S.W. Woodhouse, M.D., in Missouri Territory and New Mexico. *Proceedings of the Academy of Natural Sciences of Philadelphia* 6 [1852-53]: 65-68 [DP: 9 June 1852 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xi)]
- LeConte JL (1853a) Synopsis of the species of *Pterostichus* Bon. and allied genera inhabiting temperate North America. *Journal of the Academy of Natural Sciences of Philadelphia* (series 2) 2 [1850-54]: 225-256 [DP: 18 January 1853]
- LeConte JL (1853b) Descriptions of some new Coleoptera from Texas, chiefly collected by the Mexican Boundary Commission. *Proceedings of the Academy of Natural Sciences of Philadelphia* 6 [1852-53]: 439-448 [DP: 31 December 1853 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xi)]
- LeConte JL (1853c) Notes on the classification of the Carabidae of the United States. *Transactions of the American Philosophical Society* (new series) 10: 363-403 [DP: May 1853]
- LeConte JL (1854a) Descriptions of some new Coleoptera from Oregon, collected by Dr. J.G. Cooper of the North Pacific R.R. Expedition, under Gov. J.J. Stevens. *Proceedings of the Academy of Natural Sciences of Philadelphia* 7 [1854-55]: 16-20 [DP: 17 March 1854 (*Amer. Phil. Soc.*)]



- LeConte JL (1854b) Synopsis of the species of *Platynus* and allied genera, inhabiting the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* 7 [1854-55]: 35-59 [DP: 19 May 1854 (*Amer. Phil. Soc.*)]
- LeConte JL (1854c) Notice of some coleopterous insects, from the collections of the Mexican Boundary Commission. *Proceedings of the Academy of Natural Sciences of Philadelphia* 7 [1854-55]: 79-85 [DP: 18 August 1854 (*Amer. Phil. Soc.*)]
- LeConte JL (1854d) Descriptions of new Coleoptera collected by Thos. H. Webb, M.D., in the years 1850-51 and 52, while Secretary to the U.S. and Mexican Boundary Commission. *Proceedings of the Academy of Natural Sciences of Philadelphia* 7 [1854-55]: 220-225.
- LeConte JL (1855) Notes on the Amarae of the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* 7 [1854-55]: 346-356 [DP: 20 July 1855 (*Amer. Phil. Soc.*)]
- LeConte JL (1856a) Revision of the Cicindelae of the United States. *Transactions of the American Philosophical Society* (new series) 11: 27-63 [DP: 4 April 1856 (*Amer. Phil. Soc.*), reprint]
- LeConte JL (1856b) Analytical table of the species of *Chlaenius* found in the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* 8: 25-29 [DP: 25 March 1856 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xi)]
- LeConte JL (1857a) Catalogue of the species of *Bembidium* found in the United States and contiguous northern regions. *Proceedings of the Academy of Natural Sciences of Philadelphia* [9]: 2-6 [DP: 25 February 1857 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xi)]
- LeConte JL (1857b) Synopsis of the species *Clivina* and allied genera inhabiting the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* [9]: 75-83 [DP: <7 January 1858 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xi)]]
- LeConte JL (1857c) Report upon insects collected on the survey. Pp. 1-72 + 2 pls in: *Part III. Zoological report. Reports of explorations and surveys, to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean. Made under the direction of the Secretary of war, in 1853-5, according to acts of Congress of March 3, 1853, May 31, 1854, and August 5, 1854. Volume XII. Book II.* Thomas H. Ford, Washington [DP: June 1857] Note. Two editions of the survey reports were published, one for the Senate and one for the House of Representatives. LeConte's paper came in volume 12 which was issued in one volume for the Senate edition in 1859 and two volumes for the House of Representatives edition in 1860 (Meisel 1929, *A bibliography of American Natural History. Volume III*, p. 217). Preprints of this paper were available in 1857. The appendix (pp. 72a-d) was not available for the preprint.
- LeConte JL (1858a) Catalogue of Coleoptera of the regions adjacent to the boundary line between the United States and Mexico. *Journal of the Academy of Natural Sciences of Philadelphia* (series 2) 4: 9-42 [DP: 17 December 1858 (*Amer. Phil. Soc.*), reprint]
- LeConte JL (1858b) Description of new species of Coleoptera, chiefly collected by the United States and Mexican Boundary Commission, under Major W.H. Emory, U.S.A. *Proceedings of the Academy of Natural Sciences of Philadelphia* [10]: 59-89 [DP: 19 April 1858 (see

- Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xii)]
- LeConte JL (1859a) Catalogue of the Coleoptera of Fort Tejon, California. *Proceedings of the Academy of Natural Sciences of Philadelphia* [11]: 69-90 [DP: 31 March 1859 (*Bost. Soc. Nat. Hist.*)]
- LeConte JL (1859b) Additions to the coleopterous fauna of northern California and Oregon. *Proceedings of the Academy of Natural Sciences of Philadelphia* [11]: 281-292 [DP: 31 December 1859 (*Bost. Soc. Nat. Hist.*)]
- LeConte JL (1859c) *The Coleoptera of Kansas and eastern New Mexico*. Smithsonian Contributions to Knowledge No 11. Smithsonian Institution, Washington DC. vi + 58 pp. + 2 pls [DP: December 1859]
- LeConte JL (1859d) *The complete writings of Thomas Say on the entomology of North America. Edited by John L. Le Conte, M.D. With a memoir of the author, by George Ord. Vol. I*. Ballière Brothers, New York. xxiv + 412 pp. [DP: 13 December 1859 (*Acad. Nat. Sci. Phil.*)]
- LeConte JL (1859e) *The complete writings of Thomas Say on the entomology of North America. Edited by John L. Le Conte, M.D. With a memoir of the author, by George Ord. Vol. II*. Ballière Brothers, New York. 814 pp. [DP: 13 December 1859 (*Acad. Nat. Sci. Phil.*)]
- LeConte JL (1860) Notes on Coleoptera found at Fort Simpson, Mackenzie River, with remarks on northern species. *Proceedings of the Academy of Natural Sciences of Philadelphia* [12]: 315-321 [DP: 21 September 1860 (*Bost. Soc. Nat. Hist.*)]
- LeConte JL (1861a) *Classification of the Coleoptera of North America. Prepared for the Smithsonian Institution. Part I*. Smithsonian Miscellaneous Collections [No. 136]. Smithsonian Institution, Washington DC. xxiv + 214 pp. [DP: May 1861]
- LeConte JL (1861b) New species of Coleoptera inhabiting the Pacific district of the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* [13]: 338-359 [DP: 31 December 1861 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xii)]
- LeConte JL (1862) Notes on the species of *Calosoma* inhabiting the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* [14]: 52-53 [DP: 25 April 1862 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xiii)]
- LeConte JL (1863a) Note on the species of *Brachinus* inhabiting the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* [14] [1862]: 523-525 [DP: 26 February 1863 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xiii)]
- LeConte JL (1863b) *List of the Coleoptera of North America. Prepared for the Smithsonian Institution. Part I*. Smithsonian Miscellaneous Collections [No] 140. Smithsonian Institution, Washington [D.C.]. [3] + 56 pp. [DP: March 1863]
- LeConte JL (1863c) *New species of North American Coleoptera. Prepared for the Smithsonian Institution. Part I*. Smithsonian Miscellaneous Collections No 167. Smithsonian Institution, Washington DC. 86 pp. [DP: March 1863]
- LeConte JL (1865a) [Remarques synonymiques sur divers coléoptères]. *Annales de la Société Entomologique de France* (quatrième série) 4 [1864]: xxxvii-xxxviii [DP: 25 January 1865]

- LeConte JL (1865b) Notes on the species of *Harpalus* inhabiting America, north of Mexico. *Proceedings of the Academy of Natural Sciences of Philadelphia* [17]: 98-104 [DP: 7 August 1865 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xiii)]
- LeConte JL (1866) *List of the Coleoptera of North America. Prepared for the Smithsonian Institution. Part I.* Smithsonian Miscellaneous Collections No 140. Smithsonian Institution, Washington DC. 78 pp. [DP: April 1866] Note. Pages 1-49 were reprinted with minor changes from the 1863 edition.
- LeConte JL (1867a) List of Coleoptera collected in the mountains of Lycoming County, Pa. *Proceedings of the Academy of Natural Sciences of Philadelphia* [18] [1866]: 346-348 [DP: 20 July 1867 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xiii)]
- LeConte JL (1867b) Additions to the coleopterous fauna of the United States. No. 1. *Proceedings of the Academy of Natural Sciences of Philadelphia* [18] [1866]: 361-394 [DP: 20 July 1867 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xiii)]
- LeConte JL (1868a) New Coleoptera collected on the survey for the extension of the Union Pacific Railway, E.D. from Kansas to Fort Craig, New Mexico. *Transactions of the American Entomological Society* 2 [1868-69]: 49-59 [DP: 13 July 1868 (*Amer. Ent. Soc.*)]
- LeConte JL (1868b) Coleoptera of the U.S. Coast Survey expedition to Alaska, under charge of Mr. George Davidson. *Transactions of the American Entomological Society* 2 [1868-69]: 59-64 [DP: 13 July 1868 (*Amer. Ent. Soc.*)]
- LeConte JL (1869a) Notes on the species of *Agonoderus*, *Bradycellus* and *Stenolophus* inhabiting America north of Mexico. *Proceedings of the Academy of Natural Sciences of Philadelphia* [20] [1868]: 373-382 [DP: >1 February 1869 (see Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. xiii)]
- LeConte JL (1869b) Synonymical notes on Coleoptera of the United States, with descriptions of new species, from the mss. of the late Dr. C. Zimmermann. Edited by John L. LeConte, M.D. *Transactions of the American Entomological Society* 2 [1868-69]: 243-259 [DP: 8 November 1869 (*Amer. Ent. Soc.*)]
- LeConte JL (1869c) List of Coleoptera collected in Vancouver's Island by Henry and Joseph Matthews, with descriptions of some new species. *The Annals and Magazine of Natural History* (fourth series) 4: 369-385 [DP: 1 December 1869 (Evenhuis 2003, *Zootaxa* 385: 25)]
- LeConte JL (1870) Synonymical notes on North-American Coleoptera. *The Annals and Magazine of Natural History* (fourth series) 6: 394-404 [DP: 1 November 1870 (Evenhuis 2003, *Zootaxa* 385: 25)]
- LeConte JL (1873a) The Pterostichi of the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* [25]: 302-320 [DP: 1 December 1873 (*Essex Inst.*)]
- LeConte JL (1873b) Synonymical remarks upon North American Coleoptera. *Proceedings of the Academy of Natural Sciences of Philadelphia* [25]: 321-336 [DP: 1 December 1873 (*Essex Inst.*)]

- LeConte JL (1874a) Notes on the species of *Pasimachus*. *Bulletin of the Buffalo Society of Natural Sciences* 1 [1873-74]: 266-273.
- LeConte JL (1874b) Descriptions of new Coleoptera chiefly from the Pacific slope of North America. *Transactions of the American Entomological Society* 5 [1874-76]: 43-72.
- LeConte JL (1875a) Notes on Cicindelidae of the United States. *Transactions of the American Entomological Society* 5 [1874-76]: 157-162.
- LeConte JL (1875b) Notes on the Rhysodidae of the United States. *Transactions of the American Entomological Society* 5 [1874-76]: 162-168.
- LeConte JL (1875c) Descriptions of new Coleoptera of the United States with notes on geographical distribution. *Transactions of the American Entomological Society* 5 [1874-76]: 169-176.
- LeConte JL (1876) Appendix H 10. New species of Coleoptera, collected by the expeditions for geographical surveys west of one hundredth meridian, in charge of Lieut. Geo. M. Wheeler, United States Engineers. Pp. 296-300 in Wheeler, G.M. *Annual report upon the geographical surveys west of the one hundredth meridian, in California, Nevada, Utah, Colorado, Wyoming, New Mexico, Arizona, and Montana, being appendix JJ of the annual report of the Chief of Engineers for 1876*. Government Printing Office, Washington. iv + 355 pp. Note. The title page of the reprint reads "Report upon new species of Coleoptera collected by the expeditions for geographical surveys west of the 100th meridian, Lieut. Geo. M. Wheeler, corps of engineers, U.S. Army, in charge; being extract from Appendix JJ of the Annual report of the chief of engineers for 1876" and has an extra page (errata).
- LeConte JL (1878a) The Coleoptera of the alpine regions of the Rocky Mountains. *Bulletin of the United States Geological and Geographical Survey of the Territories* 4: 447-480 [DP: 3 May 1878]
- LeConte JL (1878b) Additional descriptions of new species. Pp. 373-434 in Schwarz, E.A. The Coleoptera of Florida. *Proceedings of the American Philosophical Society* 17 [1877-78]: 353-472 [DP: 3 July 1878]
- LeConte JL (1878c) Descriptions of new species. Pp. 593-626 in Hubbard HG, Schwarz EA The Coleoptera of Michigan. *Proceedings of the American Philosophical Society* 17 [1877-78]: 593-669 [DP: 3 July 1878]
- LeConte JL (1878d) Description of a new species of *Calosoma*. *Bulletin of the Brooklyn Entomological Society* 1 [1878-79]: 61.
- LeConte JL (1878e) [Synoptic tables] *Calosoma*, Weber. *Bulletin of the Brooklyn Entomological Society* 1 [1878-79]: 64-66.
- LeConte JL (1879a) [Synoptic tables] *Dyschirius*, Bon.; *Ardistomis*, Putz.; *Clivina*, Latr.; *Schizogenius*, Putz. *Bulletin of the Brooklyn Entomological Society* 2 [1879-80]: 17-18, 31-34, 59.
- LeConte JL (1879b) Synopsis of the North American species of *Platynus*, Bon. *Bulletin of the Brooklyn Entomological Society* 2 [1879-80]: 43-58.
- LeConte JL (1879c) Synoptic tables. *Panagaeus*, Latr.; *Micrixys*, Lec.; *Morio*, Latr.; *Helluomorpha*, Lap.; *Galerita*, Fab.; *Zuphium*, Latr.; *Diaphorus*, Dej. *Bulletin of the Brooklyn Entomological Society* 2 [1879-80]: 59-62.

- LeConte JL (1879d) The Coleoptera of the alpine Rocky Mountain regions. - Part II. *Bulletin of the United States Geological and Geographical Survey of the Territories* 5: 499-520 [DP: 30 November 1879]
- LeConte JL (1880a) [Synoptic tables] *Casnonia*, Latr.; *Leptotrachelus*, Latr.; *Ega*, Lap.; *Lachnophorus*, Dej.; *Anchonoderus*, Reiche; *Anchus*, Lec.; *Plochionus*, Dej.; *Loxopeza*, Chaud.; *Lebia*, Latr.; *Dianchomena*, Chaud.; *Aphelogenia*, Chaud. *Bulletin of the Brooklyn Entomological Society* 2 [1879-80]: 85-88.
- LeConte JL (1880b) Short studies of North American Coleoptera. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 8: 163-218.
- LeConte JL (1881) [Notes on the habits and localities of Coleoptera]. *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 9 [1881-82]: xxxvi.
- LeConte JL (1884) Short studies of North American Coleoptera. (No. 2). *Transactions of the American Entomological Society and Proceedings of the Entomological Section of the Academy of Natural Sciences* 12 [1885]: 1-32.
- LeConte JL, Horn GH (1881) Descriptions of new species of North American Coleoptera. *Transactions of the Kansas Academy of Science* 7 [1879-80]: 74-77.
- LeConte JL, Horn GH (1883) *Classification of the Coleoptera of North America. Prepared for the Smithsonian Institution*. Smithsonian Miscellaneous Collections no. 507. Smithsonian Institution, Washington DC. xxxviii + 567 pp. [DP: March 1883 (Scudder 1884, *Trans. Amer. Entomol. Soc.* 11: xiv)]
- Ledoux G, Roux P (1992) Les types de *Nebria*, *Nippononebria* et *Oreonebria* du MNHN à Paris (Coleoptera, Nebriidae). *Revue Française d'Entomologie* (nouvelle série) 14: 29-48 [DP: 17 March 1992]
- Ledoux G, Roux P (2005) *Nebria* (Coleoptera, Nebriidae): *faune mondiale*. Muséum [&] Société Linnéenne de Lyon, Lyon. 976 pp. [DP: June 2005]
- Ledoux G, Roux P, Li J (2003) À propos de *Nebria* (*Nippononebria*) *xiaoxinganensis* Li et Liang, 1992 (Coleoptera, Nebriidae). *Revue Française d'Entomologie* (nouvelle série) 25: 80 [DP: 16 June 2003]
- Lee HJ Jr. (1994) The ground beetles of northern Ohio (Coleoptera: Carabidae) (Part 1). *Y.E.S. Quarterly* 11: 55-64 [DP: 8 July 1994 (CAL stamp)]
- Leech HB (1935) British Columbian records of Carabidae and Hydrophilidae (Coleoptera). *The Pan-Pacific Entomologist* 11: 120-124 [DP: 8 October 1935]
- Leffler SR (1979a) Tiger beetles of the Pacific Northwest (Coleoptera: Cicindelidae). Ph.D. dissertation, University of Washington. xvi + 791 pp.
- Leffler SR (1979b) A new subspecies of *Cicindela bellissima* from northwestern Washington (Coleoptera: Cicindelidae). *The Coleopterists Bulletin* 33: 465-472 [DP: 31 December 1979]
- Leffler SR (1980) *Cicindela purpurea hatchi*, a replacement name for the preoccupied *C. p. mirabilis* Casey (Coleoptera: Cicindelidae). *The Coleopterists Bulletin* 34: 128 [DP: 9 May 1980]



- Leffler SR (1986a) *Omus submetallicus* G. Horn: historical perspective, systematic position, type locality, and habitat. *Cicindela* 17 [1985]: 37-50 [DP: 29 October 1986 (CUL stamp)]
- Leffler SR (1986b) The tiger beetle genus *Omus* Eschscholtz: larval characters and their implications. *Cicindela* 17 [1985]: 53-66 [DP: 29 October 1986 (CUL stamp)]
- Leffler SR (1987) Synonymic notes on, and additions to, "Notes on cicindelid habitats in Oregon" by Maser and Beer (1984). *Cicindela* 19: 1-12 [DP: November 1987 (CUL stamp)]
- Leffler SR (2001) A new species of tiger beetle from southwestern Idaho (Coleoptera: Cicindelidae). *Cicindela* 33: 19-40 [DP: 3 August 2001]
- Leffler SR, Pearson DL (1976) Tiger beetles of Washington. *Cicindela* 8: 21-60 [DP: 16 November 1976 (CAL stamp), 19 November 1976 (CUL stamp)]
- Lemieux JP, Lindgren BS (2004) Ground beetle responses to patch retention harvesting in high elevation forests of British Columbia. *Ecography* 27: 557-566 [DP: 9 August 2004 (online version)]
- Leng CW (1902) Revision of the Cicindelidae of boreal America. *Transactions of the American Entomological Society* 28: 93-186 [DP: 17 July 1902 (CUL stamp)]
- Leng CW (1910) Notes on Coleoptera collected in northern Georgia. *Journal of the New York Entomological Society* 18: 71-82 [DP: 13 August 1910 (USNM stamp), 15 August 1910 (CUL stamp)]
- Leng CW (1914) Notes on the species of *Scaphinotus* Dejean inhabiting northeastern America with description of a new species. *Journal of the New York Entomological Society* 22: 139-144 [DP: 12 August 1914 (CUL and USNM stamps)]
- Leng CW (1915) List of the Carabidae of Florida. *Bulletin of the American Museum of Natural History* 34: 555-601 [DP: 30 November 1915]
- Leng CW (1916) Notes on Cychrini. *Journal of the New York Entomological Society* 24: 39-42 [DP: 12 April 1916 (USNM stamp)]
- Leng CW (1917) A new variety of *Scaphinotus*. *Journal of the New York Entomological Society* 25: 34-36 [DP: 23 April 1917 (CUL stamp), 24 April 1917 (USNM stamp)]
- Leng CW (1919a) A new race of *Cicindela* with notes on other races and species. *Journal of the New York Entomological Society* 26 [1918]: 138-141 [DP: 18 February 1919 (USNM stamp), 19 February 1919 (CAL stamp)]
- Leng CW (1919b) Notes on some changes in the list of Coleoptera. *Journal of the New York Entomological Society* 26 [1918]: 201-211 [DP: 18 February 1919 (CUL stamp), 19 February 1919 (CAL stamp)]
- Leng CW (1920) *Catalogue of the Coleoptera of America, north of Mexico*. John D. Sherman Jr., Mount Vernon (NY). x + 470 pp. Note. Only advance copies of the work were available by the end of 1920. John D. Sherman, Jr. stated on January 4, 1921 (*J. N.Y. Entomol. Soc.* 29: 182) that the binding of the edition would be finished about January 20.
- Leng CW (1928) Family Cicindelidae. Pp. 204-207 in Leonard MD (Ed.). A list of the insects of New York with a list of the spiders and certain other allied groups. Cornell Agricultural Experiment Station Memoir 101. 1121 pp. [DP: January 1928]
- Leng CW, Beutenmüller W (1893) List of the Coleoptera of north eastern America, with special reference to the fauna of New York City and vicinity. *Journal of the New York Entomological Society* 1: 91-96, 134-146.

- Leng CW, Beutenmüller W (1894) Preliminary hand-book of the Coleoptera of north eastern America. *Journal of the New York Entomological Society* 2: 133-141, 175-190.
- Leng CW, Beutenmüller W (1895) Preliminary hand-book of the Coleoptera of north eastern America. *Journal of the New York Entomological Society* 3: 73-76.
- Leng CW, Mutchler AJ (1916) Descriptive catalogue of West Indian Cicindelinae. *Bulletin of the American Museum of Natural History* 35: 681-699 [DP: 17 October 1916]
- Leng CW, Mutchler AJ (1927) *Supplement 1919 to 1924 (inclusive) to catalogue of the Coleoptera of America, north of Mexico*. John D. Sherman Jr., Mount Vernon (N.Y.). 78 pp.
- Leng CW, Mutchler AJ (1933) *Second and third supplements 1925 to 1932 (inclusive) to catalogue of the Coleoptera of America, north of Mexico*. John D. Sherman Jr., Mount Vernon (N.Y.). 112 pp. [DP: 18 December 1933]
- Lengerken H von (1921) *Carabus auratus* L. und seine Larve. *Archiv für Naturgeschichte* 87 (Abteilung A, 3. Heft): 31-113 [DP: August 1921]
- Leonard JG, Bell RT (1999) *Northeastern tiger beetles. A field guide to tiger beetles of New England and eastern Canada*. CRC Press LLC, Boca Raton. xii + 176 pp.
- Lepping MD (2009) Ground-dwelling beetles as bioindicators in transgenic corn. Ph.D. Thesis, University of Maryland. x + 213 pp.
- LeSage L (1996) Cinq premières mentions de Carabidae (Coleoptera) pour le Québec. *Fabriques* 21: 21-24 [DP: 5 March 1996]
- Letzner K (1849) Systematische Beschreibung der Laufkäfer Schlesiens (Fortsetzung). *Zeitschrift für Entomologie* [3] (Nos 10-12): [Coleoptera] 41-72.
- Li J (1992) *The Coleoptera fauna of northeast China* [in Chinese]. Jilin Education Publishing House, China. 205 pp.
- Liebherr JK (1982) Lectotype designations for *Agonum cyanope* (Bates) and *Agonum megillum* (Bates). *The Coleopterists Bulletin* 36: 153-154 [DP: 16 December 1982]
- Liebherr JK (1983) Larval description of *Calybe (Ega) sallei* (Chevrolat) with a preliminary assessment of lachnophorine affinities (Carabidae: Lachnophorini). *The Coleopterist Bulletin* 37: 254-260 [DP: 6 December 1983]
- Liebherr JK (1984a) Description of the larval stages and bionomics of the Tule Beetle, *Tanystoma maculicolle* (Coleoptera: Carabidae). *Annals of the Entomological Society of America* 77: 531-538 [DP: 9 November 1984 (CAL stamp)]
- Liebherr JK (1984b) *Agonum muiri*, n.sp. from California, and *Agonum pacificum* Casey, valid species (Coleoptera: Carabidae: Platynini). *The Coleopterists Bulletin* 38: 374-383 [DP: 31 December 1984]
- Liebherr JK (1985) Revision of the platynine carabid genus *Tanystoma* Motschulsky (Coleoptera). *Journal of the New York Entomological Society* 93: 1182-1211 [DP: 6 November 1985]
- Liebherr JK (1986) Cladistic analysis of North American Platynini and revision of the *Agonum extensicolle* species group (Coleoptera: Carabidae). *University of California Publications in Entomology* 106: x + 198 pp. [DP: May 1986]
- Liebherr JK (1988) Redefinition of the supertribe Odacanthitae, and revision of the West Indian Lachnophorini (Coleoptera: Carabidae). *Quaestiones Entomologicae* 24: 1-42 [DP: May 1988]

- Liebherr JK (1989) *Tanystoma diabolica* new species (Coleoptera: Carabidae: Platynini) from Baja California and its biogeographic significance. *Journal of the New York Entomological Society* 97: 173-186 [DP: 20 June 1989]
- Liebherr JK (1990) Redescription of *Platynus prognathus* Van Dyke (Coleoptera: Carabidae: Platynini) and circumscription of Lindroth's *decentis* and *hypolithos* groups. *Journal of the New York Entomological Society* 97 [1989]: 430-437 [DP: 20 March 1990]
- Liebherr JK (1991a) Synonymical notes on North American Platynini (Coleoptera: Carabidae), with special reference to names proposed by T.L. Casey, and a redescription of *Agonum imitans* Notman. *Journal of the New York Entomological Society* 99: 115-124 [DP: 14 February 1991]
- Liebherr JK (1991b) Phylogeny and revision of the *Anchomenus* clade: the genera *Tetraleucus*, *Anchomenus*, *Sericoda*, and *Elliptoleus* (Coleoptera: Carabidae: Platynini). Bulletin of the American Museum of Natural History No. 202. 163 pp. [DP: 14 March 1991]
- Liebherr JK (1992) Phylogeny and revision of the *Platynus degallieri* species group (Coleoptera: Carabidae: Platynini). Bulletin of the American Museum of Natural History No. 214. 115 pp. [DP: 16 December 1992]
- Liebherr JK (1994) Identification of New World *Agonum*, review of the Mexican fauna, and description of *Incagonum*, new genus, from South America (Coleoptera: Carabidae: Platynini). *Journal of the New York Entomological Society* 102: 1-55 [DP: 29 September 1994]
- Liebherr JK (1998) On *Rembus* (Colpodes) *brunneus* MacLeay (Coleoptera: Carabidae, Platynini): redescription and relationships. *Journal of Natural History* 32: 987-1000 [DP: 7 July 1998 (CUL stamp)]
- Liebherr JK (2000) The unity of characters: ecological and morphological specialisation in larvae of Hawaiian platynine Carabidae (Coleoptera). *Invertebrate Taxonomy* 14: 931-940 [DP: 21 November 2000]
- Liebherr JK (2005) Platynini (Coleoptera: Carabidae) of Vanuatu: Miocene diversification on the Melanesian Arc. *Invertebrate Systematics* 19: 263-295 [DP: 16 November 2005 (CAL stamp)]
- Liebherr JK (2008) Taxonomic revision of Hawaiian *Bembidion* Latreille (Coleoptera: Carabidae: Bembidiini) with a discussion of their reductive and derivative evolutionary specializations. *Annals of Carnegie Museum* 77: 31-78 [DP: 20 July 2008]
- Liebherr JK (2009) Native and alien Carabidae (Coleoptera) share Lanai, an ecologically devastated island. *The Coleopterists Bulletin* 63: 383-411 [DP: 29 December 2009]
- Liebherr JK (2011) Cladistic assessment of subtribal affinities within the tribe Moriomorphini with description of *Rossjoycea glacialis*, gen. n. and sp. n. from the South Island, and revision of *Meonochilus* Liebherr and Marris from the North Island, New Zealand (Coleoptera, Carabidae). *ZooKeys* 147: 277-335 [DP: 16 November 2011]
- Liebherr JK, Ball GE (1990) The first instar larva of *Eripus oaxacanus* Straneo & Ball (Coleoptera: Carabidae: Peleciini): indicator of affinity or convergence? *Systematic Entomology* 15: 69-79 [DP: 25 March 1990 (CAL stamp)]
- Liebherr JK, Kavanaugh DH (1985) Ovoviviparity in carabid beetles of the genus *Pseudomorpha* (Insecta: Coleoptera). *Journal of Natural History* 19: 1079-1086 [DP: 17 October 1985 (*J. Nat. Hist.* 25: 267)]

- Liebherr JK, Montgomery SL, Englund RA, Samuelson GA (2009) First recorded Hawaiian occurrence of the alien ground beetle, *Agonum muelleri* (Coleoptera: Carabidae), from the summit of Mauna Kea, Hawaii Island. *Proceedings of the Hawaiian Entomological Society* 41: 97-103.
- Liebherr JK, Schmidt J (2004) Phylogeny and biogeography of the Laurasian genus *Agonum* Bonelli (Coleoptera, Carabidae, Platynini). *Mitteilungen aus dem Museum für Naturkunde in Berlin, Deutsche Entomologische Zeitschrift* 51: 151-206 [DP: 26 November 2004]
- Liebherr JK, Song H (2002) Distinct ground beetle (Coleoptera: Carabidae) assemblages within a New York state wetland complex. *Journal of the New York Entomological Society* 110: 127-141 [DP: 3 September 2002]
- Liebherr JK, Takumi R (2003) Introduction and distributional expansion of *Trechus obtusus* (Coleoptera: Carabidae) in Maui, Hawai'i. *Pacific Science* 56: 365-375 [DP: July 2003]
- Liebherr JK, Will KW (1996) New North American *Platynus* Bonelli (Coleoptera: Carabidae), a key to species north of Mexico, and notes on species from the southwestern United States. *The Coleopterists Bulletin* 50: 301-320 [DP: 30 December 1996]
- Liebherr JK, Will KW (1998) Inferring phylogenetic relationships within Carabidae (Insecta, Coleoptera) from characters of the female reproductive tract. Pp. 107-170 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Liebherr JK, Zimmerman EC (2000) *Hawaiian Carabidae (Coleoptera), part 1: introduction and tribe Platynini*. Insects of Hawaii. Volume 16. University of Hawai'i Press, Honolulu. 494 pp.
- Liebke M (1927) 1. Beitrag zur Kenntnis der Laufkäfer. *Entomologische Blätter für Biologie und Systematik der Käfer* 23: 100-104 [DP: 30 September 1927]
- Liebke M (1928) Laufkäfer-Studien III. *Entomologischer Anzeiger* 8: 97-98 [DP: 20 May 1928], 105-106 [DP: 5 June 1928], 121-122 [DP: 20 June 1928], 125-129 [DP: 5 July 1928]
- Liebke M (1929) Laufkäfer-Studien VI. *Entomologischer Anzeiger* 9: 245-247, 261-265, 297-298.
- Liebke M (1930) Revision der amerikanischen Arten der Unterfamilie Colliurinae (Col. Carab.). *Mitteilungen aus dem Zoologischen Museum in Berlin* 15 [1929-30]: 647-726 [DP: 8 March 1930]
- Liebke M (1933) Die amerikanischen Arten der Gattung *Zuphium* (Col. Carab.). *Revista de Entomología* 3: 461-472 [DP: 13 December 1933]
- Liebke M (1934) Die Arten der Gattung *Pseudaptinus* Cast. (Col. Carabidae). *Revista de Entomología* 4: 372-388 [DP: 5 September 1934]
- Liebke M (1936) Die Gattung *Lachnophorus* Dejean (Col. Carabidae). *Revista de Entomología* 6: 461-468 [DP: 30 October 1936]
- Liebke M (1938) Denkschrift über die Carabiden-Tribus Colliurini. Pp. 37-141 in: *Festschrift zum 60. Geburtstage von Professor Dr. Embrik Strand. Vol. IV*. Rīgā. 784 pp. + 16 pls [DP: 28 May 1938]

- Liebke M (1939) Miscellanea carabidologica americana. Pars IV. *Revista de Entomologia* 10: 472-479 [DP: 4 September 1939]
- Liljeblad E (1932) A new species of *Cicindela* from Illinois (Coleop.). *The Canadian Entomologist* 64: 215-216 [DP: 3 October 1932]
- Lindroth CH (1931) Die Insektenfauna Islands und ihre Probleme. *Zoologiska Bidrag från Uppsala* 13 [1930-31]: 105-600 [DP: 6 August 1931]
- Lindroth CH (1938) Revision der Carabidae in Zetterstedt's »Insecta Lapponica». *Opuscula Entomologica* 3: 10-25 [DP: 30 April 1938]
- Lindroth CH (1939a) Zur Systematik fennoskandischer Carabiden. 2-3. *Entomologisk Tidskrift* 60: 54-68 [DP: 1 June 1939]
- Lindroth CH (1939b) Zur Systematik fennoskandischer Carabiden. 4-12. *Bembidion-Studien. Notulae Entomologicae* 19: 63-80 [DP: 1 June 1939] Note. Lindroth's paper covers pages 63-99 of the journal; pages 81-99 were published on 10 February 1940.
- Lindroth CH (1953a) Fennoskandiens Carabider. Ett litet supplement. *Opuscula Entomologica* 18: 17-21 [DP: 30 January 1953]
- Lindroth CH (1953b) Kirby's types of North American Carabidae (Coleoptera). *The Proceedings of the Royal Entomological Society of London, Series B, Taxonomy* 22: 167-177 [DP: 15 October 1953]
- Lindroth CH (1954a) A revision of *Diachila* Motsch. and *Blethisa* Bon. with remarks on *Elaphrus* larvae (Col. Carabidae). *Kungliga Fysiografiska Sällskapets Handlingar* (neue Folge) 65 (2): 1-28 [DP: 13 March 1954]
- Lindroth CH (1954b) Random notes on North American Carabidae (Coleopt.). *Bulletin of the Museum of Comparative Zoology at Harvard College* 111: 117-161 [DP: March 1954]
- Lindroth CH (1954c) Carabid beetles from Nova Scotia. *The Canadian Entomologist* 86: 299-310 [DP: 20 August 1954]
- Lindroth CH (1954d) Carabid beetles from eastern and southern Labrador. *The Canadian Entomologist* 86: 364-370 [DP: 7 September 1954]
- Lindroth CH (1955a) The carabid beetles of Newfoundland including the French islands St. Pierre and Miquelon. *Opuscula Entomologica Supplementum* No 12. 160 pp. + 8 pls.
- Lindroth CH (1955b) Dejean's types of North American Carabidae (Col.). *Opuscula Entomologica* 20: 10-34 [DP: 15 March 1955]
- Lindroth CH (1955c) A revision of the North American species of *Europhilus*, a subgenus of *Agonum* with a note on *Agonum belleri* (Coleoptera: Carabidae). *The Pan-Pacific Entomologist* 31: 1-14 [DP: 24 March 1955]
- Lindroth CH (1956a) The Irish form of *Carabus granulatus* L. (Col., Carabidae). *The Entomologist's Monthly Magazine* 92: 7-8 [DP: 13 February 1956]
- Lindroth CH (1956b) A revision of the genus *Synuchus* Gyllenhal (Coleoptera: Carabidae) in the widest sense, with notes on *Pristosia* Motschulsky (*Eucalathus* Bates) and *Calathus* Bonelli. *The Transactions of the Royal Entomological Society of London* 108: 485-576 [DP: 31 December 1956]
- Lindroth CH (1957a) The *americanus* group of *Oodes* (Carabidae). *The Coleopterists Bulletin* 10 [1956]: 63-66 [DP: 7 March 1957]



- Lindroth CH (1957b) The Linnaean species of carabid beetles. *Journal of the Linnean Society of London, Zoology* 43: 325-341 [DP: 5 March 1957]
- Lindroth CH (1957c) *The faunal connections between Europe and North America*. Almqvist & Wiksell, Stockholm. 344 pp.
- Lindroth CH (1960a) The larvae of *Trachypachus* Mtsch., *Gehringia* Darl., and *Opisthius* Kby. (Col. Carabidae). *Opuscula Entomologica* 25: 30-42 [DP: 10 February 1960]
- Lindroth CH (1960b) The ground-beetles of the Azores (Coleoptera: Carabidae). *Boletim do Museu Municipal do Funchal* 13 (31): 5-48 [DP: August 1960]
- Lindroth CH (1961a) The ground-beetles (Carabidae, excl. Cicindelinae) of Canada and Alaska. Part 2. *Opuscula Entomologica Supplementum* No. 20. Pp. 1-200 [DP: 15 August 1961]
- Lindroth CH (1961b) On *Miscodera* Eschz., and related genera (Col. Carabidae). *Opuscula Entomologica* 26: 145-152 [DP: 16 March 1961]
- Lindroth CH (1962) Revision of the subgenus *Chrysobracteon* Net., genus *Bembidion* Latr. (Col. Carabidae). *Opuscula Entomologica* 27: 1-18 [DP: 14 March 1962]
- Lindroth CH (1963a) The fauna history of Newfoundland illustrated by carabid beetles. *Opuscula Entomologica Supplementum* No. 23. 112 pp. [DP: 1 July 1963]
- Lindroth CH (1963b) The ground-beetles (Carabidae, excl. Cicindelinae) of Canada and Alaska. Part 3. *Opuscula Entomologica Supplementum* No. 24. Pp. 201-408 [DP: 18 October 1963]
- Lindroth CH (1965) Two new species of subg. *Chrysobracteon* (genus *Bembidion*), from Alaska and Siberia (Col. Carabidae). *Opuscula Entomologica* 30: 125-128 [DP: 19 February 1965]
- Lindroth CH (1966) The ground-beetles (Carabidae, excl. Cicindelinae) of Canada and Alaska. Part 4. *Opuscula Entomologica Supplementum* No. 29. Pp. 409-648 [DP: 25 March 1966]
- Lindroth CH (1968) The ground-beetles (Carabidae, excl. Cicindelinae) of Canada and Alaska. Part 5. *Opuscula Entomologica Supplementum* No. 33. Pp. 649-944 [DP: 4 October 1968]
- Lindroth CH (1969a) The ground-beetles (Carabidae, excl. Cicindelinae) of Canada and Alaska. Part 6. *Opuscula Entomologica Supplementum* No. 34. Pp. 945-1192 [DP: 30 December 1969]
- Lindroth CH (1969b) The ground-beetles (Carabidae, excl. Cicindelinae) of Canada and Alaska. Part 1. *Opuscula Entomologica Supplementum* No. 35. xlviii pp. [DP: 31 December 1969]
- Lindroth CH (1971) On *Amara pygmaea* Couper, 1865, from Québec. *Le Naturaliste Canadien* 98: 111-112 [DP: 7 April 1971 (CAL stamp)]
- Lindroth CH (1974) *Coleoptera Carabidae*. Handbooks for the identification of British insects. Vol. IV, part 2. Royal Entomological Society of London, London. 148 pp. [DP: August 1974]
- Lindroth CH (1975) Designation of holotypes and lectotypes among ground beetles (Coleoptera, Carabidae) described by Thomas L. Casey. *The Coleopterists Bulletin* 29: 109-147 [DP: 2 July 1975]

- Lindroth CH (1976a) Genus *Bembidion* Latreille (Coleoptera: Carabidae) in New Zealand: a revision. *New Zealand Journal of Zoology* 3: 161-198 [DP: 18 August 1976]
- Lindroth CH (1976b) Change of the genus name *Pseudamara* Lindroth 1968 to *Disamara* (Coleoptera: Carabidae). *The Coleopterists Bulletin* 30: 132 [DP: 4 August 1976]
- Lindroth CH (1980) A revisionary study of the taxon *Cillenius* Samouelle, 1819 and related forms (Coleoptera: Carabidae, Bembidiini). *Entomologica Scandinavica* 11: 179-205 [DP: 7 July 1980]
- Lindroth CH, Freitag R (1969) North American ground-beetles (Coleoptera, Carabidae, excluding Cicindelinae) described by Thomas Say: designation of lectotypes and neotypes. *Psyche* 76: 326-361 [DP: September 1969]
- Linnaeus C von (1758) *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata. Tomus I. Laurentii Salvii, Holmiae*. [4] + 823 + [1] pp. [DP: 1 January 1758 (ICZN 1999: Article 3.1)]
- Linnaeus C von (1760) *Fauna Suecica sistens animalia sueciae regni: mammalia, aves, amphibia, pisces, insecta, vermes. Distributa per classes & ordines, genera & species, cum differentiis specierum, synonymis auctorum, nominibus incolarum, locis natalium, descriptionibus insectorum. Editio altera, auctior. Laurentii Salvii, Stockholmiae*. [48] + 579 pp. + 2 pls [DP: 14 November 1760 (Soulsby 1933, *A catalogue of the works of Linnaeus, second ed.*, p. 91)]
- Linnaeus C von (1763) *Amoenitates academicae; seu dissertationes variae physicae, medicae, botanicae, antehac seorsim editae, nunc collectae et auctae cum tabulis aeneis. Volumen sextum. Laurentii Salvii, Holmiae*. [1] + 486 pp. + 5 pls [DP: >16 September 1763]
- Linnaeus C von (1767) *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio duodecima, reformata. Tom. I. Pars II. Laurentii Salvii, Holmiae*. Pp. 533-1327 + [37] pp. [DP: 14 June 1767 (Evenhuis 1997b: 482)]
- Liu Y, Kavanaugh DH, Shi H, Liang H (2011) A key to species of subgenus *Lithochlaenius* (Coleoptera, Carabidae, Chlaeniini, *Chlaenius*), with descriptions of three new species. *ZooKeys* 128: 15-52 [DP: 9 September 2011]
- Ljungh SI (1799) Nya Insecter, utur egen Samling. *Kongl. Vetenskaps Akademiens Nya Handlingar* 20: 145-149.
- Löbl I, Smetana A (Eds) (2003) *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Löding HP (1945) Catalogue of the beetles of Alabama. Geological Survey of Alabama Monograph 11. 169 pp.
- Lorenz W (1998) *Systematic list of extant ground beetles of the world (Insecta Coleoptera "Geadephaga": Trachypachidae and Carabidae incl. Paussinae, Cicindelinae, Rhysodinae). First edition*. [Author], Titzing (Germany). [ii] + 502 pp.
- Lorenz W (2005) *Systematic list of extant ground beetles of the world (Insecta Coleoptera "Geadephaga": Trachypachidae and Carabidae incl. Paussinae, Cicindelinae, Rhysodinae). Second edition*. [Author], Titzing (Germany). [ii] + 530 pp.
- Luff ML (1969) The larvae of the British Carabidae (Coleoptera) I. Carabini and Cychrini. *The Entomologist* 102: 245-263 [DP: 4 November 1969]

- Luff ML (1972) The larvae of the British Carabidae (Coleoptera) II. Nebriini. *The Entomologist* 105: 161-179 [DP: 5 July 1972]
- Luff ML (1976) The larvae of the British Carabidae (Coleoptera) IV. Notiophilini and Elaphrini. *Entomologist's Gazette* 27: 51-67 [DP: 10 February 1976]
- Luff ML (1978) The larvae of the British Carabidae (Coleoptera) V. Omophronini, Loricerini, Scaritini and Broscini. *Entomologist's Gazette* 29: 265-287 [DP: 24 November 1978]
- Luff ML (1985) The larvae of the British Carabidae (Coleoptera) VII. Trechini and Pogonini. *Entomologist's Gazette* 36: 301-316 [DP: 30 November 1985]
- Luff ML (1993) *The Carabidae (Coleoptera) larvae of Fennoscandia and Denmark based on a manuscript by Sv. G. Larsson (†)*. Fauna Entomologica Scandinavica volume 27. E.J. Brill, Leiden. 186 pp.
- Lugger O (1899) *Beetles injurious to our fruit-producing plants*. Fifth Annual Report of the Entomologist of the State Experiment Station of the University of Minnesota. McGill-Warner Company, St. Paul. vii-x + [3] + 248 pp.
- Luna de Carvalho E (1989) Essai monographique des coléoptères protopaussines et paussines contenant des descriptions et iconographie des taxa actuelles et fossiles avec des clefs dichotomiques de toutes les espèces. *Memórias do Instituto de Investigação Científica Tropical* (segunda serie) No. 70. 1026 pp. [DP: May 1989]
- Luna de Carvalho E (1992) Revisão do estudo das larvas de Carabídeos Paussinae e de subfamílias afins (Coleoptera: Adephaga). *Elytron* 5 [1991]: 285-310 [DP: 20 July 1992]
- Lutshnik VN (1915a) Subgenus *Poecilus* (Bon.) of genus *Platysma* (Bon.) Tschitsch. and its sections (Coleoptera, Carabidae) [in Russian]. *Revue Russe d'Entomologie* 14 [1914]: 412-417 [DP: 23 January 1915]
- Lutshnik VN (1915b) Subgenus *Morphnosoma* mihi (= *Omaseus* aut.) of genus *Platysma* (Bon.) Tschitsch. and its species (Coleoptera, Carabidae) [in Russian]. *Revue Russe d'Entomologie* 14 [1914]: 424-426 [DP: 23 January 1915]
- Lutshnik VN (1915c) *Analecta synonymica de quibusdam Platysmatini* (Coleoptera, Carabidae). *Revue Russe d'Entomologie* 14 [1914]: 427 [DP: 23 January 1915]
- Lutshnik VN (1915d) Description of a new species of the genus *Agonum* Bon. (Coleoptera, Carabidae) [in Russian]. *Revue Russe d'Entomologie* 15: 185-186 [DP: 14 June 1915]
- Lutshnik VN (1922) On the Platysmatina (Coleoptera, Carabidae) [in Russian]. *Acta Instituti Agronomici Stauropolitani* 1 [1921]: 67-79.
- Lutshnik VN (1924) A descriptive catalogue of the geodephagous Coleoptera of Minussinsk Territory. II Carabina; III Nebriina [in Russian]. *Jahrbuch des Martjanov'schen Staatsmuseums in Minussinsk* 2: 33-65 [DP: 27 February 1924]
- Lutshnik VN (1927) Materials towards understanding the group Stomina I. (Coleoptera, Carabidae) [in Russian]. *Acta Societatis Entomologicae Stauropolitanae* 3: 51-63.
- Lutshnik VN (1929) *Analecta carabidologica*. *Časopis Československé Společnosti Entomologické* [Acta Societatis Entomologicae Čechosloveniae] 26: 5-7 [DP: 25 May 1929]
- Lutshnik VN (1933a) *Analecta carabidologica*. II. *Časopis Československé Společnosti Entomologické* [Acta Societatis Entomologicae Čechosloveniae] 30: 132-133 [DP: 25 September 1933]

- Lutshnik VN (1933b) Synopsis subgenerum palaearcticorum generis *Chlaenius* Bon. *Časopis Československé Společnosti Entomologické* [Acta Societatis Entomologicae Čechosloveniae] 30: 169-172 [DP: 25 December 1933]
- Lutshnik VN (1935) De speciebus novis generis *Amara* Bon. (Coleoptera). *Folia Zoologica et Hydrobiologica* 7 [1934-35]: 257-269 [DP: 20 April 1935]
- Machado A (1992) *Monografía de los Carábidos de las Islas Canarias (Insecta, Coleoptera)*. Instituto de Estudios Canarios, La Laguna. 734 pp.
- Macleay WS (1825) *Number I. of Annulosa Javanica, or an attempt to illustrate the natural affinities and analogies of the insects collected in Java by Thomas Horsfield, M.D. F.L. & G.S. and deposited by him in the museum of the honourable East-India Company*. Kingsbury, Parbury, and Allen, London. xii + 50 pp. + 1 pl. [DP: July 1825 (Evenhuis 1997b: 507)]
- MacRae TC, Brown CR (2011a) Distribution, seasonal occurrence and conservation status of *Dromochorus pruinina* (Casey) in Missouri. *Cicindela* 43: 1-13 [DP: 24 May 2011 (CML stamp)]
- MacRae TC, Brown CR (2011b) Historical and contemporary occurrence of *Cylindera* (*s.str.*) *celeripes* (LeConte) (Coleoptera: Carabidae: Cicindelinae) and implications for its conservation. *The Coleopterists Bulletin* 65: 230-241 [DP: 20 September 2011]
- Maddison DR (1985) Chromosomal diversity and evolution in the ground beetle genus *Bembidion* and related taxa (Coleoptera: Carabidae: Trechitae). *Genetica* 66: 93-114 [DP: May 1985]
- Maddison DR (1993) Systematics of the Holarctic beetle subgenus *Bracteon* and related *Bembidion* (Coleoptera: Carabidae). *Bulletin of the Museum of Comparative Zoology* 153: 143-299 [DP: 12 July 1993]
- Maddison DR (2008) Systematics of the North American beetle subgenus *Pseudoperyphus* (Coleoptera: Carabidae: *Bembidion*) based upon morphological, chromosomal, and molecular data. *Annals of Carnegie Museum* 77: 147-193 [DP: 20 July 2008]
- Maddison DR (2012) Phylogeny of *Bembidion* and related ground beetles (Coleoptera: Carabidae: Trechinae: Bembidiini: Bembidiina). *Molecular Phylogenetics and Evolution* 63: 533-576 + Supplementary content Figures S1-S7 and Tables S1-S4 [DP: <26 April 2012 (David R. Maddison pers. comm. 2012)]
- Maddison DR, Arnold AE (2009) A review of the *Bembidion* (*Odontium*) *aenulum* subgroup (Coleoptera: Carabidae), with description of a new species. *Zootaxa* 2214: 45-61 [DP: 31 August 2009]
- Maddison DR, Baker MD, Ober KA (1999) Phylogeny of carabid beetles as inferred from 18S ribosomal DNA (Coleoptera: Carabidae). *Systematic Entomology* 24: 103-138 [DP: 2 June 1999 (CAL stamp)]
- Maddison DR, Moore W, Baker MD, Ellis TM, Ober KA, Cannone JJ, Gutell RR (2009) Monophyly of terrestrial adephagan beetles as indicated by three nuclear genes (Coleoptera: Carabidae and Trachypachidae). *Zoologica Scripta* 38: 43-62.
- Maddison DR, Ober KA (2011) Phylogeny of minute carabid beetles and their relatives based upon DNA sequence data (Coleoptera, Carabidae, Trechitae). *ZooKeys* 147: 229-260 [DP: 16 November 2011]

- Maddison DR, Swanson AP (2010) A preliminary characterization of *Bembidion perspicuum* LeConte, with a reclassification of related species (Coleoptera, Carabidae) north of México. *ZooKeys* 43: 15-31 [DP: 13 April 2010]
- Madge RB (1967) A revision of the genus *Lebia* Latreille in America north of Mexico (Coleoptera, Carabidae). *Quaestiones Entomologicae* 3: 139-242 [DP: 31 July 1967]
- Madge RB (1975) The type-species of Bonelli's genera of Carabidae (Coleoptera). *Quaestiones Entomologicae* 11: 579-586 [DP: 8 December 1975 (CAL stamp), 9 December 1975 (CUL stamp)]
- Madge RB (1989) A catalogue of the family-group names in the Geodephaga, 1758–1985 (Coleoptera: Carabidae s. lat.). *Entomologica Scandinavica* 19: 459-474 [DP: 4 May 1989]
- Mahar JM, Stehr FW, Simmons GA (1983) Descriptions of larvae and notes about the life habits of *Dromius piceus* Dejean (Coleoptera: Carabidae: Lebiini). *The Coleopterists Bulletin* 37: 23-26 [DP: 9 September 1983]
- Maindron M (1905) Matériel pour servir à l'histoire des cicindélides et des carabiques II.-Notes sur divers Carabidae. *Annales de la Société Entomologique de France* 74: 331-336 [DP: 25-31 October 1905 (Soc. Ent. Fr.)]
- Majka CG (2005) The Palearctic species *Bembidion femoratum* and *Amara communis* (Coleoptera: Carabidae): new records and notes on modes of introduction to North America. *The Canadian Entomologist* 137: 532-538 [DP: November 2005]
- Majka CG, Bousquet Y (2008) *Harpalus (Pseudoophonus) longicollis* LeConte, 1848 (Carabidae) removed from the faunal list of Atlantic Canada. *The Coleopterists Bulletin* 62: 474 [DP: 24 December 2008]
- Majka CG, Bousquet Y, Noronha C, Smith ME (2008) The distribution, zoogeography, and composition of Prince Edward Island Carabidae (Coleoptera). *The Canadian Entomologist* 140: 128-141 [DP: 12 February 2008 (CAL stamp)]
- Majka CG, Bousquet Y, Westby S (2007) The ground beetles (Coleoptera: Carabidae) of the Maritime Provinces of Canada: review of collecting, new records, and observations on composition, zoogeography, and historical origins. *Zootaxa* 1590: 1-36 [DP: 21 September 2007]
- Majka CG, Chandler DS, Donahue CP (2011) *Checklist of the beetles of Maine, USA*. Empty Mirrors Press, Halifax. 328 pp.
- Majka CG, Cook J, Westby S (2006) Introduced Carabidae (Coleoptera) from Nova Scotia and Prince Edward Island: new records and ecological perspectives. *The Canadian Entomologist* 138: 602-609 [DP: October 2006]
- Majka C, Gilhen J (2008) New record of Brachininae (Coleoptera: Carabidae) in Nova Scotia. *Journal of the Acadian Entomological Society* 4: 1-2.
- Majka CG, Klimaszewski J (2004) *Phloeocharis subtilissima* Mannerheim (Staphylinidae: Phloeocharinae) and *Cephennium gallicum* Ganglbauer (Scydmaenidae) new to North America: a case study in the introduction of exotic Coleoptera to the port of Halifax, with new records of other species. *Zootaxa* 781: 1-15 [DP: 20 December 2004]
- Majka CG, Vickery VR (2008) *Elaphropus vivax* (LeConte) (Coleoptera: Carabidae) newly recorded in the Maritime provinces. *Journal of the Acadian Entomological Society* 4: 36-37 [DP: 6 September 2008 (online version)]



- Makarov KV (1992) Larvae of ground beetles of the genus *Carabus* L. (Coleoptera Carabidae) of the fauna of Russia and neighboring countries. I. Morphology of larvae. A key to the subgenera [in Russian]. *Entomologicheskoe Obozrenie* 71: 752-774 [DP: >14 December 1992] Note. An English translation was published in *Entomological Review* 72(4): 92-117.
- Makarov KV (1994) A key to the genera of the ground-beetle larvae (Coleoptera, Carabidae) of the Palearctic region. *Bollettino del Museo Regionale di Scienze Naturali-Torino* 12: 221-254 [DP: 30 June 1994]
- Makarov KV (1996) Patterns of chaetome modifications in ground-beetle larvae (Coleoptera: Carabidae). *Acta Societatis Zoologicae Bohemicae* 60: 391-418 [DP: 27 December 1996]
- Makarov KV (2008) Larval chaetotaxy in the genus *Rhysodes* Dalman, 1823 and the position of Rhysodidae within Adephaga (Coleoptera). Pp. 101-123 in Penev L, Erwin TL, Assmann T (Eds). *Back to the roots and back to the future: towards a new synthesis amongst taxonomic, ecological and biogeographical approaches in carabidology*. Proceedings of the XIII European carabidologists meeting, Blagoevgrad, August 20-24, 2007. Pensoft, Sofia-Moscow. 509 pp. [DP: June 2008]
- Makarov KV, Brinev AE (2001) Larvae of carabid genus *Harpalodema* Reitter, 1888 (Coleoptera, Carabidae) and its position within Zabrinini [in Russian]. *Russian Entomological Journal* 10: 273-288 [DP: October 2001]
- Makarova EV (2001) New and little known larvae of carabid-beetles of genus *Chlaenius* Bonelli, 1810 (Coleoptera, Carabidae) [in Russian]. *Russian Entomological Journal* 10: 297-308 [DP: October 2001]
- Mäklin FW (1855) *Bidrag till kännedom om såkallade vikarierande former bland Coleoptera i Norden. Akademisk afhandling, hvilken med den vidtberömda Fysisk-Mathematiska Fakultetens vid Kejsarliga Alexanders Universitetet i Finland tillstånd till offentlig granskning framställles. I Hist.-filolog. Lärosalen d. 12 Maj 1855 p.v.t.f.m.* J.C. Frenckell & Son, Helsingfors. 54 pp. [DP: 12 May 1855] Note. A German translation of the thesis was published in 1857 under the title "Beitrag zur Kenntniss der sogenannten vicarirenden Formen unter den Coleopteren des Nordens" in *Stettiner Entomologische Zeitung* 18: 321-348.
- Mäklin FW (1857) Beitrag zur Kenntniss der geographischen Verbreitung der Insecten im Norden mit besonderer Berücksichtigung der Fauna Scandinaviens und [sic] Finlands. *Stettiner Entomologische Zeitung* 18: 171-192.
- Mäklin FW (1878) Diagnoser öfver några nya siberiska insektarter. *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar* 19 [1876-77]: 15-32.
- Malkin B (1943) *Zuphium americanum* Dej. in Oregon. *The Pan-Pacific Entomologist* 19: 52 [DP: 22 May 1943]
- Malkin B, Hatch MH (1952) A new *Agonum* from Oregon (Coleoptera: Carabidae). *The Pan-Pacific Entomologist* 28: 107-108 [DP: 26 June 1952]
- Malkin B, Hatch MH (1953) *Colpodes buchanani* in Oregon. *The Pan-Pacific Entomologist* 29: 134 [DP: 25 August 1953]
- Mallis A (1971) *American entomologists*. Rutgers University Press, New Brunswick (NJ). xvii + 549 pp.

- Mandl K (1955) Ergebnisse einer Revision der Carabiden-Sammlung des Naturhistorischen Museums (4. Teil). *Annalen des Naturhistorischen Museums in Wien* 60 [1954-55]: 236-272 [DP: December 1955]
- Mandl K (1961) Neue Cicindeliden aus meiner Sammlung 7. Bericht. *Koleopterologische Rundschau* 39: 24-25 [DP: 15 December 1961]
- Manee AH (1915) Three new species of Coleoptera from North Carolina. *Entomological News* 26: 175-176 [DP: 31 March 1915]
- Mannerheim CG von (1823) Monographia pelophilarum. Pp. 34-42 in Hummel, A.-D. *Essais entomologiques. No III. Observations sur les insectes de 1823. Monographia pelophilarum. Novae species*. Imprimerie de la Chancellerie privée du Ministère de l'Intérieur, St. Pétersbourg. 48 pp.
- Mannerheim CG von (1837) Mémoire sur quelques genres et espèces de carabiques. *Bulletin de la Société Impériale des Naturalistes de Moscou* 10 (2): 3-49 [DP: >8 February 1837]
- Mannerheim CG von (1843) Beitrag zur Kaefer-Fauna der Aleutischen Inseln, der Insel Sitkha und Neu-Californiens. *Bulletin de la Société Impériale des Naturalistes de Moscou* 16: 175-314 [DP: >28 March 1843]
- Mannerheim CG von (1846) Revue critique de quelques ouvrages récents de M. Victor de Motschulsky. *Bulletin de la Société Impériale des Naturalistes de Moscou* 19 (1): 194-254 [DP: 6 March 1846 (*Ent. Ver. Stettin*)]
- Mannerheim CG von (1852) Zweiter Nachtrag zur Kaefer-Fauna der nord-amerikanischen Laender des russischen Reiches. *Bulletin de la Société Impériale des Naturalistes de Moscou* 25 (2): 283-387 [DP: >1 September 1852]
- Mannerheim CG von (1853) Dritter Nachtrag zur Kaefer-Fauna der nord-amerikanischen Laender des russischen Reiches. *Bulletin de la Société Impériale des Naturalistes de Moscou* 26 (3): 95-273 [DP: >24 August 1853]
- Marek PE, Kavanaugh DH (2005) The evolutionary relationships of North American *Diplous* Motschulsky (Coleoptera: Carabidae: Patrobini) inferred from morphological and molecular evidence. *Invertebrate Systematics* 19: 145-168 [DP: 16 August 2005 (CAL stamp)]
- Mares A (1921) A new species and a new variety of *Cicindela* (Col.). *Entomological News* 32: 310 [DP: 16 December 1921]
- Marggi WA (2010) Die Typen von *Bembidion* Latreille, 1802 und *Amerizus* Chaudoir, 1868 im Muséum d'Histoire Naturelle de Genève unter besonderer Berücksichtigung der von Miloš Fassati beschriebenen Taxa (Coleoptera, Carabidae). *Entomologische Blätter für Biologie und Systematik der Käfer* 106: 167-194 [DP: 30 December 2010]
- Marggi WA, Huber C, Müller-Motzfeld G, Hartmann M (2003) Subtribe Bembidiina Stephens, 1827. Pp. 241-273 in Löbl I, Smetana A (Eds). *Catalogue of Palearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Marsh TG (1969) Ecological and behavioral studies of the cave beetle *Darlingtonia kentuckensis* Valentine (Coleoptera: Carabidae). Ph.D. Thesis, University of Kentucky. xii + 130 pp.
- Marsham T (1802) *Entomologia Britannica, sistens insecta Britanniae indigena, secundum methodum Linnaeanam disposita. Tomus I. Coleoptera*. Wilks et Taylor, Londini. xxxi + 547 + [1] pp. [DP: September 1802 (Peddie and Waddington 1914, *The English catalogue of*

- books, p. 370)] Note. This work was also issued in two volumes under the title “*Coleoptera Britannica, sistens insecta Coleoptera Britanniae indigena, secundum methodum Linnaeanam disposita*” with 30 colored plates.
- Martínez C (2003) New records of ground beetles for Colombia (Coleoptera: Carabidae). *Zootaxa* 250: 1-27 [DP: 30 July 2003]
- Martínez-Navarro EM, Galián J, Serrano J (2003) Phylogenetic relationships among subtribes of Harpalini Bonelli 1810 (Coleoptera, Carabidae) and *Harpalus* Latreille 1802 and some related western Palaearctic taxa. A preliminary cladistic analysis using morphological and karyotypic characters. *Acta Entomológica Ibérica e Macaronésica* 1: 59-66.
- Martínez-Navarro EM, Galián J, Serrano J (2005) Phylogeny and molecular evolution of the tribe Harpalini (Coleoptera, Carabidae) inferred from mitochondrial cytochrome-oxidase I. *Molecular Phylogenetics and Evolution* 35: 127-146 [DP: 16 March 2005 (CUL stamp)]
- Martínez-Navarro EM, Serrano J, Galián J (2011) Chromosomes of *Trachypachus* Motschulsky and the evolution of the ancestral adephagan karyotype (Coleoptera). *Journal of Zoological Systematics and Evolutionary Research* 49: 251-255.
- Matalin AV (1996) The larvae of the ground beetle *Bradycellus* (*Tachycellus*) *glabratus* (Coleoptera: Carabidae: Harpalini). *Zoosystematica Rossica* 4 [1995]: 279-291 [DP: 11 October 1996]
- Matalin AV (2001) Larvae of carabids of the genus *Dicheirotrichus* Jacquelin du Val, 1857 (Coleoptera, Carabidae: Harpalini) of the fauna of Russia and neighbouring countries. Contribution II. Larvae of the subgenus *Trichocellus* Ganglbauer, 1892 [in Russian]. *Russian Entomological Journal* 10: 309-322 [DP: October 2001]
- Mateu J (1953) Notas sobre carabidos españoles (1.<sup>a</sup> nota). *Archivos del Instituto de Aclimatación* 1: 135-142.
- Mateu J (1963) Notas sobre tres series fileticas de Lebiidae (Lichnasthenini Thomson, Singilini Jeannel, Somotrichini Noy.) (Coleoptera, Carabidae) y rectificaciones sinonimicas. *Annali del Museo Civico di Storia Naturale ‘Giacomo Doria’* 74 [1963-64]: 122-139 [DP: 1 October 1963]
- Mateu J (1974) Sur les *Microlestes* Schmidt-Goebel du Mexique (Col. Carabidae Lebiinae). *Entomologische Arbeiten aus dem Museum G. Frey* 25: 261-275 [DP: 1 October 1974]
- Mateu J (1976) Sobre un nuevo Pterostichinae de Venezuela (Coleoptera, Carabidae). *Revista Brasileira de Entomologia* 20: 67-70 [DP: 30 June 1976]
- Mateu J (1977) Carabiques récoltés par les expéditions biospéologiques cubano-roumaines à Cuba (1969 et 1973). Pp. 377-379 in Orghidan, T, Núñez Jiménez A, Decou V, Negrea S, Viña Bayés N (Eds). *Résultats des expéditions biospéologiques cubano-roumaines à Cuba*. Vol. II. Academiei Republicii Socialiste România, București. 420 pp.
- Mateu J (1981) Revision de los *Zuphium* Latreille del continente Americano (Coleoptera: Carabidae). 1a. Nota. *Folia Entomológica Mexicana* 47: 111-128 [DP: August 1981]
- Mateu J (1985) A propos de trois espèces du genre *Zuphium* d’Amérique du Sud décrites par M. Liebke (Col. Carabidae). *Nouvelle Revue d’Entomologie* (nouvelle série) 2: 329-330 [DP: 8 November 1985]
- Mateu J (1995) Neuvas especies de Pentagoncini y de Lebiinae de los Estados Unidos de América (Coleoptera, Carabidae). *Miscellanea Zoologica* 17 [1993-94]: 141-148.

- Mateu J, Bellés X (2004) Position systématique et remarques biogéographiques sur *Dalyat mirabilis* Mateu, 2002 (Coleoptera, Adephaga: Promecognathidae), cavernicole du sud-est Ibérique. *Annales de la Société Entomologique de France* (nouvelle série) 39 [2003]: 291-303 [DP: 15 April 2004]
- Matsumura S (1911) Erster Beitrag zur Insekten-Fauna von Sachalin. *The Journal of the College of Agriculture, Tohoku Imperial University* 4: 1-145 [DP: 13 March 1911]
- Matthews JV Jr. (1974a) Fossil insects from the early Pleistocene Olyor Suite (Chukochya River: Kolymian Lowland, U.S.S.R.). *Canadian Geological Survey Paper* 74-1 (A): 207-211.
- Matthews JV Jr. (1974b) Quaternary environments at Cape Deceit (Seward Peninsula, Alaska): evolution of a tundra ecosystem. *Geological Society of America Bulletin* 85: 1353-1384 [DP: September 1974]
- Mawdsley JR (2007) Ecology, distribution, and conservation biology of the tiger beetle *Cicindela patruela consentanea* Dejean (Coleoptera: Carabidae: Cicindelinae). *Proceedings of the Entomological Society of Washington* 109: 17-28 [DP: 2 January 2007]
- Mawdsley JR (2009) Geographic variation in U.S. populations of the tiger beetle *Cicindela obsoleta* Say (Coleoptera: Cicindelidae). *Insecta Mundi* 0094: 1-10 [DP: 25 September 2009]
- McCleve S (1975) *Psydrus piceus* LeConte from Arizona (Coleoptera: Carabidae). *The Coleopterists Bulletin* 29: 176 [DP: 7 October 1975]
- McCleve S (1979) Discovery of a lowland Arizona *Scaphinotus*, and description of a unique desert canyon (Coleoptera: Carabidae). *The Coleopterists Bulletin* 33: 451-454 [DP: 31 December 1979]
- McCorquodale DB (2000) *Notiophilus novemstriatus* LeConte (Coleoptera: Carabidae), a new ground beetle for Canada from a most unlikely location. *The Coleopterists Bulletin* 54: 339-340 [DP: 12 October 2000]
- McCravy KW, Willand JE (2008) Effects of pitfall trap preservative on collections of carabid beetles (Coleoptera: Carabidae). *The Great Lakes Entomologist* 40 [2007]: 154-165 [DP: 21 November 2008 (CAL stamp)]
- McKay IJ (1991) Cretaceous Promecognathinae (Coleoptera: Carabidae): a new genus, phylogenetic reconstruction and zoogeography. *Biological Journal of the Linnean Society* 44: 1-12 [DP: 26 September 1991]
- Meisel M (1929) *A bibliography of American natural history. The pioneer Century, 1769-1865. The rôle played by the scientific societies; scientific journals; natural history museums and botanic gardens; state geological and natural history surveys; federal exploring expeditions in the rise and progress of American botany, geology, mineralogy, paleontology and zoology. Volume III. The institutions founded or organized between 1845 and 1865. Bibliography of books. Chronological tables. Index of authors & institutions. Addenda to volume I.* The Premium Publishing Co., Brooklyn (NY). xii + 749 pp.
- Melsheimer FE (1853) *Catalogue of the described Coleoptera of the United States. Revised by S.S. Haldeman and J.L. LeConte.* Smithsonian Institution, Washington D.C. xvi + 174 pp. [DP: July 1853]
- Melsheimer FV (1806) *A catalogue of insects of Pennsylvania. Part first.* [Author], Hanover. vi + 60 pp. [DP: >1 August 1806]

- Ménétriés E (1843) Sur un envoi d'insectes de la côte N.O. d'Amérique. *Bulletin de la Classe Physico-Mathématique de l'Académie Impériale des Sciences de Saint-Petersbourg* 2 [1843-44]: 50-64 [DP: 29 July 1843]
- Ménétriés E (1848) Catalogue des insectes recueillis par feu M. Lehmann avec les descriptions des nouvelles espèces. Coléoptères Pentamères. *Mémoires de l'Académie Impériale des Sciences de St.-Petersbourg* (sixième série, Sciences Mathématiques, Physiques et Naturelles) 8: 17-66 [DP: February 1848]
- Ménétriés E (1851) Insecten. Pp. 45-76 in: *Reise in den äussersten Norden und Osten Sibiriens während der Jahre 1843 und 1844 mit allerhöchster Genehmigung auf Veranstaltung der kaiserlichen Akademie der Wissenschaften zu St. Petersburg ausgeführt und in Verbindung mit vielen Gelehrten herausgegeben von Dr. A. Th. v. Middendorff. Zweiter Band. Theil 1.* Eggers & Comp., St. Petersburg. v + 516 pp. + 32 pls [DP: 31 December 1851 (*Serapeum*)]
- Mercado Cárdenas A, Buddle CM (2007) Distribution and potential range expansion of seven introduced ground beetle species (Coleoptera: Carabidae) in Québec, Canada. *The Coleopterists Bulletin* 61: 135-142 [DP: 30 April 2007]
- Merickel FW, Wangberg JK (1981) Species composition and diversity of macroinvertebrates in two playa lakes on the Southern High Plains, Texas. *The Southwestern Naturalist* 26: 153-158 [DP: 21 May 1981]
- Messer PW (2010) An annotated checklist of Wisconsin ground beetles (Coleoptera: Carabidae). *The Great Lakes Entomologist* 42 [2009]: 30-61 [DP: 6 May 2010 (CAL stamp)]
- Messer PW (2011) *Pseudaptinus* (*Thalpius*) *nobilis* Liebke, new to the United States, and a key to the species of subgenus *Thalpius* LeConte in North America, including Mexico (Coleoptera, Carabidae, Zuphiini). *ZooKeys* 147: 419-424 [DP: 16 November 2011]
- Michels GJ Jr., Carney VA, Jones EN, Pollock DA (2010) Species diversity and qualitative assessment of ground beetles (Coleoptera: Carabidae) in three riparian habitats. *Environmental Entomology* 39: 738-752.
- Michels GJ Jr., Newton JL, Lindon HL, Brazille JA (2008) Invertebrate distribution and diversity assessment at the U.S. Army Pinon Canyon Maneuver Site. A report to the U.S. Army and U.S. Fish and Wildlife Service. Texas AgriLife Research, Bushland (TX). [38] pp.
- Milford E, Wood S, Muldavin E, Jenkins B, Wild K (2000) *River bars of the middle Rio Grande. Progress Report Year II.* Unpublished report submitted to Middle Rio Grande Bosque Initiative, Bosque Improvement Group, NM Ecological Services Field Office, U.S. Fish and Wildlife Service. 23 pp.
- Miliotis PS (1974) Range extension for *Pasimachus sublaevis* Beauvois (Coleoptera, Carabidae). *The Coleopterists Bulletin* 28: 114 [DP: 28 October 1974]
- Miller HR, Peairs FB (2008) Ground beetle (Coleoptera: Carabidae) activity in Colorado dryland cropping systems. *Southwestern Entomologist* 33: 31-42 [DP: 7 May 2008 (McD stamp)]
- Miller RF (1997) Late-glacial (Allerød - Younger Dryas) Coleoptera from central Cape Breton Island, Nova Scotia, Canada. *Canadian Journal of Earth Sciences* 34: 247-259 [DP: 11 March 1997 (CISTI stamp)]
- Minsk GG, Hatch MH (1939) New species of *Amara* from Washington. *Bulletin of the Brooklyn Entomological Society* 34: 215-218 [DP: 27 September 1939]



- Montgomery BE, Montgomery RW (1931) Records of Indiana Coleoptera. I. Cicindelidae. *Proceedings of the Indiana Academy of Science* 40 [1930]: 357-359 [DP: 25 November 1931 (MCZ stamp)]
- Moore BP (1965) Studies on Australian Carabidae (Coleoptera) 4.- The Pterostichinae. *Transactions of the Royal Entomological Society of London* 117: 1-32 [DP: 21 May 1965]
- Moore BP (1966a) Australian larval Carabidae of the subfamilies Harpalinae, Licininae, Odacanthinae and Pentagonicinae (Coleoptera). *Proceedings of the Linnean Society of New South Wales* 90: 157-163 [DP: 18 February 1966]
- Moore BP (1966b) The larva of *Pamborus* (Coleoptera: Carabidae) and its systematic position. *Proceedings of the Royal Entomological Society of London, Series B, Taxonomy* 35: 1-4 [DP: 22 February 1966]
- Moore BP (1976) Notes on two South American carabid species (Coleoptera) established in Australia. *Australian Entomological Magazine* 2: 126-129 [DP: February 1976]
- Moore BP (1979) Chemical defense in carabids and its bearing on phylogeny. Pp. 193-203 in Erwin TL, Ball GE, Whitehead DR, Halpern AL (Eds). *Carabid beetles: their evolution, natural history, and classification*. Proceedings of the First International Symposium of Carabidology Smithsonian Institution, Washington D.C. August 21, 23, and 25, 1976. Dr W. Junk bv Publishers, The Hague. 635 pp.
- Moore BP (1998) The enigmatic tribe Physocrotaphini Chaudoir (Helluodini auct.) (Coleoptera: Carabidae). Pp. 369-380 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Moore BP, Lawrence JF (1994) The extraordinary larval characters of *Carenum* Bonelli and their bearing on the phylogeny of the Scarititae (Coleoptera; Carabidae). *The Canadian Entomologist* 126: 503-514 [DP: July 1994]
- Moore BP, Wallbank BE (1968) Chemical composition of the defensive secretion in carabid beetles and its importance as a taxonomic character. *Proceedings of the Royal Entomological Society of London, Series B, Taxonomy* 37: 62-72 [DP: 12 July 1968]
- Moore BP, Weir TA, Pyke JE (1987) Carabidae. Pp. 23-320 in Lawrence JF, Moore BP, Pyke JE, Weir TA. *Zoological catalogue of Australia. Volume 4. Coleoptera: Archostemata, Myxophaga and Adephaga*. Australian Government Publishing Service, Canberra. viii + 444 pp.
- Moore I (1937) A list of the beetles of San Diego County, California. *Occasional Papers of the San Diego Society of Natural History* 2: 1-109 [DP: 15 June 1937]
- Moore I (1956) Notes on some intertidal Coleoptera with descriptions of the early stages (Carabidae, Staphylinidae, Malachiidae). *Transactions of the San Diego Society of Natural History* 12: 207-230 [DP: 24 August 1956]
- Moore I, Legner EF (1974) The larva and pupa of *Carpelimus debilis* Casey (Coleoptera: Staphylinidae). *Psyche* 80 [1973]: 289-294 [DP: 20 February 1974]
- Moore W (2008) Phylogeny of the Western Hemisphere Ozaenini (Coleoptera: Carabidae: Paussinae) based on DNA sequence data. *Annals of Carnegie Museum* 77: 79-92 [DP: 20 July 2008]

- Moore W, Di Giulio A (2006) Description and behaviour of *Goniotropis kuntzeni* larvae (Coleoptera: Carabidae: Paussinae: Ozaenini) and a key to genera of Paussinae larvae. *Zootaxa* 1111: 1-19 [DP: 20 January 2006]
- Moravec J (2010) Tiger beetles of the Madagascan region (Madagascar, Seychelles, Comoros, Mascarenes, and other islands). Taxonomic revision of the 17 genera occurring in the region (Coleoptera: Cicindelidae). Biosférická rezervace Dolní Morava, Lednice na Moravě (Czech Republic). 429 pp.
- Moravec P, Uéno S-I, Belousov IA (2003) Tribe Trechini Bonelli, 1810. Pp. 288-346 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Morawitz A (1862) Vorläufige Diagnosen neuer Coleopteren aus Südost-Sibiren. *Bulletin de l'Académie Impériale des Sciences de St.-Petersbourg* 5: 231-265 [DP: 9 June 1862] Note. This paper was also issued in *Mélanges Biologiques tirés du Bulletin de l'Académie Impériale des Sciences de St.-Petersbourg* 4 [1861-65]: 180-228.
- Morawitz A (1863) Beitrag zur Käferfauna der Insel Jesso. Erste Lieferung. Cicindelidae et Carabici. *Mémoires de l'Académie Impériale des Sciences de St.-Petersbourg* (septième série) 6 (3): 1-84 [DP: February 1863]
- Moret P (1989) Démembrement du genre *Colpodes* auctorum. I. Individualisation et définition des genres néotropicaux *Dyscolus* Dejean et *Stenocnemion* gen. nov. [Col. Caraboidea Platyninae]. *Bulletin de la Société Entomologique de France* 93 [1988]: 133-148 [DP: 10 February 1989]
- Moret P (1995) Entomologistes et chasseurs d'insectes en Amérique du Sud au XIXe siècle. Pp. 395-408 in Laissus Y (Ed.). *Les naturalistes français en Amérique du Sud: XVIe-XIXe siècles*. 118e Congrès national des sociétés historiques et scientifiques, Pau, Octobre 1993. CTHS, Paris. 461 pp. [DP: September 1995]
- Moret P (1997) *Incastichus*, nouveau genre de Pterostichinae de l'Équateur (Coleoptera, Harpalidae). *Nouvelle Revue d'Entomologie* (nouvelle série) 13 [1996]: 303-311 [DP: 7 May 1997]
- Moret P (2005) *Los coleópteros Carabidae del páramo en los Andes del Ecuador. Sistemática, ecología y biogeografía*. Monografía 2. Pontificia Universidad Católica del Ecuador. 307 pp. [DP: June 2005]
- Moret P, Bousquet Y (1995) Le sous-genre *Dercylus* (*Licinodercylus*) Kuntzen, 1912: position systématique, révision des espèces et description de la larve (Carabidae, Dercylini). *The Canadian Entomologist* 127: 753-798 [DP: October 1995]
- Morgan AV, Morgan A (1979) The fossil Coleoptera of the Two Creeks forest bed, Wisconsin. *Quaternary Research* 12: 226-240 [DP: September 1979]
- Morgan AV, Morgan A (1980) Beetle bits - the science of paleoentomology. *Geoscience Canada* 7: 22-29.
- Morgan AV, Morgan A (1981) Faunal assemblages and distributional shifts of Coleoptera during the late Pleistocene in Canada and the northern United States. *The Canadian Entomologist* 112 [1980]: 1105-1128 [DP: 16 January 1981]

- Morgan AV, Morgan A, Nelson RE, Pilny JJ (1986) Current status of knowledge on the past and present distribution of the genus *Blethisa* (Coleoptera: Carabidae) in North America. *The Coleopterists Bulletin* 40: 105-115 [DP: 25 June 1986]
- Morgan AV, Pilny JJ (1997) *Elaphrus parviceps* Van Dyke (Coleoptera: Carabidae): first collecting record for Québec. *The Coleopterists Bulletin* 51: 146 [DP: 27 May 1997]
- Morgan M, Knisley CB, Vogler AP (2000) New taxonomic status of the endangered tiger beetle *Cicindela limbata albissima* (Coleoptera: Cicindelidae): evidence from mtDNA. *Annals of the Entomological Society of America* 93: 1108-1115 [DP: September 2000]
- Morrill WL (1992) Ground beetles (Coleoptera: Carabidae) in Georgia grasslands. *Journal of Agricultural Entomology* 9: 179-188 [DP: 31 July 1992]
- Morvan DM (2000) Le genre *Batenus* Motschulsky. *Loened Aziad* 6: 1-80 [DP: November 2000]
- Motschulsky V von (1839) Coléoptères du Caucase et des provinces Transcaucasiennes. (Continuation). *Bulletin de la Société Impériale des Naturalistes de Moscou* 12: 68-93 [DP: >27 May 1839]
- Motschulsky V von (1844) Insectes de la Sibérie rapportés d'un voyage fait en 1839 et 1840. *Mémoires présentés à l'Académie Impériale des Sciences de St-Petersbourg par divers savans et lus dans ses assemblées* 5: 1-274 + xi + 10 pls [DP: November 1844]
- Motschulsky V von (1845a) Remarques sur la collection de coléoptères Russes de Victor de Motschoulsky. *Bulletin de la Société Impériale des Naturalistes de Moscou* 18 (1): 3-127 [DP: >14 January 1845]
- Motschulsky V von (1845b) Observations sur le Musée entomologique de l'Université Impériale de Moscou. *Bulletin de la Société Impériale des Naturalistes de Moscou* 18 (4): 332-388 [DP: >30 July 1845]
- Motschulsky V von (1847) Antwort an D<sup>r</sup> Gebler auf einige seiner Bemerkungen in der N<sup>o</sup> II dieses Bulletins (1847). *Bulletin de la Société Impériale des Naturalistes de Moscou* 20 (3): 218-228 [DP: >15 September 1847]
- Motschulsky V von (1848) Antwort an D.<sup>r</sup> Gebler auf einige seiner Bemerkungen in der No II und IV dieses Bulletins (1847). *Bulletin de la Société Impériale des Naturalistes de Moscou* 21 (3): 483-493 [DP: >21 April 1848]
- Motschulsky V von (1850a) *Die Käfer Russlands*. W. Gautier, Moskau. iv + xi + 91 pp. [DP: 13 August 1850 (*Ent. Ver. Stettin*)]
- Motschulsky V von (1850b) Lettre adressée au second Secrétaire. *Bulletin de la Société Impériale des Naturalistes de Moscou* 23 (3): 354-368 [DP: >13 July 1850]
- Motschulsky V von (1855a) Sur les collections coléoptérologiques de Linné et de Fabricius. *Etudes Entomologiques* 4: 25-71 [DP: 28 December 1855 (*Soc. Imp. Nat. Mosc.*)]
- Motschulsky V von (1855b) Synonymies. *Etudes Entomologiques* 4: 79 [DP: 28 December 1855 (*Soc. Imp. Nat. Mosc.*)]
- Motschulsky V von (1856) Lettres de M. de Motschulsky à M. Ménétriés. *Etudes Entomologiques* 5: 3-38.
- Motschulsky V von (1857a) Entomologie spéciale. Insectes du Japon. *Etudes Entomologiques* 6: 25-41 [DP: 14 November 1857 (*Soc. Imp. Nat. Mosc.*)]

- Motschulsky V von (1857b) Ouvrages entomologiques, parus en Russie en 1855 et 1856. *Etudes Entomologiques* 6: 93-100 [DP: 14 November 1857 (Soc. Imp. Nat. Mosc.)]
- Motschulsky V von (1858) Synonymie et critique. *Etudes Entomologiques* 7: 153-160 [DP: 18 December 1858 (Soc. Imp. Nat. Mosc.)]
- Motschulsky V von (1859a) Coléoptères nouveaux de la Californie. *Bulletin de la Société Impériale des Naturalistes de Moscou* 32 (3): 122-185 [DP: >27 November 1859]
- Motschulsky V von (1859b) Coléoptères du Gouvernement de Iakoutsck, recueillis par M. Pavlovski. *Bulletin de la Classe Physico-Mathématique de l'Académie Impériale des Sciences de St.-Petersbourg* 17 [1858-59]: 539-544 [DP: 22 May 1859], 567-574 [DP: 15 June 1859]  
Note. This paper was also issued in *Mélanges Biologiques tirés du Bulletin Physico-Mathématique et du Bulletin de l'Académie Impériale des Sciences de St.-Petersbourg* 3 [1857-61]: 221-238.
- Motschulsky V von (1860) Coléoptères de la Sibérie orientale et en particulier des rives de l'Amour. Pp. 77-257 + pls 6-11 in: *Reisen und Forschungen im Amur-Lande in den Jahren 1854-1856 im Auftrage der Kaiserl. Akademie der Wissenschaften zu St. Petersburg ausgeführt und in Verbindung mit mehreren Gelehrten herausgegeben von Dr. Leopold v. Schrenck. Zweiter Band. Zoologie: Lepidopteren, Coleopteren, Mollusken*. Eggers und Comp., H. Schmitzdorff und Jacques Issakof, St-Petersbourg [DP: December 1860]
- Motschulsky V von (1861) Essai d'un catalogue des insectes de l'île Ceylan. *Bulletin de la Société Impériale des Naturalistes de Moscou* 34 (2): 95-155 [DP: >19 July 1861]
- Motschulsky V von (1862a) Fabricats Berlinoïsi. *Etudes Entomologiques* 11: 3-14 [DP: 13 December 1862 (Soc. Imp. Nat. Mosc.)]
- Motschulsky V von (1862b) Entomologie spéciale. Remarques sur la collection d'insectes de V. de Motschulsky. Coléoptères. *Etudes Entomologiques* 11: 15-55 [DP: 13 December 1862 (Soc. Imp. Nat. Mosc.)]
- Motschulsky V von (1864) Enumération des nouvelles espèces de coléoptères rapportés de ses voyages. 4-ème article. *Bulletin de la Société Impériale des Naturalistes de Moscou* 37 (3): 171-240 [DP: >15 October 1864]
- Motschulsky V von (1865) Enumération des nouvelles espèces de coléoptères rapportés de ses voyages. 4-ème article. (Suite). *Bulletin de la Société Impériale des Naturalistes de Moscou* 37 (4) [1864]: 297-355 [DP: >29 January 1865]
- Motschulsky V von (1866) Enumération des nouvelles espèces de coléoptères rapportés de ses voyages. 4-ème article. (Suite). *Bulletin de la Société Impériale des Naturalistes de Moscou* 38 (4) [1865]: 227-313.
- Motschulsky V von (1869) Genres et espèces d'insectes, publiés dans différents ouvrages par Victor Motschoulsky. *Horae Societatis Entomologicae Rossicae* 6 [supplement]: 5-46. Note. This publication was inserted as a supplement, with separate pagination, to volume 6 of *Horae Societatis Entomologicae Rossicae*.
- Mott RJ, Anderson TW, Matthews JV Jr. (1981) Late-glacial paleoenvironments of sites bordering the Champlain Sea based on pollen and macro-fossil evidence. Pp. 129-172 in Mahaney WC (Ed.). *Quaternary paleoclimate*. Geo Abstracts, Norwich. xv + 464 pp.



- Motz JE, Morgan AV (2001) Holocene paleoclimate and paleoecology determined from fossil Coleoptera at Brampton, Ontario, Canada. *Canadian Journal of Earth Sciences* 38: 1451–1462 [DP: 13 November 2001]
- Mroczkowski M (1960) List of type specimens in the collection of the Institute of Zoology of the Polish Academy of Sciences in Warszawa III. Carabidae (Coleoptera). *Annales Zoologici* 18: 365–409 [DP: 20 April 1960]
- Müller G [also as Müller-Motzfeld, G.] (1975) Zur Phylogenie der Bembidiini. *Entomologische Nachrichten* 19: 7–12 [DP: 15 February 1975]
- Müller J [also as Müller, G.] (1918) Bestimmungstabelle der *Bembidion*-Arten Europas und des Mittelmeergebietes. *Koleopterologische Rundschau* 7 [1918–19]: 26–32 [DP: 30 April 1918], 33–117 [DP: 30 October 1918]
- Müller J (1923) Bestimmungstabelle der *Dyschirius*-Arten Europas und der mir bekannten Arten aus dem übrigen palaearktischen Faunengebiet. *Koleopterologische Rundschau* 10 [1922–23]: 33–120 [DP: 30 March 1923]
- Müller J (1924) Nuovi Coleotteri Palearctici. *Bollettino della Società Entomologica Italiana* 56 : 68–80 [DP: 15 May 1924]
- Müller OF (1764) *Fauna insectorum Fridrichsdalina, sive methodica descriptio insectorum agri Fridrichsdalensis, cum characteribus genericis et specificis, nominibus trivialibus, locis natalibus, iconibus allegatis, novisque pluribus speciebus additis*. I.F. Gleditsch, Hafniae et Lipsiae. xxiv + 96 pp. [DP: 26 March 1764 (Evenhuis 1997b: 557)]
- Müller OF (1776) *Zoologiae Danicae prodromus, seu animalium Daniae et Norvegiae indigenarum characteres, nomina, et synonyma imprimis popularium*. Hallageriis, Havniae. xxxii + 282 pp. [DP: 20 May 1776 (Evenhuis 1997b: 557)]
- Müller-Motzfeld G [also as Müller, G.] (1998) Bemerkungen zur Systematik in der Gattung *Bembidion* Latreille, 1802 (Col., Carabidae). *Entomologische Nachrichten und Berichte* 42: 73–75 [DP: 30 July 1998]
- Mulsant E (1830) *Lettres à Julie sur l'entomologie, suivies d'une description méthodique de la plus grande partie des insectes de France, ornées de planches, dessinées et gravées par MM. Lanvin et Duménil. Tome I*. Louis Babeuf [&] Treuttel et Wurtz, Lyon [&] Paris. x + 392 + [1] pp. [DP: 5 June 1830 (*Bibl. Fr.*)]
- Munster TG (1921) Nye fund og findesteder m.v. B. Coleoptera. *Norsk Entomologisk Tidsskrift* 1 [1920–23]: 60–63 [DP: May 1921]
- Munster TG (1923a) Finmarksvidden. En høiarktisk fauna. *Bembidion hyperboreaorum*, n.sp. (Col. Carabidae). *Norsk Entomologisk Tidsskrift* 1 [1920–23]: 235–239 [DP: 13 November 1923]
- Munster TG (1923b) *Dyschirius* Bonelli (Col.): de norske arter. *Norsk Entomologisk Tidsskrift* 1 [1920–23]: 244–250 [DP: 13 November 1923]
- Munster TG (1924) Nova etc. ex Norvegia. *Norsk Entomologisk Tidsskrift* 1 [1920–23]: 288–294 [DP: 20 October 1924]
- Munster TG (1927) To bidrag til Norges koleopterfauna. *Nytt Magazin for Naturvidenskapene* 65: 275–306 [DP: 5 April 1927]
- Munster TG (1930) Tillaeg og bemaerkninger til Norges koleopterfauna II. *Norsk Entomologisk Tidsskrift* 2: 353–357 [DP: 21 October 1930]



- Munster TG (1932) Bembidiini I. *Norsk Entomologisk Tidsskrift* 3: 80-82 [DP: 1 October 1932]
- Murray RR (1979) The *Cicindela* fauna of Mexico: range extensions, additions, and ecological notes (Coleoptera: Cicindelidae). *The Coleopterists Bulletin* 33: 49-56 [DP: 30 April 1979]
- Murray RR, Acciavatti RE (1976) Notes on the habitat, distribution and time of occurrence of *Cicindela politula* LeConte. *Cicindela* 8: 1-5 [DP: 15 June 1976 (CAL stamp), 24 June 1976 (CUL stamp)]
- Mutchler AJ (1925) Coleoptera from the Williams Galapagos Expedition. *Zoologica, Scientific Contributions of the New York Zoological Society* 5 [1923-25]: 219-240.
- Mutchler AJ (1934) New species of Carabidae from Puerto Rico. American Museum Novitates No. 686. 5 pp. [DP: 6 January 1934]
- Nagano CD (1982) Population status of the tiger beetles of the genus *Cicindela* (Coleoptera: Cicindelidae) inhabiting the marine shoreline of southern California. *Atala, Journal of the Xerces Society* 8 [1980(82)]: 33-42 [DP: 11 January 1983 (CUL stamp)]
- Nagel P (1979) The classification of Carabidae. Pp. 7-14 in den Boer PJ, Thiele H-U, Weber F (Eds). *On the evolution of behaviour in carabid beetles*. Report of a symposium, held at the fieldstation Rees-Grietherbusch of the Zoological Institute of the University of Cologne September 10-13, 1978. Veenman & Zonen, Wageningen. 222 pp. [DP: >23 February 1979]
- Nagel P (1987) *Arealsystemanalyse afrikanischer Fühlerkäfer (Coleoptera, Carabidae, Paussinae). Ein Beitrag zur Rekonstruktion der Landschaftsgenese*. Erdwissenschaftliche Forschung Band XXI. Franz Steiner, Stuttgart. 233 pp.
- Nagel P (1997) New fossil paussids from Dominican amber with notes on the phylogenetic systematics of the paussine complex (Coleoptera: Carabidae). *Systematic Entomology* 22: 345-362 [DP: October 1997]
- Nakane T (1962) *Coleoptera: Carabidae [I]*. Insecta Japonica, Series 2, Part 3. Hokuryukan Publishing Co., Tokyo. 98 pp. + 6 pls.
- Naviaux R (1994) Révision du genre *Collyris* (sensu lato) (Col. Cicindelidae) (2<sup>e</sup> partie). *Bulletin mensuel de la Société Linnéenne de Lyon* 63: 133-164.
- Naviaux R (2007) *Tetracha* (Coleoptera, Cicindelidae, Megacephalina): révision du genre et descriptions de nouveaux taxons. Mémoires de la SEF, no 7. Société Entomologique de France, Paris. 197 pp. [DP: August 2007]
- Naviaux R (2010) On some *Tetracha* specimens from the Smithsonian Institution's collection and description of two new species. *Cicindela* 42: 65-75 [DP: 29 October 2010]
- Nègre J (1963) Revision du genre *Polpochila* Solier [Col. Carabidae]. *Revue Française d'Entomologie* 30: 205-241 [DP: 19 October 1963]
- Nègre J (1969) Los grandes *Calathus* de la Península Ibérica (Col. Carabidae). *Miscelánea Zoológica* 2 (4): 7-32 [DP: June 1969]
- Neil K, Majka CG (2008) New records of tiger beetles (Coleoptera: Carabidae: Cicindelinae) in Nova Scotia. *Journal of the Acadian Entomological Society* 4: 3-6 [DP: 10 April 2008 (online version)]
- Nel A (1989) Les calosomes fossiles de l'Oligocène du sud-est de la France [Col. Carabidae]. *Bulletin de la Société Entomologique de France* 93 [1988]: 257-268 [DP: 23 June 1989]

- Nelson RE (1987) A record of *Porotachys bisulcatus* Nicolai (Coleoptera: Carabidae) from western Washington state. *The Coleopterists Bulletin* 41: 394 [DP: 22 December 1987]
- Nelson RE (1988a) *Cymindis unicolor* Kirby (Coleoptera: Carabidae) in the Pacific Coast states. *The Coleopterists Bulletin* 42: 11-15 [DP: 14 April 1988]
- Nelson RE (1988b) Some notes on winter collecting of Coleoptera. *The Coleopterists Bulletin* 42: 55-56 [DP: 14 April 1988]
- Nelson RE (1991) First records of *Perigona pallipennis* (LeC.) and *Perigona nigriceps* (Dej.) (Coleoptera: Carabidae: Perigonini) from Maine: easternmost records for the genus in North America. *The Coleopterists Bulletin* 45: 284-285 [DP: 22 October 1991]
- Nelson RE (1995) First record of *Clivina pallida* Say (Coleoptera: Carabidae: Clivinini) from Maine, a major range extension. *The Coleopterists Bulletin* 49: 71 [DP: 30 March 1995]
- Nelson RE, Reynolds RA (1987) *Carabus auratus* L. and *Clivina fossor* L. (Coleoptera: Carabidae): new records of two introduced taxa in the northwest and northeast U.S.A. *Journal of the New York Entomological Society* 95: 10-13 [DP: 30 January 1987]
- Netolitzky F (1910) Bemerkungen zur Systematik in der Gattung *Bembidion* Latr. *Wiener Entomologische Zeitung* 29: 209-228 [DP: 25 October 1910]
- Netolitzky F (1911) *Bembidion*-Studien. *Wiener Entomologische Zeitung* 30: 179-194 [DP: 1 November 1911]
- Netolitzky F (1914) Die Bembidiini in Winklers Catalogus. *Entomologische Blätter für Biologie und Systematik der Käfer* 10: 50-55 [DP: 15 January 1914], 164-176 [DP: 11 July 1914]
- Netolitzky F (1918) Neue Bembidiini Europas. (Carabidae.). *Koleopterologische Rundschau* 7 [1918-19]: 19-25 [DP: 30 April 1918]
- Netolitzky F (1920a) Versuch einer neuartigen Bestimmungstafel für die asiatischen *Testedionum* nebst neuen paläarktischen Bembidiini (Col., Carabidae). *Entomologische Mitteilungen* 9: 61-69 [DP: 19 May 1920], 112-119 [DP: 20 August 1920]
- Netolitzky F (1920b) Zwei neue Bembidien-Untergattungen und eine neue Art. *Koleopterologische Rundschau* 8 [1919-20]: 96 [DP: 20 December 1920]
- Netolitzky F (1921) Catalogus systematicus specierum palaearcticarum generis *Bembidion* Latr. (Carabidae). *Archiv für Naturgeschichte* 87 (Abteilung A, 7. Heft): 183-229 [DP: June 1921]
- Netolitzky F (1926) Bemerkungen über *Bembidion*-Larven. *Entomologische Blätter für Biologie und Systematik der Käfer* 22: 117-119 [DP: 30 September 1926]
- Netolitzky F (1931) Kritisches zum Katalog der Harpalinae von Csiki. (Coleopterorum Catalogus von Junk-Schenkling, Pars 97 et 98.) (Col., Carab.). *Deutsche Entomologische Zeitschrift* (Jahrgang 1931): 153-167 [DP: November 1931]
- Netolitzky F (1934) Europäisch-asiatische *Bembidion*-Arten, unter besonderer Berücksichtigung der Typen von Solsky. *Koleopterologische Rundschau* 20: 63-74 [DP: 31 March 1934]
- Netolitzky F (1935a) Die *Bembidion*-Arten der Sammlung Motschulsky im Museum der Universität zu Moskau. *Bulletin mensuel de la Société des Naturalistes Luxembourgeois* [Gesellschaft Luxemburger Naturfreunde] 45: 18-37. Note. Volume 45 corresponds to the 29th year of the new series.
- Netolitzky F (1935b) The species of *Bembidion* in the Stephens collection (Col.). *The Entomologist's Monthly Magazine* 71: 131-135 [DP: 13 June 1935 (CAL stamp)]

- Netolitzky F (1935c) Neue Bembidiini aus Vorderasien. *Koleopterologische Rundschau* 21: 165-168 [DP: 15 October 1935]
- Netolitzky F (1939) *Bestimmungstabellen der Bembidion-Arten Europas, Asiens und Afrikas. (Ein Versuch für die Praxis)*. Cernauti. 36 pp. Note. This paper was intended to be published in *Buletinul Facultatii de Stiinte din Cernauti*, volume 13, pages 144-179, but the volume was not issued. However, reprints were printed and circulated. I have seen a copy of it in Aleš Smetana's library. Lindroth (1962: 18) gave 1940 as the date of publication for the pamphlet but the cover page of the copy I have seen bears the date 1939 and I have found no indication that it was published in 1940. The information in the pamphlet was reissued in Netolitzky (1942).
- Netolitzky F (1942) Bestimmungstabelle der *Bembidion*-Arten des paläarktischen Gebietes. (Mit Hinweisen auf holarktische, äthiopische und orientalische Arten.). *Koleopterologische Rundschau* 28: 29-68 [DP: 15 November 1942]
- Netolitzky F (1943a) Bestimmungstabelle der *Bembidion*-Arten des paläarktischen Gebietes. (Mit Hinweisen auf holarktische, äthiopische und orientalische Arten.) (Fortsetzung). *Koleopterologische Rundschau* 28 [1942]: 69-124 [DP: April 1943]
- Netolitzky F (1943b) Bestimmungstabelle der *Bembidion*-Arten des paläarktischen Gebietes. (Mit Hinweisen auf holarktische, äthiopische und orientalische Arten.) (Schluß). *Koleopterologische Rundschau* 29: 1-70 [DP: November 1943]
- Newman E (1838a) Entomological notes. *The Entomological Magazine* 5: 168-181 [DP: January 1838], 372-402 [DP: July 1838], 483-500 [DP: 28 October 1838]
- Newman E (1838b) A descriptive list of the species of *Rhysodes*. *The Magazine of Natural History* (new series) 2: 663-667.
- Newman E (1840) Entomological notes. *The Entomologist* 1 [1840-42]: 17-32 [DP: December 1840]
- Newman E (1844) Description of *Anchomenus picticornis*, a new beetle belonging to the stirps Nematocera, and the natural order carabites. *The Zoologist: A popular Miscellany of Natural History* 2: 414.
- Nichols SW (1985a) Neotype designation for *Scarites subterraneus* Fabricius 1775 (Coleoptera: Carabidae: Scaritini). *Journal of the New York Entomological Society* 93: 1212-1215 [DP: 6 November 1985]
- Nichols SW (1985b) *Clivina* (*Semiclivina*) *vespertina* Putzeys, a probable introduction to the United States from South America (Coleoptera: Carabidae: Scaritini). *The Coleopterists Bulletin* 39: 380 [DP: 7 November 1985]
- Nichols SW (1985c) *Omophron* and the origin of Hydradeephaga (Insecta: Coleoptera: Adephaga). *Proceedings of the Academy of Natural Sciences of Philadelphia* 137: 182-201 [DP: 8 July 1985]
- Nichols SW (1986) Two new flightless species of *Scarites* s.str. inhabiting Florida and the West Indies (Coleoptera: Carabidae: Scaritini). *Proceedings of the Entomological Society of Washington* 88: 257-264 [DP: 2 May 1986]
- Nichols SW (1988a) Systematics and biogeography of West Indian Scaritinae (Coleoptera: Carabidae). Ph.D. Thesis, Cornell University. xiii + 393 pp.

- Nichols SW (1988b) Kaleidoscopic biogeography of West Indian Scaritinae (Coleoptera: Carabidae). Pp. 71-120 in Liebherr JK (Ed.). *Zoogeography of Caribbean Insects*. Cornell University Press, Ithaca. ix + 285 pp.
- Nicolai EA (1822) *Dissertatio inauguralis medica sistens Coleopterorum species agri Halensis quam consensu illustrissimi medicorum ordinis in celeberrima Academia Fridericiana Halensi et Vitebergensi consociata pro summis in medicina et chirurgia honoribus rite obtinendis. Die X. mensis septembris MDCCCXXII. Publice defendet auctor Ernestus Augustus Nicolai Arnstadio-Thuringus*. Frid. Aug. Grunert, Halae. 44 + [4] pp. [DP: 10 September 1822]
- Nicolay AS (1934) An answer to E. Graywood Smyth on “Synopsis of Cicindelidae” (Coleoptera). *Entomological News* 45: 127-131 [DP: 7 May 1934], 153-155 [DP: 11 June 1934]
- Nicolay AS, Weiss HB (1932) Synopsis of the Cicindelidae I. General introduction, bibliography and *purpurea* group. *Journal of the New York Entomological Society* 40: 341-355 [DP: 31 October 1932]
- Nicolay AS, Weiss HB (1934) Notes on Carabidae, including a synopsis of the genera *Cylindrocharis*, *Euferonia*, *Melanius* (*Omaseus*) and *Dysidius* of the tribe Pterostichini. *Journal of the New York Entomological Society* 42: 193-213 [DP: 28 June 1934]
- Nielsen E, Morgan AV, Morgan A, Mott RJ, Rutter NW, Causse C (1987) Stratigraphy, paleoecology, and glacial history of the Gillam area, Manitoba. *Canadian Journal of Earth Sciences* 23 [1986]: 1641-1661 [DP: 29 January 1987 (CISTI stamp)]
- Niwa CG, Peck RW (2002) Influence of prescribed fire on carabid beetle (Carabidae) and spider (Araneae) assemblages in forest litter in southwestern Oregon. *Environmental Entomology* 31: 785-796 [DP: 4 November 2002 (McD stamp)]
- Noonan GR (1967) A range extension of *Psydrus piceus* LeConte (Coleoptera: Carabidae) into southern California. *The Coleopterists Bulletin* 21: 92-93 [DP: 14 October 1967]
- Noonan GR (1968) A revision of the genus *Dicheirus* Mannerheim 1843 (Col. Carabidae). *Opuscula Entomologica* 33: 281-304 [DP: 5 July 1968 (preprint)]
- Noonan GR (1973) The anisodactylines (Insecta: Coleoptera: Carabidae: Harpalini): classification, evolution, and zoogeography. *Quaestiones Entomologicae* 9: 266-480 [DP: 17 January 1974 (CAL stamp)]
- Noonan GR (1975) *Anisodactylus incertus* Casey, 1914, and *A. sericatus* Casey, 1914, new junior synonyms of *A. similis* LeConte, 1851 (Coleoptera: Carabidae). *Proceedings of the Entomological Society of Washington* 77: 227 [DP: 23 July 1975]
- Noonan GR (1976) Synopsis of the supra-specific taxa of the tribe Harpalini (Coleoptera: Carabidae). *Quaestiones Entomologicae* 12: 3-87 [DP: 2 February 1976 (CAL stamp)]
- Noonan GR (1985) Classification and names of the Selenophori group (Coleoptera: Carabidae: Harpalini) and of nine genera and subgenera placed in incertae sedis within Harpalina. Milwaukee Public Museum Contributions in Biology and Geology No. 64. 92 pp. [DP: 15 July 1985]
- Noonan GR (1991) Classification, cladistics, and natural history of native North American *Harpalus* Latreille (Insecta: Coleoptera: Carabidae: Harpalini), excluding subgenera *Glanodes* and *Pseudophonus*. Thomas Say Foundation Monographs No. 13. viii + 310 pp.
- Noonan GR (1996) Classification, cladistics, and natural history of species of the subgenus *Anisodactylus* Dejean (Insecta: Coleoptera: Carabidae: Harpalini: *Anisodactylus*). Milwau-

- kee Public Museum Contributions in Biology and Geology No 89. iii + 210 pp. [DP: 30 July 1996]
- Noonan GR (2001) Systematics and cladistics of the North American subgenus *Anadaptus* Casey (genus *Anisodactylus* Dejean) and a geographic information system analysis of the biogeography of included species. *Annals of the Entomological Society of America* 94: 301-332 [DP: May 2001]
- Notman H (1919a) Coleoptera collected at Cochrane, northern Ontario, August 22-30, 1918, with descriptions of six new species. *Journal of the New York Entomological Society* 27: 92-102 [DP: 9 May 1919 (USNM stamp)]
- Notman H (1919b) Records and new species of Carabidae. *Journal of the New York Entomological Society* 27: 225-237 [DP: 11 December 1919 (USNM stamp)]
- Notman H (1919c) Coleoptera collected at Mooers, Clinton Co., N.Y., September 9-13, 1918, with descriptions of new species. *Bulletin of the Brooklyn Entomological Society* 14: 129-141 [DP: 6 December 1919]
- Notman H (1920a) Notes and new species of *Bembidium*. *Journal of the New York Entomological Society* 27 [1919]: 292-297 [DP: 23 April 1920 (USNM stamp)]
- Notman H (1920b) Coleoptera collected at Schoharie, N.Y., June 9-14, 1918, with descriptions of new species. *Journal of the New York Entomological Society* 28: 14-31 [DP: 21 June 1920 (CUL stamp)]
- Notman H (1920c) Coleoptera collected at Windsor, Broome Co., N.Y., 26 May to 5 June, 1918, with notes and descriptions. *Journal of the New York Entomological Society* 28: 178-194 [DP: 21 June 1920 (CUL and USNM stamps)]
- Notman H (1922a) Some new genera and species of Coleoptera collected at Westfield, Chautauqua Co., N.Y. *Journal of the New York Entomological Society* 29 [1921]: 145-160 [DP: 27 February 1922 (CUL stamp)]
- Notman H (1922b) New species of Carabidae, Staphylinidae, and Elateridae. *Bulletin of the Brooklyn Entomological Society* 17: 99-108 [DP: 10 November 1922]
- Notman H (1925) A review of the beetle family Pseudomorphidae, and a suggestion for a rearrangement of the Adephaga, with descriptions of a new genus and new species. *Proceedings of the United States National Museum* 67 (2586): 1-34 [DP: 25 May 1925]
- Notman H (1928) Family Carabidae. Pp. 207-252 in Leonard MD (Ed.). A list of the insects of New York with a list of the spiders and certain other allied groups. Cornell Agricultural Experiment Station Memoir 101. 1121 pp. [DP: January 1928]
- Notman H (1929a) A new species of *Bembidion* from Lake Superior (Coleoptera, Carabidae). *Journal of the New York Entomological Society* 37: 157-158 [DP: 2 August 1929]
- Notman H (1929b) Coleoptera from northern California. *Bulletin of the Brooklyn Entomological Society* 24: 222-223 [DP: 26 October 1929]
- Nunenmacher FW (1940) Studies on the species of *Omus*, no. 1 (Coleoptera, Cicindelidae). *The Pan-Pacific Entomologist* 16: 143-144 [DP: 29 July 1940]
- Nunenmacher FW (1944) A new species of *Zacotus* (Coleoptera, Carabidae). *The Pan-Pacific Entomologist* 20: 12 [DP: 31 January 1944]



- Ober KA (2002) Phylogenetic relationships of the carabid subfamily Harpalinae (Coleoptera) based on molecular sequence data. *Molecular Phylogenetics and Evolution* 24: 228-248 [DP: August 2002]
- Ober KA, Maddison DR (2008) Phylogenetic relationships of tribes within Harpalinae (Coleoptera: Carabidae) as inferred from 28S ribosomal DNA and the wingless gene. *Journal of Insect Science* 8 (63): 1-32 [DP: 23 October 2008]
- Obydov D (1996) Zur Frage der interartlichen Systematik von *Carabus (Megodontus) vietinghoffi* Adams, 1812 (Coleoptera, Carabidae). *Lambillionea* 96 (numéro spécial): 81-87 [DP: February 1996]
- Obydov D (2003) A review of the subgenus *Chrysostigma* Kirby, 1837 of the genus *Calosoma* Weber, 1801 (Coleoptera, Carabidae). *Lambillionea* 103: 532-544 [DP: 8 October 2003 (CAL stamp)]
- Oertel R (1924) Biologische Studien über *Carabus granulatus* L. *Zoologische Jahrbücher, Abteilung für Systematik, Geographie und Biologie der Tiere* 48: 299-366 [DP: 1 September 1924]
- Ogueta E (1965) Descripciones, redescrpciones y comentarios sobre Ozaenini. II. El genero *Ozaena* Olivier (Coleoptera, Carabidae). *Physis, Revista de la Sociedad Argentina de Ciencias Naturales* 25: 73-88 [DP: 31 May 1965]
- Ogueta E (1966a) Las especies americanas de *Panagaeus* Latreille, 1804 (Coleoptera, Carabidae). *Physis, Revista de la Sociedad Argentina de Ciencias Naturales* 26: 1-13 [DP: 30 September 1966]
- Ogueta E (1966b) Addendum. *Physis, Revista de la Sociedad Argentina de Ciencias Naturales* 26: 396 [DP: 31 December 1966] Note. This paper consists of a note in which the author indicates the type species of a new subgenus described in Ogueta (1966a).
- Olivier GA (1790a) *Entomologie, ou histoire naturelle des insectes, avec leurs caractères génériques et spécifiques, leur description, leur synonymie, et leur figure enluminée. Coléoptères. Tome second*. Baudouin, Paris. Note. Each genus treated is separately paginated.
- Olivier GA (1790b) *Encyclopédie méthodique, ou par ordre de matières; par une société de gens de lettres, de savans et d'artistes; précédée d'un vocabulaire universel, servant de table pour tout l'ouvrage, ornée des portraits de Mm. Diderot & d'Alembert, premiers éditeurs de l'Encyclopédie. Histoire naturelle. Insectes. Tome cinquième*. Panckoucke, Paris [&] Plomteux, Liège. 368 pp. [DP: 17 November 1790 (Evenhuis 1997a: 227-228)] Note. Tome cinquième of the *Encyclopédie méthodique* was published in 1790 (pp. 1-368 = livraison 41) and 1791 (pp. 369-793 = livraison 44).
- Olivier GA (1795) *Entomologie, ou histoire naturelle des insectes, avec leurs caractères génériques et spécifiques, leur description, leur synonymie, et leur figure enluminée. Coléoptères. Tome troisième*. Lanneau, Paris. Note. Each genus treated is separately paginated.
- Olivier GA (1811) *Encyclopédie méthodique, ou par ordre de matières; par une société de gens de lettres, de savans et d'artistes; précédée d'un vocabulaire universel, servant de table pour tout l'ouvrage, ornée des portraits de Mm. Diderot & d'Alembert, premiers éditeurs de l'Encyclopédie. Histoire naturelle. Insectes. Tome huitième. Pars II*. Agasse, Paris. Pp. 361-722 [DP: 23 October 1811 (Evenhuis 1997a: 227-228)]

- O'Rourke ME, Liebman M, Rice ME (2008) Ground beetle (Coleoptera: Carabidae) assemblages in conventional and diversified crop rotation systems. *Environmental Entomology* 37: 121-130 [DP: 25 February 2008 (McD stamp)]
- Ortuño VM, Jiménez-Valverde A (2011) Taxonomic notes on Trechini and description of a new hypogean species from the Iberian Peninsula (Coleoptera: Carabidae: Trechinae). *Annales de la Société Entomologique de France* (nouvelle série) 47: 21-32 [DP: 31 July 2011]
- Ortuño VM, Sendra A, Montagud S, Teruel S (2005) Systématique et biologie d'une espèce paléoendémique hypogée de la péninsule Ibérique: *Ildobates neboti* Español 1966 (Coleoptera: Carabidae: Dryptinae). *Annales de la Société Entomologique de France* (nouvelle série) 40 [2004]: 459-475 [DP: 10 August 2005]
- Ortuño VM, Toribio M (2005) *Carabidae de la Península Ibérica y Baleares. Vol. I. Trechinae, Bembidiini*. Argania editio, Barcelona. 455 pp. [DP: January 2005]
- Osawa S, Su Z-H, Imura Y (2004) *Molecular phylogeny and evolution of carabid ground beetles*. Springer-Verlag, Tokyo. xiv + 191 pp.
- Packard AS Jr. (1871) *First annual report of the injurious and beneficial insects of Massachusetts*. Wright & Potter, Boston. 31 pp. [DP: 20 January 1871]
- Packard AS Jr. (1874) Larvae of *Anophthalmus* and *Adelops*. *The American Naturalist, an Illustrated Magazine of Natural History* 8: 562-563.
- Packard AS Jr. (1877) List of Coleoptera collected in 1875, in Colorado and Utah. Pp. 811-815 in Hayden, F.V. *Ninth annual report of the United States Geological and Geographical Survey of the Territories: being a report of progress of the exploration for the year 1875*. Government Printing Office, Washington. vii + 827 pp. [DP: October 1877 (*Amer. Nat.* 11: 619)]
- Palisot de Beauvois AMF (1811) *Insectes recueillis en Afrique et en Amérique, dans les royaumes d'Oware et de Benin, à Saint-Domingue et dans les États-Unis, pendant les années 1786-1797*. [7<sup>e</sup> livraison]. Lavrault, Schoell et C<sup>ie</sup>, Paris. Pp. 101-120 + pls IIb, III, IIIc, VIII, XIII, XV [DP: 26 August 1811 (Evenhuis 1997b: 588)] Note. This works was published in 15 livraisons from 1805 to 1821.
- Palmén E (1944) Über die Artengruppe *Elaphrus angusticollis* F. Sahlb. (Col., Carabidae). *Annales Entomologici Fennici* [Suomen Hyönteistieteellinen Aikakauskirja] 10: 17-25 [DP: 15 April 1944]
- Panzer GWF (1793) *Faunae insectorum Germanicae initia; oder Deutschlands Insecten*. [Heft 11]. Felsecker, Nürnberg. 24 pp. + 24 pls [DP: July 1793 (Evenhuis 1997b: 600)]
- Panzer GWF (1795) *Entomologia Germanica exhibens insecta per germaniam indigena secundum classes, ordines, genera, species adiectis synonymis, locis, observationibus. I. Eleuterata. Cum tabulis aeneis*. Felsecker, Normibergae. [32] + 370 + [2] pp. + 12 pls [DP: 21 September 1795 (*Allg. Lit. Zeit.*)] Note. Another title page reads "*Deutschlands Insectenfaune oder entomologisches Taschenbuch für das Jahr 1795.*"
- Panzer GWF (1796a) *Faunae insectorum Germanicae initia; oder Deutschlands Insecten*. [Heft 37]. Felsecker, Nürnberg. 24 pp. + 24 pls [DP: >March 1796 (Evenhuis 1997b: 600)]
- Panzer GWF (1796b) *Faunae insectorum Germanicae initia; oder Deutschlands Insecten*. [Heft 38]. Felsecker, Nürnberg. 24 pp. + 24 pls [DP: >March 1796 (Evenhuis 1997b: 600)]
- Panzer GWF (1797) *Faunae insectorum Germanicae initia; oder Deutschlands Insecten*. [Heft 40]. Felsecker, Nürnberg. 24 pp. + 24 pls [DP: <9 October 1797 (Evenhuis 1997b: 600)]

- Panzer GWF (1799) *Faunae insectorum Germanicae initia; oder Deutschlands Insecten*. [Heft 73]. Felsecker, Nürnberg. 24 pp. + 24 pls.
- Panzer GWF (1813) *Index entomologicus sistens omnes insectorum species in G. W.F. Panzeri Fauna Insectorum Germanica descriptas atque delineatas secundum methodum Fabricianam: adiunctis emendationibus, observationibus. Pars I. Eleutherata*. Felsecker, Norimbergae. viii + 216 pp.
- Papavero N (1971) *Essays on the history of Neotropical dipterology, with special reference to collectors (1750–1905). Vol. I*. Museu de Zoologia, Universidade de São Paulo, São Paulo. vii + 216 pp.
- Papp RP (1978) Ecology and habitat preferences of high altitude Coleoptera from the Sierra Nevada. *The Pan-Pacific Entomologist* 54: 161-172 [DP: 5 September 1978]
- Paquin P, Dupérré N (2002) Beetles of the boreal forest: a faunistic survey carried out in western Québec. *Proceedings of the Entomological Society of Ontario* 132 [2001]: 57-98 [DP: 21 August 2002 (CAL stamp)]
- Parmenter RR, MacMahon JA (1984) Factors influencing the distribution and abundance of ground-dwelling beetles (Coleoptera) in a shrub-steppe ecosystem: the role of shrub architecture. *Pedobiologia* 27: 21-34.
- Paykull G von (1790) *Monographia Caraborum Sueciae*. Johann. Edman, Upsaliae. 138 pp. [DP: >4 July 1790]
- Paykull G von (1798) *Fauna Suecica. Insecta. Tomus I*. Joh.F. Edman, Upsaliae. [x] + 358 + [2] pp. [DP: 20 June 1798 (*Allg. Lit. Zeit.*)]
- Pearce J, Schuurman D, Venier L, McKee J (2003) Carabid assemblage of an urban woodlot in Sault Ste Marie, Canada. *The Great Lake Entomologist* 35 [2002]: 161-170 [DP: 13 November 2003 (CAL stamp)]
- Pearson DL (1988) Biology of tiger beetles. *Annual Review of Entomology* 33: 123-147 [DP: 16 March 1988 (CAL stamp)]
- Pearson DL, Barraclough TG, Vogler AP (1997) Distributional maps for North American species of tiger beetles (Coleoptera: Cicindelidae). *Cicindela* 29: 33-84 [DP: 17 December 1997 (CUL stamp), 23 December 1997 (CML stamp)]
- Pearson DL, Knisley CB, Kazilek CJ (2006) *A field guide to the tiger beetles of the United States and Canada: identification, natural history, and distribution of the Cicindelidae*. Oxford University Press, New York. vi + 227 pp. + 24 pls.
- Pearson DL, Vogler AP (2001) *Tiger beetles: the evolution, ecology, and diversity of the cicindelids*. Cornell University Press, Ithaca. xiii + 333 pp.
- Peck SB (2005) *A checklist of the beetles of Cuba with data on distributions and bionomics (Insecta: Coleoptera)*. Arthropods of Florida and neighboring land areas, volume 18. Florida Department of Agriculture and Consumer Services, Gainesville. vi + 241 pp. [DP: March 2005]
- Peck SB (2006) The beetle fauna of Dominica, Lesser Antilles (Insecta: Coleoptera): diversity and distribution. *Insecta Mundi* 20: 165-209 [DP: 31 December 2006]
- Peck SB (2009a) The beetles of Barbados, West Indies (Insecta: Coleoptera): diversity, distribution and faunal structure. *Insecta Mundi* 0073: 1-51 [DP: 10 April 2009]
- Peck SB (2009b) The beetles of St. Lucia, Lesser Antilles (Insecta: Coleoptera): diversity and distributions. *Insecta Mundi* 0106: 1-34 [DP: 11 December 2009]

- Peck SB (2011) The diversity and distributions of the beetles (Insecta: Coleoptera) of the northern Leeward Islands, Lesser Antilles (Anguilla, Antigua, Barbuda, Nevis, Saba, St. Barthélemy, St. Eustatius, St. Kitts, and St. Martin-St. Maarten). *Insecta Mundi* 0159: 1-54 [DP: 18 March 2011]
- Peck SB, Thomas MC (1998) *A distributional checklist of the beetles (Coleoptera) of Florida*. Arthropods of Florida and neighboring land areas, volume 16. Florida Department of Agriculture and Consumer Services, Gainesville. viii + 180 pp. [DP: April 1998]
- Perbosc JL (1839) Insectes nouveaux découverts au Mexique. *Revue Zoologique* [2]: 261-264 [DP: 7 October 1839 (*Acad. Sci.*)]
- Péringuey L (1896) Descriptive catalogue of the Coleoptera of South Africa. Part II. Cicindelidae supplement. Carabidae. *The Transactions of the South African Philosophical Society* 7: 99-623.
- Perrault GG (1970) A new record of *Chlaenius* (*Agostenus*) *purpuricollis* (Randall) (Carabidae) from New Mexico. *The Coleopterists Bulletin* 24: 56 [DP: 25 June 1970]
- Perrault GG (1973a) A taxonomic review of the eastern Nearctic species complex *Pterostichus* (*Haplocoelus*) *adoxus* (Coleoptera: Carabidae). *Quaestiones Entomologicae* 9: 35-40 [DP: 2 January 1973]
- Perrault GG (1973b) A new species of *Scaphinotus* from the Olympic Peninsula (Coleoptera: Carabidae). *The Coleopterists Bulletin* 27: 47-50 [DP: 4 April 1973]
- Perrault GG (1974) New records of *Glanodes* (Coleoptera: Carabidae: Harpalini) from New Mexico. *The Coleopterists Bulletin* 28: 120 [DP: 28 October 1974]
- Perrault GG (1977) *Dicaelus elongatus* (Bonelli) au Québec. *Cordulia* 3: 153.
- Perrault GG (1980) La faune des Carabidae de Tahiti. IV. Nebriini. *Nouvelle Revue d'Entomologie* 10: 29-30 [DP: 30 March 1980]
- Perrault GG (1982a) Etudes sur la tribu des Bembidiini s.str. (Coleoptera, Carabidae). II. Révision du sous-genre *Cyclolopha* (Casey). *Entomologica Basiliensia* 7: 89-126 [DP: 30 November 1982]
- Perrault GG (1982b) New records of Harpalini from the U.S. southwest (Coleoptera: Carabidae). *The Coleopterists Bulletin* 36: 269 [DP: 16 December 1982]
- Perrault GG (1988) Note sur la tribu des Perigonini (Coleoptera Carabidae) avec les descriptions de deux sous-genres et d'une espèce. *Entomologische Blätter für Biologie und Systematik der Käfer* 84: 11-16 [DP: 31 July 1988]
- Perrault GG (1991a) Le genre *Leistus* Froehlig (Coleoptera Carabidae Nebriini) XII - Le sous-genre *Neoleistus* Erwin: le groupe de *L. niger* Gebler. *Bulletin mensuel de la Société Linnéenne de Lyon* 60: 14-19 [DP: 17 January 1991 (CUL stamp)]
- Perrault GG (1991b) Études sur les Carabidae des Andes septentrionales. VIII. Démembrement du genre *Glyptolenus* Bates et description d'un genre voisin (Coleoptera). *Nouvelle Revue d'Entomologie* (nouvelle série) 8: 43-59 [DP: 30 August 1991]
- Perrault GG (1992) Études sur les Carabidae des Andes septentrionales. XVII. Les espèces de Platynini du Venezuela décrits dans le genre *Omiastus* par V. Motschoulsky. *Nouvelle Revue d'Entomologie* (nouvelle série) 9: 276 [DP: 4 December 1992]

- Perrault GG (1994) Studies on Neotropical Scaritini. II. Forcipatorina and Clivinina limits, with description of new genera (Coleoptera: Carabidae). *The Canadian Entomologist* 126: 683-693 [DP: July 1994]
- Perty JAM (1830) *Delectus animalium articulorum, quae in itinere per Brasiliam annis MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I. Bavariae regis augustissimi peracto collegerunt Dr. J.B. de Spix et Dr. C.F.Ph. de Martius*. Frid. Fleischer, Monachii. Pp. 1-60 + pls 1-12. Note. The entire work was published in 1830 (pp. 1-60 + pls 1-12), 1832 (pp. 61-124 + pls 13-24), and 1833 (pp. 125-224 + pls 25-40) (see Sherborn 1922: ci).
- Petrice TR, Haack RA, Acciavatti RE, Davidson RL (2002) Response of carabid beetles associated with vernal pond ecosystems to forest management practices in northern Minnesota. *Newsletter of the Michigan Entomological Society* 47 (3-4): 9 [DP: September 2002]
- Pettit J (1869) List of Coleoptera, taken at Grimsby, Ontario. *The Canadian Entomologist* 1 [1868-69]: 106-107 [DP: 15 July 1869]
- Peyerimhoff P de (1932) La Société entomologique de France (1832-1931). Pp. 1-86 in: *Livre du Centenaire*. Société entomologique de France, Paris. xii + 729 pp. [DP: 30 June 1932]
- Phillips WJ (1909) The slender seed-corn ground-beetle. (*Clivina impressifrons* Lec.). *United States Department of Agriculture, Bureau of Entomology, Bulletin* 85 (II): 13-28 [DP: 30 November 1909]
- Pic M (1902) Descriptions et notes diverses [5<sup>e</sup> article]. *L'Échange, Revue Linnéenne* 18: 71-72.
- Pierce WD (1944) Fossil arthropods of California. *Bulletin of the Southern California Academy of Science* 43: 1-18 [DP: 31 May 1944]
- Pierce WD (1948a) Fossil arthropods from British Columbia 4. An *Elaphrus* from interglacial lignite. *Bulletin of the Southern California Academy of Sciences* 47: 52-53 [DP: 20 August 1948]
- Pierce WD (1948b) Fossil arthropods of California 16. The carabid genus *Elaphrus* in the asphalt deposits. *Bulletin of the Southern California Academy of Sciences* 47: 53-55 [DP: 20 August 1948]
- Piller M, Mitterpacher L (1783) *Iter per Poseganam, Sclavoniae provinciam mensibus Junio, et Julio anno MDCCLXXXII susceptum*. Regiae Universitatis, Budae. 147 pp. + 16 pls.
- Pilny JJ, Morgan AV, Morgan A (1987) Paleoclimatic implications of a Late Wisconsinan insect assemblage from Rostock, southwestern Ontario. *Canadian Journal of Earth Sciences* 24: 617-630 [DP: 10 June 1987 (NRC stamp)]
- Pineda PM, Kondratieff BC (2002) The larvae of *Cicindela theatina* (Coleoptera: Cicindelidae), a regional North American sand dune endemic. *Entomological News* 113: 163-172 [DP: 25 June 2002]
- Piochard de La Brûlerie CJ (1876) Catalogue raisonné des coléoptères de la Syrie et de l'île de Chypre 1<sup>re</sup> partie. Famille des carabides. (Suite). *Annales de la Société Entomologique de France* (cinquième série) 5 [1875]: 395-448 [DP: 26 April 1876]
- Pohl GR (1998) A morphological and genetic comparison of *Patrobus fossifrons* (Eschscholtz) and *Patrobus stygicus* Chaudoir (Coleoptera: Carabidae). *Canadian Journal of Zoology* 76: 689-703 [DP: 31 July 1998]



- Pollock DA (1991a) Notes on the distribution of, and range extension for, *Acupalpus meridianus* (Linné) (Coleoptera: Carabidae). *The Canadian Entomologist* 123: 705-706 [DP: 10 July 1991 (CAL stamp)]
- Pollock DA (1991b) Range extension and new provincial record for *Clivina collaris* (Herbst) (Coleoptera: Carabidae). *The Coleopterists Bulletin* 45: 298-299 [DP: 22 October 1991]
- Ponomarenko AG (1977) Suborder Adephaga. Pp. 17-104 in Arnol'di LV, Zherikhin VV, Nikritin LM, Ponomarenko AG (Eds). *Mesozoic Coleoptera* [in Russian]. Trudy Paleontologicheskogo Instituta Akademii Nauk SSSR No. 161. 204 pp. Note. An English translation of the book was published in 1992 by the Smithsonian Institution Libraries.
- Popenoe EA (1877) A list of Kansas Coleoptera. *Transactions of the Kansas Academy of Science* 5 [1876]: 21-40.
- Popenoe EA (1878) Additions to the catalogue of Kansas Coleoptera. *Transactions of the Kansas Academy of Science* 6 [1877-78]: 77-86.
- Poppius BR (1906a) Beiträge zur Kenntniss der Coleopteren-Fauna des Lena-Thales in Ost-Sibirien. II. Cicindelidae und Carabidae. *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar* 48 [1905-06] (3): 1-65.
- Poppius BR (1906b) Zur Kenntnis der Pterostichen-Untergattung *Cryobius* Chaud. *Acta Societatis pro Fauna et Flora Fennica* 28 [1905-06] (5): 1-280.
- Poppius BR (1907) Eine neue Art der Pterostichen-Untergattung *Cryobius* Chaud. aus Nord-Amerika. *Weiner Entomologische Zeitung* 26: 21-22 [DP: 1 January 1907]
- Poppius BR (1908a) Über einige Chaudoir'sche Arten der Pterostichen-Untergattung *Cryobius* Chaud. *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar* 50 [1907-08] (5): 1-4.
- Poppius BR (1908b) Über einige sibirische und nordwest-amerikanische Käfer-Arten. *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar* 50 [1907-08] (6): 1-7.
- Poppius BR (1910) Die Coleopteren des arktischen Gebietes. Pp. 289-447 in: *Fauna Arctica. Eine Zusammenstellung der arktischen Tierformen mit besonderer Berücksichtigung des Spitzbergen-Gebietes auf Grund der Ergebnisse der Deutschen Expedition in das Nördliche Eismeer im Jahre 1898. Unter Mitwirkung zahlreicher Fachgenossen herausgegeben von Dr. Fritz Römer und Dr. Fritz Schaudinn. Nach ihrem Tode fortgesetzt von Dr. August Brauer. Fünfter Band. Erste Lieferung.* Gustav Fischer, Jena. iii + 447 pp. + 5 pls [DP: 24 May 1910]
- Poppius BR (1913) Beiträge zur Coleopteren- und Hemipteren-Fauna des untersten Jana-Gebietes und der Neusibirischen Inseln (Nordost-Sibirien). *Revue Russe d'Entomologie* 13: 82-84 [8 July 1913]
- Powell JE (1977) First New York record for *Carabus maeander* Fischer (Coleoptera, Carabidae). *The Coleopterists Bulletin* 31: 148 [DP: 4 August 1977]
- Preudhomme de Borre A (1885) [Collection de feu M. Putzeys]. *Annales de la Société Entomologique de Belgique* 29: clix-clxi.
- Procter W (1946) *Biological survey of the Mount Desert Region Incorporated. Founded and directed by William Procter. Part VII. Being a revision of Parts I and VI with the addition of 1100 species. The insect fauna with references to methods of capture, food plants, the flora and other biological features.* The Wistar Institute of Anatomy and Biology, Philadelphia. 566 pp.
- Prüser F, Mossakowski D (1998) Conflicts in phylogenetic relationships and dispersal history of the supertribe Carabinae (Coleoptera: Carabidae). Pp. 297-328 in Ball GE, Casale A, Vigna

- Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Purrington FF (1997) Ground beetles of Nantucket Island, Massachusetts: 1995 (Coleoptera: Carabidae). *Journal of the New York Entomological Society* 104 [1996]: 95-103 [DP: 29 August 1997]
- Purrington FF (2000) A new *Selenophorus* (Coleoptera: Carabidae) from the Rio Grande in Texas. *Entomological News* 111: 8-12 [DP: 5 May 2000]
- Purrington FF, Bater JE, Paoletti MG, Stinner BR (1989) Ground beetles from a remnant oak-maple-beech forest and its surroundings in northeastern Ohio (Coleoptera: Carabidae). *The Great Lakes Entomologist* 22: 105-110 [DP: 22 November 1989]
- Purrington FF, Drake CJ (2005) A key to adult Nearctic *Pasimachus* (*Pasimachus*) Bonelli (Coleoptera: Carabidae: Scaritini), with comments on their functional mouthpart morphology. *Entomological News* 116: 253-262 [DP: 29 November 2005]
- Purrington FF, Larsen KJ (1997) Records of thirteen ground beetles (Coleoptera: Carabidae) new to Iowa. *The Journal of the Iowa Academy of Science* 104: 50-51 [DP: 18 June 1997]
- Purrington FF, Maxey RM (2007) First record of *Harpalus ochropus* Kirby (Coleoptera: Carabidae) from Minnesota and the conterminous United States. *The Great Lakes Entomologist* 39 [2006]: 219-220.
- Purrington FF, Maxwell JA (1998) First United States record of *Dyschirius sextoni* (Coleoptera: Carabidae). *Entomological News* 109: 189-190 [DP: 22 June 1998]
- Purrington FF, Stanton RC (1996) New records of five ground beetles from Ohio (Coleoptera: Carabidae). *The Great Lakes Entomologist* 29: 43-44 [DP: 17 September 1996 (McD stamp)]
- Purrington FF, Stanton RC, Horn DJ (1999) Ground beetle range extensions: six new Ohio records (Coleoptera: Carabidae). *The Great Lakes Entomologist* 32: 47-49 [DP: 10 December 1999 (CAL stamp)]
- Purrington FF, Young DK, Larsen KJ, Chin-Ting Lee J (2002) New distribution records of ground beetles from the north central United States (Coleoptera: Carabidae). *The Great Lakes Entomologist* 33 [2000]: 199-204 [DP: 24 April 2002 (McD stamp)]
- Putchkov AV (1992) The larva of *Harpalus* (*Artabas*) *splendens* (Coleoptera, Carabidae). *Vestnik Zoologii* 5'92: 70-73 [DP: >1 October 1992]
- Putchkov AV, Arndt E (1994) Preliminary list and key of known tiger beetle larvae (Coleoptera, Cicindelidae) of the world. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* [Bulletin de la Société Suisse d'Entomologie] 67: 411-420 [DP: December 1994]
- Putchkov AV, Arndt E (1997) Larval morphology of genus *Megacephala* Latreille, 1802 (Coleoptera: Cicindelidae). *Beiträge zur Entomologie* 47: 55-62 [DP: 20 May 1997]
- Putzeys JAAH (1845a) *Prémices entomologiques*. H. Dessain, Liège. 64 + [1] pp. + 1 pl. [DP: May 1845 (see Putzeys 1867b: 1)] Note. This work was also issued in *Mémoires de la Société Royale des Sciences de Liège* 2 [1845-46]: 353-417.
- Putzeys JAAH (1845b) Bemerkung über einige Arten der Gattung *Bembidium*. *Stettiner Entomologische Zeitung* 6: 136-141.

- Putzeys JAAH (1846) *Monographie des Clivina et genres voisins, précédée d'un tableau synoptique des genres de la tribu des scaritides*. H. Dessain, Liège. 145 pp. [DP: January 1846] Note. This work was also issued in *Mémoires de la Société Royale des Sciences de Liège* 2 [1845-46]: 521-663.
- Putzeys JAAH (1847) *Trechorum Europaeorum conspectus*. *Stettiner Entomologische Zeitung* 8: 302-315.
- Putzeys JAAH (1861) *Postscriptum ad Clivinidarum monographiam atque de quibusdam aliis*. Leodii, Dessain. 78 pp. [DP: November 1861 (see Putzeys 1867b: 1)] Note. This work was also issued in 1863 in *Mémoires de la Société Royale des Sciences de Liège* 18: 1-78.
- Putzeys JAAH (1865) *Remarques sur les Amaroides*. *Stettiner Entomologische Zeitung* 26: 332-344 [DP: 4 December 1865 (*Ent. Soc. London*)]
- Putzeys JAAH (1866a) *Note sur les Notiophilus*. *Mémoires de la Société Royale des Sciences de Liège* (deuxième série) 1: 153-169.
- Putzeys JAAH (1866b) *Etude sur les Amara de la collection de M<sup>r</sup>. le Baron de Chaudoir*. *Mémoires de la Société Royale des Sciences de Liège* (deuxième série) 1: 171-283.
- Putzeys JAAH (1867a) *Additions aux Amara*. *Stettiner Entomologische Zeitung* 28: 169-178 [DP: end of March 1867]
- Putzeys JAAH (1867b) *Révision générale des clivinides*. *Annales de la Société Entomologique de Belgique* 10 [1866]: 1-242 [DP: 29 September 1867 (*Soc. Ent. Belg.*)]
- Putzeys JAAH (1870) *Trechorum oculatorum monographia* (Fortsetzung.). *Stettiner Entomologische Zeitung* 31: 145-201 [DP: middle of February 1870]
- Putzeys JAAH (1874) *Notice sur les cicindèles et carabiques recueillis dans l'île d'Antigoa par M. Purves*. *Annales de la Société Entomologique de Belgique* 17: 117-119 [DP: 30 July 1874]
- Putzeys JAAH (1878) *Description des Selenophorus de l'Amérique*. *Stettiner Entomologische Zeitung* 39: 1-73 [DP: middle of January 1878]
- Quaintance AL, Jenne EL (1912) *The Plum Curculio*. U.S. Department of Agriculture, Bureau of Entomology, Bulletin No. 103. 250 pp. [DP: 13 July 1912]
- Rafinesque CS (1815) *Analyse de la nature ou tableau de l'univers et des corps organisés*. [Author], Palermo. 224 pp. [DP: April–21 July 1815 (Stafleu and Cowan 1983, *Taxonomic literature*. Vol. IV, p. 557)]
- Ragusa E (1884) *Catalogo ragionato dei Coleotteri di Sicilia*. *Il Naturalista Siciliano* 4 [1884-85]: 1-6.
- Randall JW (1838a) *Description of new species of coleopterous insects inhabiting the state of Maine*. *Boston Journal of Natural History* 2 [1838-39]: 1-33 [DP: 15 June 1838 (*Amer. Phil. Soc.*)]
- Randall JW (1838b) *Descriptions of new species of coleopterous insects inhabiting the state of Massachusetts*. *Boston Journal of Natural History* 2 [1838-39]: 34-52 [DP: 15 June 1838 (*Amer. Phil. Soc.*)]
- Rathvon SS (1869) *Entomology*. Pp. 521-574 in Mombert, J.I. *An authentic history of Lancaster County, in the state of Pennsylvania*. J.E. Barr & Co., Lancaster (PA). viii + 617 + 175 pp. [DP: November 1869 (*Penn. School Journ.* 18: 130)]
- Rauterberg F (1885) *Coleoptera of Wisconsin*. *Proceedings of the Natural History Society of Wisconsin* (1885): 10-23, 48-62 [DP: 13 May 1885 (*Soc. Ent. Fr.*)]

- Raynaud P (1935) Les *Nebria* Latr. Contribution à l'étude des larves. *Miscellanea Entomologica* 36 [separate pagination]: 9-16 [DP: 15 February 1935] Note. This work was inserted as supplement, with separate pagination, in volume 36 of *Miscellanea Entomologica*.
- Raynaud P (1940a) Une larve de *Calathus* qui est celle de *Carabus auratus* Linné. *Miscellanea Entomologica* 40 [1939-40]: 13-14 [DP: 15 February 1940]
- Raynaud P (1940b) [Contribution à l'étude des larves: *Platynus* et *Agonum* (suite), Les *Calathus* Bonn.]. *Miscellanea Entomologica* 40 [1939-43]: 73-88 [DP: September 1940 (Le Moult and Bernardi 1943, *Misc. Ent.* 40: 83)] Note. This work was inserted as supplement, with separate pagination, to volume 40 of *Miscellanea Entomologica*.
- Raynaud P (1944) [Contribution à l'étude des larves: *Calathus* (suite), Le *Stenolophus teutonius* Schrank, Les *Pseudorthomus* Chaudoir, La *Drypta dentata* Rossi]. *Miscellanea Entomologica* 41 [separate pagination]: 89-104 [DP: 31 May 1944] Note. This work was inserted as supplement, with separate pagination, to volume 41 of *Miscellanea Entomologica*.
- Raynaud P (1969) Stades larvaires No 15 - planche XII. *Archicarabus nemoralis* Muller. *Bulletin mensuel de la Société Linnéenne de Lyon* 38: 24 [DP: 24 March 1969 (CUL stamp)]
- Raynaud P (1975) Synopsis morphologique des larves de *Carabus* Lin. (Coléoptères Carabidae) connues à ce jour. *Bulletin mensuel de la Société Linnéenne de Lyon* 44: 211-224 [DP: 9 October 1975 (CUL stamp)], 257-272 [DP: 3 November 1975 (CUL stamp)], 297-328 [DP: 3 December 1975 (CUL stamp)], 349-372.
- Raynaud P (1976a) Synopsis morphologique des larves de *Carabus* Lin. (Coléoptères Carabidae) connues à ce jour. *Bulletin mensuel de la Société Linnéenne de Lyon* 45: 9-40 [DP: 20 February 1976 (CUL stamp)], 61-84 [DP: 12 March 1976 (CUL stamp)], 107-126 [DP: 8 April 1976 (CUL stamp)]
- Raynaud P (1976b) Stades larvaires. Famille Ptérostichidae (Coléoptères Carabidae). *Nouvelle Revue d'Entomologie* 6: 19-24 [DP: 23 April 1976]
- Raynaud P (1976c) Stades larvaires. Famille des Pterostichitae (Coléoptères Carabidae). *Nouvelle Revue d'Entomologie* 6: 255-260 [DP: 30 November 1976]
- Raynaud P (1976d) Stades larvaires de coléoptères carabiques. *L'Entomologiste* 32: 166-174 [DP: 19 November 1976 (CUL stamp)]
- Raynaud P (1976e) Description de cinq larves de coléoptères carabiques. *Entomops* 40: 275-284 [DP: 1 October 1976]
- Reddell JR, Cokendolpher JC (2001) A new species of troglobitic *Rhadine* (Coleoptera: Carabidae) from Texas. Pp. 109-114 in Reddell JR, Cokendolpher JC (Eds). *Studies on the cave and endogean fauna of North America III*. Texas Memorial Museum Speleological Monographs, 5. Texas Memorial Museum and the Texas Natural Science Center, Austin. vii + 192 pp.
- Reddell JR, Cokendolpher JC (2004) New species and records of cavernicole *Rhadine* (Coleoptera: Carabidae) from Camp Bullis, Texas. Pp. 153-162 in Cokendolpher JC, Reddell JR (Eds). *Studies on the cave and endogean fauna of North America IV*. Texas Memorial Museum Speleological Monographs, 6. Texas Memorial Museum and the Texas Natural Science Center, Austin. 200 pp.
- Reddell JR, Dupérré N (2009) A new species of troglobitic *Rhadine* (Coleoptera: Carabidae) from Hays County, Texas. Pp. 111-114 in Cokendolpher JC, Reddell JR (Eds). *Studies on*

- the cave and endogean fauna of North America, part V*. Texas Memorial Museum Speleological Monographs, number 7. Texas Memorial Museum and the Texas Natural Science Center, Austin. vi + 169 pp. [DP: March 2009]
- Redtenbacher L (1856) *Fauna Austriaca. Die Käfer. Nach der analytischen Methode. Zweite, gänzlich umgearbeitete, mit mehreren Hunderten von Arten und mit der Charakteristik sämtlicher europäischen Käfergattungen vermehrte Auflage. Mit zwei Kupfertafeln*. Carl Gerold's Sohn, Wien. Pp. 1-128 [DP: 24 September 1856 (Zerche 1987, *Beitr. Ent.* 37: 137)] Note. This work was published in nine *Hefte*, 1856-1858, and contains cxxxvi + 1017 pp. + 2 pls.
- Reed EC (1874) On the Coleoptera Geodephaga of Chile. *Proceedings of the Scientific Meetings of the Zoological Society of London for the year 1874*: 48-70 + pl. 13 [DP: June 1874 (Duncan 1937, *Proc. Zool. Soc. London* 107: 73)]
- Reeves RM, Dunn GA, Jennings DT (1983) Carabid beetles (Coleoptera: Carabidae) associated with the spruce budworm, *Choristoneura fumiferana* (Lepidoptera: Tortricidae). *The Canadian Entomologist* 115: 453-472 [DP: 10 May 1983 (CAL stamp)]
- Regenfuss H (1975) Die Antennen-Putzeinrichtung der Adephaga (Coleoptera), parallele evolutive Vervollkommnung einer komplexen Struktur. *Zeitschrift für Zoologische Systematik und Evolutionsforschung* 13: 278-299.
- Reichardt H (1966) Revisionary notes on the genera of Eucheilini (Coleoptera, Carabidae). *Psyche* 73: 8-16 [DP: 31 August 1966]
- Reichardt H (1967) A monographic revision of the American Galeritini (Coleoptera, Carabidae). *Arquivos de Zoologia* 15: 1-176 [DP: 27 June 1967]
- Reichardt H (1968) Revisionary notes on the American Pentagonicipini (Coleoptera, Carabidae). *Papéis Avulsos de Zoologia* 21 [1967-68]: 143-160 [DP: 5 March 1968]
- Reichardt H (1973) A review of *Hyboptera* Chaudoir (Coleoptera, Carabidae). *Revista Brasileira de Entomologia* 17 (8): 47-55 [DP: 20 July 1973]
- Reichardt H (1974) Monograph of the Neotropical Helluonini, with notes and discussions on Old World forms (Coleoptera: Carabidae). *Studia Entomologica* 17: 211-302 [DP: 31 October 1974]
- Reichardt H (1977) A synopsis of the genera of Neotropical Carabidae (Insecta: Coleoptera). *Quaestiones Entomologicae* 13: 346-493.
- Reiche LJ (1838) Note sur le genre *Omus* d'Eschscholtz, et description de deux nouvelles espèces. *Annales de la Société Entomologique de France* 7: 297-302 [DP: 19 November 1838 (*Acad. Sci.*)]
- Reiche LJ (1840) Note sur le genre *Amblycheila* de Say, et description d'une nouvelle espèce. *Annales de la Société Entomologique de France* 8 [1839]: 557-561 [DP: 13 April 1840 (*Acad. Sci.*)]
- Reiche LJ (1842) Coleoptera Columbiana, etc. Decas tertia et quarta. *Revue Zoologique* [5]: 307-314 [DP: 7 November 1842 (*Acad. Sci.*)]
- Reiche LJ (1843a) Coleoptera Colombiana, etc. Decas sexta. *Revue Zoologique* [6]: 37-41 [DP: 15 March 1843 (*Acad. Sci.*)]
- Reiche LJ (1843b) Coleoptera Colombiana, etc. Decas octava. *Revue Zoologique* [6]: 141-145 [DP: 12 June 1843 (*Acad. Sci.*)]
- Reiche LJ (1843c) Coleoptera Colombiana, etc. Decas nona. *Revue Zoologique* [6]: 177-180.



- Reiche LJ (1857) [Description sommaire de cinq espèces nouvelles d'insectes]. *Annales de la Société Entomologique de France* (troisième série) 5: viii-x [DP: 24 June 1857]
- Reiche LJ, Lallemant C (1872) *Catalogue des coléoptères de l'Algérie et contrées voisines avec description d'espèces nouvelles par M.L. Reiche avec la collaboration principale de M. Lallemant et l'aide de plusieurs entomologistes*. F. Le Blanc-Hardel, Caen. 44 pp. [DP: <1 August 1872]
- Rein G (1857) *Redogörelse från Kejsarliga Alexanders-Universitetet för rektoratstriennium ifrån början af hösttermin 1854 till samma tid 1857, af Universitetets n.v. Rektor*. J.C. Frenckell & Son, Helsingfors. 44 pp. [not seen]
- Reitter E (1880) Einige neue Coleopteren. *Verhandlungen des naturforschenden Vereines in Brünn* 18 [1879]: 29-33.
- Reitter E (1896) Bestimmungs-Tabellen der europäischen Coleopteren: Enthaltend: Carabidae. 1. Abtheilung: Carabini, gleichzeitig mit einer systematischen Darstellung sämtlicher Subgenera der Gattung *Carabus* L. *Verhandlungen des naturforschenden Vereines in Brünn* 34 [1895]: 36-198.
- Reitter E (1897) Die Arten der Coleopteren-Gattung *Notiophilus* Dumeril aus Europa und den angrenzenden Ländern. *Entomologische Nachrichten* 23: 361-364 [DP: December 1897]
- Reitter E (1900) Bestimmungs-Tabelle der europäischen Coleopteren: Enthaltend: Carabidae. Abtheilung: Harpalini. *Verhandlungen des naturforschenden Vereines in Brünn* 38 [1899]: 33-155.
- Reitter E (1905) Zur systematischen Gruppeneinteilung des Coleopteren-Genus *Dromius* Bonelli und Übersicht der mir bekannten Arten. *Wiener Entomologische Zeitschrift* 24: 229-239 [DP: 15 August 1905]
- Reitter E (1908) *Fauna Germanica. Die Käfer des Deutschen Reiches. Nach der analytischen Methode bearbeitet. I. Band*. Lutz KG, Stuttgart. viii + 248 pp. + 40 pls [DP: >1 August 1908]
- Reuter OM (1882) Entomologiska meddelanden från Societas' pro fauna et flora fennica sammanträden åren 1880 och 1881. *Entomologisk Tidskrift* 3: 153-156 [DP: 9 August 1882 (Soc. Ent. Fr.)]
- Ribera I, Hogan JE, Vogler AP (2002) Phylogeny of hydradephagan water beetles inferred from 18S rRNA sequences. *Molecular Phylogenetics and Evolution* 23: 43-62 [DP: April 2002]
- Ribera I, Mateu J, Bellés X (2005) Phylogenetic relationships of *Dalyat mirabilis* Mateu, 2002, with a revised molecular phylogeny of ground beetles (Coleoptera, Carabidae). *Journal of Zoological Systematics and Evolutionary Research* 43: 284-296 [DP: November 2005]
- Richmond EA (1968) A supplement to the fauna and flora of Horn Island, Mississippi. *Gulf Research Reports* 2: 213-254 [DP: November 1968]
- Riley CV (1893) Report on a small collection of insects made during the Death Valley Expedition. Pp. 235-252 in: *The Death Valley Expedition. A biological survey of parts of California, Nevada, Arizona, and Utah. Part II*. North American fauna No. 7. U.S. Department of Agriculture, Division of Ornithology and Mammology, Washington. 402 pp. + 14 pls [DP: 31 May 1893]
- Riley CV, Packard AS Jr., Thomas C (1878) *First annual report of the United States Entomological Commission for the year 1877 relating to the Rocky Mountain Locust and the best methods of preventing its injuries and of guarding against its invasions, in pursuance of an appropriation*

- made by Congress for this purpose. With maps and illustrations. Government Printing Office, Washington, D.C. xvi + 477 + 295 [Appendices] pp. [DP: 29 July 1878]
- Riley EG (2011) An illustrated inventory of the beetles (Coleoptera) of Lick Creek Park, College Station, Texas. Available at: [http://insects.tamu.edu/tamuinsectcollection/lick\\_creek\\_park/beetles/index.html](http://insects.tamu.edu/tamuinsectcollection/lick_creek_park/beetles/index.html) [accessed 10 February 2012]
- Rivalier E (1954) Démembrement du genre *Cicindela* Linné II. Faune américaine. *Revue Française d'Entomologie* 21: 249-268 [DP: 20 December 1954]
- Rivers JJ (1890a) Description of a new *Cychrus*. *Entomologica Americana* 6: 71 [DP: 24 April 1890 (*Amer. Ent. Soc.*)]
- Rivers JJ (1890b) Three new species of Coleoptera. *Entomologica Americana* 6: 111-112 [DP: 9 June 1890 (*Amer. Ent. Soc.*)]
- Rivers JJ (1900) A new *Metrius* from California. *Entomological News* 11: 389 [DP: 5 March 1900 (CUL stamp)]
- Robinson JH (1948) Description of a new tiger beetle from Texas. *Annals of the Entomological Society of America* 41: 27 [DP: 10 June 1948]
- Roeschke H (1900) Carabologische Notizen VI. *Entomologische Nachrichten* 26: 68-72 [DP: March 1900]
- Roeschke H (1907a) Monographie der Carabiden-tribus Cychrini mit Bemerkungen über Typen und Lokalrassen der amerikanischen Arten von Dr. med. Edwin C. Van Dyke. *Annales Historico-Naturales Musei Nationalis Hungarici* 5: 99-277 [DP: 30 June 1907]
- Roeschke H (1907b) Nachtrag zur Monographie der Cychrini. *Annales Historico-Naturales Musei Nationalis Hungarici* 5: 569-573 [DP: 10 December 1907]
- Roig-Juñent SA (1993) Cnemalobini, una tribu de Carabidae (Coleoptera) endemica de America del Sur. *Acta Entomológica Chilena* 18: 7-18 [DP: December 1993]
- Roig-Juñent SA (1998) Cladistic relationships of the tribe Broscini (Coleoptera: Carabidae). Pp. 343-358 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Roig-Juñent SA (2000) The subtribes and genera of the tribe Broscini (Coleoptera: Carabidae): cladistic analysis, taxonomic treatment, and biogeographical considerations. *Bulletin of the American Museum of Natural History* 255: 1-90 [DP: 25 September 2000]
- Roig-Juñent SA (2004) Los Migadopini (Coleoptera: Carabidae) de América del Sur: descripción de las estructuras genitales masculinas y femeninas y consideraciones filogenéticas y biogeográficas. *Acta Entomológica Chilena* 28(2): 7-29.
- Roig-Juñent SA, Agrain F, Carrara R, Ruiz-Manzanos E, Tognelli MF (2008) Description and phylogenetic relationships of two new species of *Baripus* (Coleoptera: Carabidae: Broscini) and considerations regarding patterns of speciation. *Annals of Carnegie Museum* 77: 211-227 [DP: 20 July 2008]
- Roig-Juñent SA, Cicchino AC (2001) *Chaltenia patagonica*, new genus and species belonging to Chalteniina, a new subtribe of Zolini (Coleoptera: Carabidae). *The Canadian Entomologist* 133: 651-670 [DP: September 2001]

- Roig-Juñent SA, Sallenave S, Agrain FA (2011) New morphological aspects and phylogenetic considerations of *Cicindis* Bruch (Coleoptera: Carabidae: Cicindini). *Neotropical Entomology* 40: 331-344.
- Rossi P (1792) *Mantissa insectorum exhibens species nuper in Etruria collectas a Petro Rossio adiectis faunae Etruscae illustrationibus, ac emendationibus*. [Tom. I]. Polloni, Pisis. 148 pp. [DP: >1 March 1792]
- Rotger B (1944) A new species of *Cicindela* and two new records of Coleoptera. *The Pan-Pacific Entomologist* 20: 76-77 [DP: 29 April 1944]
- Rotger B (1972) A new race of *Cicindela willistoni* LeConte from New Mexico. *Cicindela* 4: 25-27 [DP: 25 August 1972 (CAL stamp)]
- Rotger B (1974) A new subspecies of *Cicindela lengi* W. Horn. *Cicindela* 6: 9-11 [DP: 13 May 1974]
- Roughley RE (1981) Trachypachidae and Hydradephaga (Coleoptera): a monophyletic unit? *The Pan-Pacific Entomologist* 57: 273-285 [DP: 19 June 1981]
- Roughley RE, Pollock DA, Wade DJ (2010) Tallgrass prairie, grand beetles (Coleoptera: Carabidae), and the use of fire as a biodiversity and conservation management tool. Pp. 227-235 in Shorthouse JD, Floate KD (Eds). *Arthropods of Canadian grasslands* (volume 1): ecology and interactions in grassland habitats. Biological Survey of Canada Monograph Series No. 3. ix + 358 pp.
- Roux P (1984) Contribution à la faune des carabiques de Saint-Pierre et Miquelon. *L'Entomologiste* 40: 113-116 [DP: June 1984]
- Ruhnau S (1986) Phylogenetic relations within the Hydradephaga (Coleoptera) using larval and pupal characters. *Entomologica Basiliensia* 11: 231-271 [DP: 30 October 1986]
- Ruiz C, Jordal BH, Emerson BC, Will KW, Serrano J (2009) Molecular phylogeny and Holarctic diversification of the subtribe Calathina (Coleoptera: Carabidae: Sphodrini). *Molecular Phylogenetics and Evolution* 55 [2010]: 358-371 [DP: 10 November 2009 (online version)]
- Ruiz C, Jordal BH, Serrano J (2008) Molecular phylogeny of the tribe Sphodrini (Coleoptera: Carabidae) based on mitochondrial and nuclear markers. *Molecular Phylogenetics and Evolution* 50 [2009]: 44-58 [DP: 2 October 2008 (online version)]
- Rumpp NL (1956) Tiger beetles of the genus *Cicindela* in southwestern Nevada and Death Valley, California, and description of two new subspecies (Coleoptera-Cicindelidae). *Bulletin of the Southern California Academy of Sciences* 55: 131-144 [DP: 31 December 1956]
- Rumpp NL (1958) Notes on the *Cicindela praetextata-californica* tiger beetle complex. Description of a new subspecies from Death Valley, California (Coleoptera-Cicindelidae). *Bulletin of the Southern California Academy of Sciences* 56 [1957]: 144-154 [DP: 15 January 1958]
- Rumpp NL (1962) Three new tiger beetles of the genus *Cicindela* from southwestern United States (Cicindelidae-Coleoptera). *Bulletin of the Southern California Academy of Sciences* 60 [1961]: 165-187 [DP: 24 January 1962]
- Rumpp NL (1967) A new species of *Cicindela* from Idaho (Coleoptera: Cicindelidae). *Proceedings of the California Academy of Sciences* (fourth series) 35: 129-139 [DP: 22 November 1967]

- Rumpp NL (1977) Tiger beetles of the genus *Cicindela* in the Sulphur Springs Valley, Arizona, with descriptions of three new subspecies (Cicindelidae-Coleoptera). *Proceedings of the California Academy of Sciences* (fourth series) 41: 169-181 [DP: 31 May 1977]
- Rumpp NL (1986) Two new tiger beetles of the genus *Cicindela* from western United States (Cicindelidae: Coleoptera). *Bulletin of the Southern California Academy of Sciences* 85: 139-151 [DP: 19 December 1986]
- Rupertsberger M (1872) Zwei neue Carabiden-Larven. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien* 22: 573-576.
- Ruschenberger WSW (1852) *A notice of the origin, progress, and present condition of the Academy of Natural Sciences of Philadelphia*. T.K. and P.G. Collins, Philadelphia. 78 pp. [DP: 13-29 March 1852 (Publ. Circular No 351)]
- Russell LK (1968) The faunal relationships of the Coleoptera of Montana, west of the continental divide, with a list of the species known to occur there. M.Sc. Thesis, University of Washington. 208 pp.
- Ryan K, Holliday NJ (2006) First Canadian record of *Chlaenius platyderus* Chaudoir (Coleoptera: Carabidae). *The Coleopterists Bulletin* 59 [2005]: 414 [DP: 17 January 2006]
- Rye EC (1875) Insecta. *The Zoological Record* 10 [1873]: 215-466 [DP: >1 April 1875]
- Rye EC (1880) Insecta. *The Zoological Record* 15 [1878]: 1-291 [DP: >1 July 1880]
- Saalas U (1917) Die Fichtenkäfer Finnlands. Studien über die Entwicklungsstadien, Lebensweise und geographische Verbreitung der an *Picea excelsa* Link. lebenden Coleopteren nebst einer Larvenbestimmungstabelle. I. Allgemeiner Teil und Spezieller Teil I. *Suomalaisen Tiedeakatemia Toimituksia* [Annales Academiae Scientiarum Fennicae] (Sarja A) 8 (1): xxii + 547 pp. + 9 pls.
- Saalas U (1923) Die Fichtenkäfer Finnlands. Studien über die Entwicklungsstadien, Lebensweise und geographische Verbreitung der an *Picea excelsa* Link. lebenden Coleopteren nebst einer Larvenbestimmungstabelle. II. Spezieller Teil 2 und Larvenbestimmungstabelle. *Suomalaisen Tiedeakatemia Toimituksia* [Annales Academiae Scientiarum Fennicae] (Sarja A) 22 (1): x + 746 pp. + 28 pls [DP: >28 May 1923]
- Sabine DL (2005) First record of *Cicindela marginipennis* Dejean from Canada. *Cicindela* 36 [2004]: 53-56 [DP: 2 February 2005 (CUL stamp), 3 February 2005 (CML stamp)]
- Sabu TK, Abhitha P, Zhao D (2008) A new *Helluodes* Westwood from western ghats with notes on habitat, distribution and phylogenetic relationships of genera *Helluodes* Westwood and *Physocrotaphus* Parry of the tribe Physocrotaphini Chaudoir (Insecta: Coleoptera: Carabidae: Anthiinae). *Zootaxa* 1745: 30-46 [DP: 9 April 2008]
- Sadek LS (1982) A systematic study of the genus *Abacidus* (Coleoptera: Carabidae: Pterostichini). M.Sc. Thesis, The University of Arkansas. iv + 48 pp.
- Sahlberg CR (1827a) *Dissertatio entomologica. Insecta Fennica enumerans. Cujus particulam tredecimam, cons. ampl. facult. philos. Aboënsis, praeside Carolo Reginaldo Sahlberg. Publicae censurae submittit pro gradu philosophico Franciscus Johannes Rabbe, stipend. Brem. Satacundensis. In auditorio philos. die XIX Maji 1827. h.a.m.s. Typis Frenckelliorum, Aboae. Pp. 185-200* [Not seen] [DP: 19 May 1827]
- Sahlberg CR (1827b) *Dissertatio entomologica. Insecta Fennica enumerans. Cujus particulam decimam sextam, cons. ampl. facult. philos. Aboënsis, praeside Carolo Reginaldo Sahlberg. Publi-*

- cae censurae offert pro summis in philosophia honoribus Gustavus Johannes Mechelin, stipend. publ. Wiburgensis. In auditorio medico die XXVI Maji 1827. h.p.m.s. Typis Frenckelliorum, Aboae. Pp. 233-248 [Not seen] [DP: 26 May 1827]*
- Sahlberg CR (1827c) *Dissertatio entomologica. Insecta Fennica enumerans. Cujus particulam decimam septimam, cons. ampl. facult. philos. Aboësis, praeside Carolo Reginaldo Sahlberg. Publicae proponit censurae, pro summis in philosophia honoribus, Arndtius Gerhardus Lindfors; ad scholam Helsingforsensem vicarius collega, Nyland. In auditorio philos. die XXIII Junii 1827. h.a.m.s. Pp. 249-260 [Not seen] [DP: 23 June 1827]*
- Sahlberg CR (1827d) *Dissertatio entomologica. Insecta Fennica enumerans. Cujus particulam decimam octavam, cons. ampl. facult. philos. Aboënsis, praeside Carolo Reginaldo Sahlberg. Pro laurea publicae subjecit censurae, Johannes Ludovicus Runeberg, stip. publ. Ostrobothniensis. In auditorio philos. die XXIII Junii 1827. h.p.m.s. Typis Frenckelliorum, Aboae. Pp. 261-270 [Not seen] [DP: 23 June 1827]* Note. Sahlberg's dissertations were reissued, without the dissertation titles, in 1834 in a book entitled "*Insecta Fennica, dissertationibus academicis, a. 1817–1834 editis. Pars I:a.*"
- Sahlberg JR (1875) *Enumeratio Coleopterorum carnivororum Fenniae. Systematisk förteckning öfver de inom Finlands natural-historiska område hittills funna Coleoptera carnivora jemte uppgift om arternas utbredning och beskrifningar af nya och mindre kända species. Notiser ur Sällskapets pro Fauna et Flora Fennica Förhandlingar* (Ny serie) 14: 41-200. Note. The title page of volume 14 (new series) of the journal is dated 1875 (not 1873 as reported by Rey 1876, *Zool. Rec.* 11 [1874]: 249) and page 200 "December 1874." I have accepted the date of 1875.
- Sahlberg JR (1880) *Bidrag till Nordvestra Sibiriens Insektfauna. Coleoptera. Insamlade under expeditionerna till Obi och Jenessej 1876 och 1877. I. Cicindelidae, Carabidae, Dytiscidae, Hydrophilidae, Gyrinidae, Dryopidae, Georyssidae, Limnichidae, Heteroceridae, Staphylinidae och Micropeplidae. Kongliga Svenska Vetenskaps-Akademiens Handlingar* (ny Följd) 17(4): 1-115.
- Sahlberg JR (1882) *Synonymiska anmärkningar till nordiska Coleoptera. Entomologisk Tidskrift* 3: 187-190.
- Sahlberg JR (1885a) *Bidrag till Tschuktsch-halföns insektfauna. Coleoptera och Hemiptera, insamlade under Vega-expeditionen vid halföns norra och östra kust 1878-1879. Beijers, Stockholm. Pp. 1-42 [DP: 13 May 1885 (Soc. Ent. Fr.)]* Note. This paper was also published in 1887 in Nordenskiöld's *Vega-Expeditionens Vetenskapliga Iakttagelser bearbetade af deltagare i resan och andra forskare. Fjerde Bandet*.
- Sahlberg JR (1885b) *Coleoptera och Hemiptera, insamlade af Vega-expeditionens medlemmar å Berings sunds Amerikanska kust uti omgifningarna af Port Clarence, vid Grantley Harbour och sjön Iman-Ruk den 23-26 juli 1879. Beijers, Stockholm. Pp. 43-57 [DP: 13 May 1885 (Soc. Ent. Fr.)]* Note. This paper was also issued in 1887 in Nordenskiöld's *Vega-Expeditionens Vetenskapliga Iakttagelser bearbetade af deltagare i resan och andra forskare. Fjerde Bandet*.
- Sahlberg JR (1908) *Coleoptera mediterranea et rosso-asiatica nova et minus cognita, maxima ex parte itineribus annis 1895-1896, 1898-1899 et 1903-1904 collecta. III. Öfversigt af Finska Vetenskaps-Societetens Förhandlingar* 50 [1907-08] (7): 1-94.



- Sahlberg RF (1844) *In faunam insectorum Rossicam symbola, novas ad Ochotzk lectas carabiorum species continens, quam, venia amplissimae facultatis philosophicae ad Universitatem Imperialem Alexandream in Fennia, p. p. Reginaldus Ferdinandus Sahlberg. Respondente Josepho Benjamino von Pfaler, Stipendiar. Publ. Satacund. In auditorio philos. die VII Decembris MDCCCXLIV. h.a.m.s. Frenckel, Helsingfors. 69 pp.* [DP: 7 December 1844]
- Sallé A (1849) Coléoptères nouveaux de l'Amérique (1<sup>re</sup> partie). *Annales de la Société Entomologique de France* (deuxième série) 7: 297-303 [DP: 26 December 1849]
- Sallé A (1877) [Note sur le genre *Dromochorus*]. *Bulletin des Séances de la Société Entomologique de France* (1877) (1): 4-6 [DP: 10 January 1877 (Evenhuis 2002, *Zootaxa* 70: 1-32)] Note. This publication appeared on pages vii-viii, 11 July 1877, in the *Bulletin* published with the *Annales*.
- Samouelle G (1819) *The entomologist's useful compendium; or an introduction to the knowledge of British Insects, comprising the best means of obtaining and preserving them, and a description of the apparatus generally used; together with the genera of Linné, and the modern method of arranging the classes Crustacea, Myriapoda, spiders, mites and insects, from their affinities and structure, according to the views of Dr. Leach. Also an explanation of the terms used in entomology; a calendar of the times of appearance and usual situations of near 3,000 species of British insects; with instructions for collecting and fitting up objects for the microscope.* Thomas Boys, London. 496 pp. + 12 pls [DP: June 1819 (Evenhuis 1997b: 680)]
- Sanderson MW, Miller A (1941) A new species of ground beetle of the genus *Rhadine* from an Arkansas cave (Coleoptera: Carabidae). *Proceedings of the Arkansas Academy of Science* 1: 39-40 [DP: >26 April 1941]
- Sasakawa K (2007) Taxonomic studies on the *Bembidion* ('*Cillenus*') complex (Coleoptera: Carabidae): a revision of the subgeneric taxonomy and description of a new species from Japan. *Zootaxa* 1575: 35-45 [DP: 5 September 2007]
- Sasakawa K, Kubota K (2005) Cryptic species of the subgenus *Morphnosoma* Lutshnik (Coleoptera: Carabidae: genus *Pterostichus*) from Japan. *Entomological Science* 8: 389-404 [DP: 22 December 2005 (online version)]
- Sasakawa K, Kubota K (2006) Phylogenetic studies of the subgenus *Petrophilus* Chaudoir (Coleoptera: Carabidae: *Pterostichus*), with description of a new species sympatric with *P. thunbergi* Morawitz. *Zootaxa* 1357: 31-43 [DP: 13 November 2006]
- Sasakawa K, Kubota K (2007) Phylogeny and genital evolution of carabid beetles in the genus *Pterostichus* and its allied genera (Coleoptera: Carabidae) inferred from two nuclear gene sequences. *Annals of the Entomological Society of America* 100: 100-109 [DP: 29 May 2007 (CAL stamp)]
- Saska P (2004) Larvae of the nominotypical subgenus *Amara* (Coleoptera: Carabidae). *Acta Societatis Zoologicae Bohemicae* 68: 191-234 [DP: 30 December 2004]
- Say TL (1817a) *American entomology, or descriptions of the insects of North America. Illustrated by coloured figures from drawings executed from nature.* Michell & Ames, Philadelphia. x + [26] pp. + 6 pls [DP: September 1817 (*Anal. Mag.*)]
- Say TL (1817b) Descriptions of several new species of North American insects. *Journal of the Academy of Natural Sciences of Philadelphia* 1 [1817-18]: 19-23 [DP: 20 May 1817 (see

- Fox 1913, *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. vii)]
- Say TL (1818) A monograph of North American insects, of the genus *Cicindela*. *Transactions of the American Philosophical Society* (new series) 1: 401-426 + pl. 13 [DP: 4 February 1818]
- Say TL (1823a) Descriptions of insects of the families of Carabici and Hydrocanthari of Latreille, inhabiting North America. *Transactions of the American Philosophical Society* (new series) 2: 1-109 [DP: <30 November 1823 (letter of Thomas Say to John F. Melsheimer, see *Ent. News* 13: 40)] Note. The second volume of the new series of the *Transactions of the American Philosophical Society* was issued in parts and the first part, containing Say's paper, appeared in 1823. The cover page of the volume bears the date "1825" which is the date of publication of the last part. Say had separate cover pages, bearing the inscription "Printed and published by Abraham Small, 1823," printed to many copies of his paper which he distributed to his correspondents (see Harris [in Scudder] 1869: 222).
- Say TL (1823b) Descriptions of coleopterous insects collected in the late expedition to the Rocky Mountains, performed by order of Mr. Calhoun, Secretary of War, under the command of Major Long. *Journal of the Academy of Natural Sciences of Philadelphia* 3 [1823-24]: 139-216 [DP: (pp. 139-160), October 1823; (pp. 161-192), November 1823; (pp. 193-216), December 1823 (see Fox 1913 in *An index to the scientific contents of the Journal and Proceedings of the Academy of Natural Sciences of Philadelphia*, p. viii)]
- Say TL (1824) Appendix. Part I. - Natural History. 1. Zoology. Pp. 253-378 + pls 14-15 in Keating, W.H. *Narrative of an expedition to the source of St. Peter's River, Lake Winnepeek, Lake of the Woods, &c. &c. performed in the year 1823, by order of the Hon. J.C. Calhoun, Secretary of War, under the command of Stephen H. Long, Major U.S.T.E. Compiled from the notes of Major Long, Messrs. Say, Keating, and Colhoun. In two volumes. Vol. II.* H.C. Carey & I. Lea, Philadelphia. vi + 459 pp. + pls 6-15 [DP: >29 November 1824] Note. A British edition of this work was published in 1825 by Whitley, London, and contains vi + 248 + 154 (Appendix) pages and 3 plates, with the same title except that the word "Major" between "Long" and "U.S.T.E." is left out. Say's contribution is on pages 3-123 of the Appendix.
- Say TL (1825) *American entomology, or descriptions of the insects of North America; illustrated by coloured figures from original drawings executed from nature. [Vol. II]*. S.A. Mitchell, Philadelphia. [121] pp. + pls 19-36 [DP: July 1825 (Evenhuis 1997b: 688)]
- Say TL (1828) *American entomology, or descriptions of the insects of North America; illustrated by coloured figures from original drawings executed from nature. [Vol. III]*. S.A. Mitchell, Philadelphia. [136] pp. + pls 37-54 [DP: August 1828 (Stroud 1992, *Thomas Say: New World naturalist*, p. 214)]
- Say TL (1830a) Description of new species of North American insects, and observations on some of the species already described. *The Disseminator of useful knowledge* 3: 67-69 [DP: 17 March 1830], 133-135 [DP: 9 May 1830]
- Say TL (1830b) Description of new species of North American insects, and observations on some of the species already described. *The Disseminator* 1 (1) [DP: 29 June 1830]: [3]; (3) [DP: 13 July 1830]: [3]; (4) [DP: 20 July 1830]: [3]; (5) [DP: 27 July 1830]: [3]; (6) [DP: 3 August 1830]: [3]; (7) [DP: 10 August 1830]: [3].

- Say TL (1830c) Descriptions of new species of North American insects, and observations on some of the species already described. School Press, New Harmony (IN). Pp. 1-41 [pages 1-17 unnumbered]. Note. The entire pamphlet appeared in 1830 (pp. 1-41), 1831 (pp. 42-49), 1832 (pp. 50-57), 1833 (pp. 58-73), and 1834 (pp. 73 1/2-80) (see Bousquet 1993). Its content was republished with minor editorial changes in the *Transactions of the American Philosophical Society* (new series) in 1834 (volume 4, pages 409-470) and 1839 (volume 6, pages 155-190).
- Scatizzi Branchini I (1938) Descrizione della prima larva di *Amara aenea* Deg. (Coleop. Carabidae). *Bollettino di Zoologia* 9: 215-221.
- Schaefer PW, Fuester RW, Taylor PB, Barth SE, Simons EE, Blumenthal EM, Handley EM, Finn TB, Elliott EW (1999) Current distribution and historical range expansion of *Calosoma sycophanta* (L.) (Coleoptera: Carabidae) in North America. *Journal of Entomological Science* 34: 339-362 [DP: 16 August 1999]
- Schaeffer CFA (1901) Synopsis of the species of *Trechus*, with the description of a new species. *Bulletin of the American Museum of Natural History* 14: 209-212 [DP: 3 July 1901 (author's separate)]
- Schaeffer CFA (1904) New genera and species of Coleoptera. *Journal of the New York Entomological Society* 12: 197-236 [DP: 6 December 1904 (CUL stamp)]
- Schaeffer CFA (1905) Some additional new genera and species of Coleoptera found within the limit of the United States. *Science Bulletin of the Museum of the Brooklyn Institute of Arts and Sciences* 1 [1901-10]: 141-179.
- Schaeffer CFA (1910) Additions to the Carabidae of North America with notes on species already known. *Science Bulletin of the Museum of the Brooklyn Institute of Arts and Sciences* 1 [1901-10]: 391-405.
- Schaeffer CFA (1911) New Coleoptera and miscellaneous notes. *Journal of the New York Entomological Society* 19: 113-126 [DP: 31 July 1911 (CUL stamp)]
- Schaeffer CFA (1915a) New Coleoptera and miscellaneous notes. *Journal of the New York Entomological Society* 23: 47-55 [DP: 31 March 1915 (CUL stamp)]
- Schaeffer CFA (1915b) New Coleoptera and miscellaneous notes. III. *Journal of the New York Entomological Society* 23: 235-238 [DP: 8 January 1916 (CUL stamp)]
- Schatzmayr A (1942) Bestimmungs-Tabellen europäischer Käfer. (8. Stück.) II. Fam. Carabidae. Subfam. Pterostichinae. 65. Gattungen: *Pterostichus* Bon. u. *Tapinopterus* Schaum. Bestimmungstabellen der europäischen und nordafrikanischen *Pterostichus*- und *Tapinopterus*-Arten. Zoologisch-Botanischen Gesellschaft in Wien, Wien. 80 pp.
- Schatzmayr A, Koch C (1934) Risultati scientifici della spedizione entomologica di S.A.S. il Principe Alessandro della Torre e Tasso in Egitto e nella penisola Sinai. *Bollettino della Società Adriatica di Scienze Naturali in Trieste* 33: 7-25.
- Schauberger E (1926) Beitrag zur Kenntnis der paläarktischen Harpalinen. *Coleopterologisches Centralblatt* 1 [1926-27]: 24-51 [DP: 25 March 1926]
- Schauberger E (1928) Beitrag zur Kenntnis der paläarktischen Harpalinen, IV. *Coleopterologisches Centralblatt* 3 [1928-29]: 65-85 [DP: 8 November 1928]
- Schauberger E (1933) Zur Kenntnis der paläarktischen Harpalinen. (13. Beitrag). *Koleopterologische Rundschau* 19: 123-133 [DP: 31 July 1933]

- Schaufuss LW (1861) Description de coléoptères nouveaux du genre *Sphodrus*, Clairville. *Revue et Magasin de Zoologie pure et appliquée* (2<sup>e</sup> série) 13: 12-15.
- Schaum HR (1847) Bemerkungen über Fabricische Käfer. *Stettiner Entomologische Zeitung* 8: 39-57.
- Schaum HR (1852) Bericht über die Leistungen in der Entomologie während des Jahres 1851. *Archiv für Naturgeschichte* 18 (2): 105-256.
- Schaum HR (1857a) *Naturgeschichte der Insecten Deutschlands begonnen von Dr. W.F. Erichson, fortgesetzt von Prof. Dr. H. Schaum, Dr. G. Kraatz und H. v. Kiesenwetter. Erste Abtheilung. Coleoptera. Erster Band.* Nicolai, Berlin. Pp. 191-352 [DP: March 1857 (see Vorrede, p. v)]  
Note. The entire work was published in four parts between 1856 and 1860 and contains vi + 791 pages.
- Schaum HR (1857b) [Mélanges entomologiques]. *Annales de la Société Entomologique de France* (troisième série) 5: lxxviii-lxxxix [DP: 14 November 1857]
- Schaum HR (1858) *Naturgeschichte der Insecten Deutschlands begonnen von Dr. W.F. Erichson, fortgesetzt von Prof. Dr. H. Schaum, Dr. G. Kraatz und H. v. Kiesenwetter. Erste Abtheilung. Coleoptera. Erster Band.* Nicolai, Berlin. Pp. 353-552 [DP: May 1858 (see Vorrede, p. v)]
- Schaum HR (1860) *Naturgeschichte der Insecten Deutschlands begonnen von Dr. W.F. Erichson, fortgesetzt von Prof. Dr. H. Schaum, Dr. G. Kraatz und H. v. Kiesenwetter. Erste Abtheilung. Coleoptera. Erster Band.* Nicolai, Berlin. Pp. 553-791+ i-vi [DP: 7 May 1860 (*Ent. Soc. London*)]
- Schaum HR (1861) Synonymische Bemerkungen. *Berliner Entomologische Zeitschrift* 5: 199-215, 406-407.
- Schaum HR (1863) Beiträge zur Kenntniss einiger Carabiden-Gattungen. *Berliner Entomologische Zeitschrift* 7: 67-92 [DP: June 1863]
- Schaum HR (1864) Beiträge zur Kenntniss der Carabiden. *Berliner Entomologische Zeitschrift* 8: 114-126 [DP: February 1864]
- Schaupp FG (1878a) Larva of *Dicaelus dilatatus*. *Bulletin of the Brooklyn Entomological Society* 1 [1878-79]: 3.
- Schaupp FG (1878b) Larva of *Dicaelus elongatus*, Dej. *Bulletin of the Brooklyn Entomological Society* 1 [1878-79]: 43.
- Schaupp FG (1878c) Larva of *Dicaelus politus*. *Bulletin of the Brooklyn Entomological Society* 1 [1878-79]: 44.
- Schaupp FG (1879) List of the described coleopterous larvae of the United States with some remarks on their classification. *Bulletin of the Brooklyn Entomological Society* 2 [1879-80]: 1-3, 13-14, 21-22, 29-30.
- Schaupp FG (1880a) Description of the larva of *Chlaenius laticollis*, Say. *Bulletin of the Brooklyn Entomological Society* 3 [1880-81]: 17-18.
- Schaupp FG (1880b) Description of the larva of *Chlaenius leucoscelis*, Chev. *Bulletin of the Brooklyn Entomological Society* 3 [1880-81]: 26.
- Schaupp FG (1881a) Description of the larvae of *Pterostichus lucublandus* and *Pt. mutus*, Say. *Bulletin of the Brooklyn Entomological Society* 3 [1880-81]: 88-89.
- Schaupp FG (1881b) Description of the larva of *Platynus extensicollis*, Say. *Bulletin of the Brooklyn Entomological Society* 3 [1880-81]: 91-92.

- Schaupp FG (1882a) Description of the larva of *Patrobus longicornis*. *Bulletin of the Brooklyn Entomological Society* 4 [1881-82]: 56.
- Schaupp FG (1882b) Synoptic tables of Coleoptera. *Badister*, Clairv. *Bulletin of the Brooklyn Entomological Society* 5 [1882-83]: 7.
- Schaupp FG (1882c) Synoptic tables of Coleoptera. *Pterostichus*. *Bulletin of the Brooklyn Entomological Society* 5 [1882-83]: 15-16, 23-24, 31-32, 39-42. Note. Several of the "Synoptic tables" published in the *Bulletin of the Brooklyn Entomological Society* are unauthored. However it seems evident that F.G. Schaupp, the editor of the journal, added data such as "the species described since that time, the bibliography, size and locality" (see Schaupp 1882, *Bull. Brookl. Ent. Soc.* 5: 10) to tables previously published by LeConte or Horn.
- Schaupp FG (1882d) Biological notes on, and description of the larva of *Calosoma calidum* Fab. *Bulletin of the Brooklyn Entomological Society* 5 [1882-83]: 33-34.
- Schaupp FG (1883a) Synoptic tables of Coleoptera. *Stenolophus*, Dej., *Acupalpus*, Latr. *Bulletin of the Brooklyn Entomological Society* 6 [1883-84]: 13-15.
- Schaupp FG (1883b) List of Carabidae found in the neighborhood of New York City. *Bulletin of the Brooklyn Entomological Society* 6 [1883-84]: 29-32, 71-72.
- Schaupp FG (1883c) Synoptic tables of Coleoptera. *Calathus* Bon., *Bradycellus* Br. *Bulletin of the Brooklyn Entomological Society* 6 [1883-84]: 49-50.
- Schaupp FG (1883d) Synoptic tables of Coleoptera. Cicindelidae. *Bulletin of the Brooklyn Entomological Society* 6 [1883-84]: 73-84.
- Schaupp FG (1884a) Synoptic tables of Coleoptera. Cicindelidae. *Bulletin of the Brooklyn Entomological Society* 6 [1883-84]: 85-108.
- Schaupp FG (1884b) Remarks and descriptions of new species. *Bulletin of the Brooklyn Entomological Society* 6 [1883-84]: 121-124.
- Schiefer TL (2005) A new record of an endemic Cuban tiger beetle, *Cicindela (Brasiella) viridicollis* (Coleoptera: Carabidae: Cicindelinae), from the Florida Keys. *The Florida Entomologist* 87 [2004]: 551-553 [DP: 5 January 2005]
- Schildknecht H, Holoubek K (1961) Die Bombardierkäfer und ihre Explosionschemie. V. Mitteilung über Insekten-Abwehrstoffe. *Angewandte Chemie* 73: 1-7 [DP: 7 January 1961]
- Schildknecht H, Winkler H, Maschwitz U (1968) Über Arthropoden-Abwehrstoffe XXXI. Vergleichend chemische Untersuchungen der Inhaltsstoffe der Pygidialwehrblasen von Carabiden. *Zeitschrift für Naturforschung, Teil B, Anorganische Chemie, Organische Chemie, Biochemie, Biophysik, Biologie* 23b: 637-644.
- Schincariol LA, Freitag R (1991) Biological character analysis, classification, and history of the North American *Cicindela splendida* Hentz group taxa (Coleoptera: Cicindelidae). *The Canadian Entomologist* 123: 1327-1353 [DP: 24 December 1991 (CAL stamp)]
- Schiødte JMC (1837) Forsøg til en monographisk Fremstilling af de i Danmark hidtil opdagede Arter af Insect-Slaegten *Amara*, Bonelli. *Naturhistorisk Tidsskrift* 1: 38-65, 138-171, 242-252.
- Schiødte JMC (1841) *Genera og species af Danmarks Eleutherata at tjene som fauna for denne orden og som indledning til dens anatomie og historie. Første bind.* H.C.Klein, Kjöbenhavn. xii + 612 + [1] + xxii pp. + 25 pls [DP: >1 November 1841]



- Schiødte JMC (1861) Danmarks Harpaliner. *Naturhistorisk Tidsskrift* (tredie række) 1 [1861-63]: 149-192 [DP: July 1861]
- Schiødte JMC (1867) De metamorphosi eleutheratorum observationes: Bidrag til insekternes udviklingshistorie. *Naturhistorisk Tidsskrift* (tredie række) 4 [1866-67]: 415-552.
- Schiødte JMC (1872) De metamorphosi eleutheratorum observationes: Bidrag til insekternes udviklingshistorie. *Naturhistorisk Tidsskrift* (tredie række) 8 [1872-73]: 165-226.
- Schmidt J (1995) Zur Synonymie und Verbreitung einiger paläarktischer Arten des Tribus Platynini (Insecta: Coleoptera: Carabidae). *Entomologische Abhandlungen* 56: 161-170 [DP: 20 July 1995]
- Schmidt J, Liebherr JK (2009) Beiträge zur Systematik und Verbreitung paläarktischer Arten der Platynini (Insecta: Coleoptera: Carabidae). *Vernate* 28: 225-257.
- Schmidt JP (2004) Tiger beetles of Fort Sill, Comanche County, Oklahoma, with a new state record for *Cicindela ocellata rectilatera* Chaudoir. *Cicindela* 36: 1-16 [DP: 14 September 2004 (CML stamp)]
- Schmidt-Göbel HM (1846) *Faunula Coleopterorum Birmaniae, adjectis nonnullis Bengaliae indigenis*. Gottlieb Haase Söhne, Prag. viii + 94 pp. + 3 pls [DP: June 1846] Note. Only one *Lieferung* was published of this work and the wrapper bears the title “*Med. Dr. Joh. Wilh. Helfer’s hinterlassene Sammlungen aus Vorder- und Hinter-Indien. Nach seinem Tode im Auftrage des böhm. National-Museums unter Mitwirkung Mehrerer. I. Lieferung mit 3 Kupfertafeln.*” The title given here is on the second page.
- Schönherr CJ (1806) *Synonymia insectorum, oder: Versuch einer Synonymie aller bisher bekannten Insecten; nach Fabricii Systema Eleutheratorum geordnet. Mit Berichtigungen und Anmerkungen, wie auch Beschreibungen neuer Arten und illuminirten Kupfern. Erster Band. Eleutherata oder Käfer. Erster Theil. Lethrus - Scolytes*. Heinr. A. Nordström, Stockholm. xxii + 289 pp. + 3 pls [DP: >1 March 1806]
- Schönherr CJ (1808) *Synonymia insectorum, oder: Versuch einer Synonymie aller bisher bekannten Insecten; nach Fabricii Systema Eleutheratorum &c. geordnet. Mit Berichtigungen und Anmerkungen, wie auch Beschreibungen neuer Arten und illuminirten Kupfern. Erster Band. Eleutherata oder Käfer. Zweiter Theil. Spercheus - Cryptocephalus*. Carl Friedr. Marquard, Stockholm. ix + [1] + 424 pp. + 1 pl [DP: >1 August 1808]
- Schönherr CJ (1817) *Synonymia insectorum, oder Versuch einer Synonymie aller bisher bekannten Insecten; nach Fabricii Systema Eleutheratorum etc. geordnet. Mit Berichtigungen und Anmerkungen, wie auch mit Beschreibungen neuer Arten und mit illuminirten Kupfern. Erster Band. Eleutherata oder Käfer. Dritter Theil. Hispa - Molorchus*. Em. Bruzelius, Upsala. xi + 506 pp. + 2 pls [DP: >1 March 1817]
- Schönherr CJ (1826) *Curculionidum dispositio methodica cum generum characteribus, descriptionibus atque observationibus variis seu prodromus ad Synonymiae Insectorum. Partem IV*. Fridericum Fleischer, Lipsiae. x + [1] + 338 pp.
- Schrank F de Paula (1781) *Enumeratio insectorum Austriae indigenorum*. Vidvam Eberhardi Klettel et Franck, Augustae Vindelicorum. [24] + 548 + [2] pp. + 4 pls [DP: June 1781 (Evenhuis 1997b: 706)]
- Schreber JCD (1759) *Novae species insectorum cum figuris aeneis coloribus pictis*. Schneideriana, Halae Magdeburgicae. 16 pp. + 1 pl. [DP: 8 September 1759 (Evenhuis 1997b: 710)]

- Schrock JR (1985) Checklist of adult carabid beetles known from Indiana. *Proceedings of the Indiana Academy of Science* 94 [1984]: 341-356.
- Schüle P (2009) Notes on the genus *Somoplatus* Dejean, 1829 (Coleoptera: Carabidae), with descriptions of five new species. *African Invertebrates* 50: 461-474 [DP: 30 December 2009]
- Schuler L (1962) L'utilisation des organes copulateurs dans la tribu des Bembidiini Jeannel. Quelques formes nouvelles ou peu connues de France, d'Espagne, du Caucase (Col. Trechiidae) (suite et fin). *L'Entomologiste* 18: 1-7 [DP: 29 June 1962 (CUL stamp)]
- Schuler L (1970) La classification des Harpalomorphi de France. Les formes étranges (coléoptères carabiques). *L'Entomologiste* 25 [1969]: 108-118 [DP: 13 April 1970 (CUL stamp)]
- Schwarz EA (1878) The Coleoptera of Florida. *Proceedings of the American Philosophical Society* 17 [1877-78]: 353-472 [DP: 1 February 1878]
- Schwarz EA (1891) A list of the blind or nearly eyeless Coleoptera hitherto found in North America. *Proceedings of the Entomological Society of Washington* 2 [1891-93]: 23-26 [DP: 2 April 1891]
- Schwarz EA (1895) Notes on *Nomareetus*, with descriptions of two new species. *Proceedings of the Entomological Society of Washington* 3 [1893-96]: 269-273 [DP: 22 June 1895]
- Schwarz EA (1900) Papers from the Harriman Alaska Expedition. XVIII. Entomological results (12): Coleoptera. *Proceedings of the Washington Academy of Sciences* 2: 523-537 [DP: 20 December 1900]
- Schwert DP (1992) Faunal transitions in response to an ice age: the Late Wisconsinan record of Coleoptera in the north-central United States. *The Coleopterists Bulletin* 46: 68-94 [DP: 17 April 1992]
- Sciaky R (1987) Revisione delle specie Palearctiche occidentali del genere *Ophonus* Dejean, 1821 (Coleoptera Carabidae) (XVIII contributo alla conoscenza dei Coleoptera Carabidae). *Memorie della Società Entomologica Italiana* 65 [1986]: 29-120 [DP: 20 December 1987]
- Sciaky R (1996) New taxa and new synonyms among Pterostichinae from Asia (Coleoptera Carabidae). *Entomofauna, Zeitschrift für Entomologie* 17(29): 429-439 [DP: 31 December 1996]
- Sciaky R, Facchini S (1999) A review of the Chinese *Loricera*, with description of a new subgenus and three new species (Coleoptera Carabidae Loricerinae). Pp. 95-108 in Zamotajlov A, Sciaky R (Eds). *Advances in carabidology. Papers dedicated to the memory of Prof. Dr. Oleg L. Kryzhanovskij*. MUIISO Publishers, Krasnodar. 473 pp. [DP: 24 September 1999]
- Sciaky R, Vigna Taglianti A (2003) Observations on the systematics of the tribe Tachyini (Coleoptera Carabidae). *Bollettino della Società Entomologica Italiana* 135: 79-96 [DP: 30 September 2003]
- Scudder SH (1860) [Note on T.W. Harris' collection]. *Proceedings of the Boston Society of Natural History* 7: 72.
- Scudder SH (1869) *Entomological correspondence of Thaddeus William Harris, M.D.* Occasional Papers of the Boston Society of Natural History No. 1. xlvii + 375 pp. + 4 pls [DP: 10 May 1869 (Amer. Ent. Soc.)]
- Scudder SH (1876) Fossil Coleoptera from the Rocky Mountain Tertiaries. *Bulletin of the United States Geological and Geographical Survey of the Territories* 2: 77-87 [DP: 21 March 1876]

- Scudder SH (1877) Description of two species of Carabidae found in the interglacial deposits of Scarboro' Heights, near Toronto, Canada. *Bulletin of the United States Geological and Geographical Survey of the Territories* 3: 763-764 [DP: 15 August 1877]
- Scudder SH (1878) The fossil insects of the Green River shales. *Bulletin of the United States Geological and Geographical Survey of the Territories* 4: 747-776 [DP: December 1878]
- Scudder SH (1879) Appendix A. The fossil insects collected in 1877, by Mr. G.M. Dawson, in the interior of British Columbia. Pp. 175B-185B in: *Geological Survey of Canada, Report of Progress for 1877-78*. Dawson Brothers, Montreal.
- Scudder SH (1890) *The Tertiary insects of North America. Report of the United States Geological Survey of the Territories. Volume XIII*. United States Geological Survey of the Territories, Washington. 734 pp. + 28 pls [DP: >14 March 1890]
- Scudder SH (1891) Some old correspondence between Harris, Say and Pickering. -III. *Psyche* 6 [1891-93]: 137-141 [DP: September 1891]
- Scudder SH (1892) Some insects of special interest from Florissant, Colorado and other points in the Tertiaries of Colorado and Utah. *Bulletin of the United States Geological Survey* No. 93. 35 pp. + 3 pls.
- Scudder SH (1895) *Contributions to Canadian palaeontology. Volume II. Part I. Canadian fossil insects, myriapods and arachnids. 1. The Tertiary Hemiptera of British Columbia; 2. The Coleoptera hitherto found fossil in Canada; 3. Notes on myriapods and arachnids found in Sigillarian stumps in the Nova Scotia coal field*. S.E. Dawson, Ottawa. 66 pp. + 5 pls. [DP: >15 November 1895]
- Scudder SH (1898) The Pleistocene beetles of Fort River, Massachusetts. Pp. 740-746 + pl. 23 in Emerson, B.K. *Geology of Old Hampshire County, Massachusetts comprising Franklin, Hampshire, and Hampden Counties*. Monographs of the United States Geological Survey, volume XXIX. xix + [1] + 790 pp. + 32 pls.
- Scudder SH (1900a) *Adephagous and clavicorn Coleoptera from the Tertiary deposits at Florissant, Colorado with descriptions of a few other forms and a systematic list of the non-rhynchophorous Tertiary Coleoptera of North America*. Monographs of the United States Geological Survey, volume XL. 148 pp. + 11 pls [DP: >1 August 1900]
- Scudder SH (1900b) *Contributions to Canadian palaeontology. Volume II. Part II. Canadian fossil insects. 4. Additions to the coleopterous fauna of the interglacial clays of the Toronto district. With an appendix by A.D. Hopkins on the scolytid borings from the same deposits*. S.E. Dawson, Ottawa. Pp. 67-92 + pls 6-15.
- Seidlitz G von (1872) *Fauna Baltica. Die Käfer (Coleoptera) der Ostseeprovinzen Russlands*. H. Laakmann, Dorpat. Pp. 1-24 [Gattungen] + 1-128 [Arten] [DP: January 1872 (see *Vorwort* in last *Lieferung*)] Note. The entire work appeared in four *Lieferungen* published between January 1872 and 1875 and contains xlii + 142 pages for the treatment of genera + 560 pages for the treatment of species. The entire volume was reissued in 1875 as volume 5 of *Archiv für die Naturkunde Liv-, Ehst- und Kurlands, Zweite Series. Biologische Naturkunde*.
- Seidlitz G von (1887) *Fauna Baltica. Die Kaefer (Coleoptera) der deutschen Ostseeprovinzen Russlands. Zweite neu bearbeitete Auflage*. Hartungs, Königsberg. xl + 16 [Gattungen] + 96 pp. [Arten] [DP: August 1887 (see *Vorwort* in last *Lieferung*)] Note. The entire work was issued

- in six *Lieferungen* between August 1887 and February 1891 and contains lvi + 192 pages for the treatment of genera + 818 pages for the treatment of species.
- Selander RB, Vaurie P (1962) A gazetteer to accompany the "Insecta" volumes of the "Biologia Centrali-Americana." American Museum Novitates No. 2099. 70 pp. [DP: 17 August 1962]
- Semenov AP [also as Semenov-Tian-Shanskij AP] (1889a) Diagnoses coleopterorum novorum ex Asia centrali et orientali. *Horae Societatis Entomologicae Rossicae* 23: 348-403 [DP: 24 August 1889 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Semenov AP (1889b) Aperçu des genres paléarctiques de la tribu des anchomenides (famille des carabiques). *Bulletin de la Société Impériale des Naturalistes de Moscou* (nouvelle série) 2 [1888]: 686-693.
- Semenov AP (1896) Coleoptera nova Rossiae Europaeae Caucasique. II. *Horae Societatis Entomologicae Rossicae* 29: 303-327 [DP: 1 January 1896 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Semenov AP (1904) Synopsis Elaphrorum palaeartcorum subgeneris Elaphroteri Sem. gregem *El. riparii* (L.) efficientium (Coleoptera, Carabidae). *Revue Russe d'Entomologie* 4: 19-22.
- Semenov AP (1910) Analecta coleopterologica. *Revue Russe d'Entomologie* 9 [1909]: 433-435 [DP: 27 May 1910]
- Semenov AP (1922) Carabinorum tribus Omophronina (Coleoptera) classificata. Conspectus praecursorius [in Russian with Latin descriptions]. *Revue Russe d'Entomologie* 18 [1922-24]: 36-45.
- Semenov AP (1926) Analecta coleopterologica. XIX. *Revue Russe d'Entomologie* 20: 33-55.
- Serrano J (1981) Male achiasmatic meiosis in Caraboidea (Coleoptera, Adephaga). *Genetica* 57: 131-137.
- Serrano J, Galián J (1998) A review of karyotypic evolution and phylogeny of carabid beetles (Coleoptera). Pp. 191-228 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Sharova IK (1957) The larvae of caterpillar hunters (*Calosoma*, Carabidae) [in Russian]. *Zoologicheskii Zhurnal* 36: 878-884 [DP: >2 July 1957; <3 September 1957 (CAL stamp)]
- Sharova IK (1958) The larvae of Carabidae, beneficial and noxious to agriculture [in Russian]. *Uchenye Zapiski Moskovskogo Gosudarstvennogo Pedagogicheskogo Instituta Imeni Lenina* 124(7): 1-165.
- Sharova IK (1964) Carabidae. Pp. 112-195 in Ghilarov MS (Ed.). *Handbook for the identification of insect larvae living in soil* [in Russian]. Nauka, Moscow. 919 pp.
- Sharova IK (1967) Larvae of the genera *Acinopus* Latr. and *Osimus* Motsch. (Carabidae, Coleoptera) and their systematic position [in Russian]. *Zoologicheskii Zhurnal* 46: 891-901 [DP: >30 May 1967; <21 July 1967 (CAL stamp)]
- Sharova IK, Makarov KV (1984) On the larvae of the carabid genus *Broscus* Panz. (Coleoptera, Carabidae) [in Russian]. *Entomologicheskoe Obozrenie* 63: 742-750 [DP: >17 December 1984] Note. An English translation was published in *Entomological Review* 63(4): 66-75.

- Sharp D (1900) Coleoptera from Iceland and the Faroë Islands, collected by N. Annandale, Esq., in 1900. *The Entomologist's Monthly Magazine* 36: 253-255 [DP: 12 November 1900 (MCZ stamp)]
- Shelford VE (1908) Life-histories and larval habits of the tiger beetles (Cicindelidae). *The Journal of the Linnean Society of London (Zoology)* 30 [1907-10]: 157-184 + pls 23-26 [DP: 31 March 1908]
- Sherborn CD (1922) *Index animalium sive index nominum quae ab A.D. MDCCLVIII generibus et speciebus animalium imposita sunt. Sectio secunda. A Kalendis Ianuariis, MDCCCI usque ad finem Decembris, MDCCCL. Pars I. Introduction, bibliography and index A-Aff.* Longmans, Green & Co., & British Museum (Natural History), London. Pp. i-cxxxi + 1-128. [DP: July 1922 (Evenhuis 1997b: 732)]
- Sherman JD Jr. (1910) A list of Labrador Coleoptera. *Journal of the New York Entomological Society* 18: 173-197 [DP: 20 October 1910 (CUL stamp)]
- Shilenkov VG (1975) Taxonomic review of the genus *Nebria* Latr. (Coleoptera, Carabidae) from Siberia and Far East of the URSS [in Russian]. *Entomologicheskoe Obozrenie* 54: 830-845 [DP: >28 November 1975] Note. An English translation was published in *Entomological Review* 54(4): 85-94.
- Shilenkov VG (1994) *The ground beetles (Coleoptera: Trachypachidae, Carabidae) of the Baikal-Transbaikal geographic region.* Lisna & K, Irkutsk. 60 pp.
- Shilenkov VG (1999) Ground-beetles of the genus *Leistus* Froehlich of the Caucasus (Coleoptera Carabidae Nebriini). Pp. 75-94 in Zamotajlov A, Sciaky R (Eds). *Advances in carabidology. Papers dedicated to the memory of Prof. Dr. Oleg L. Kryzhanovskij.* MUIISO Publishers, Krasnodar. 473 pp. [DP: 24 September 1999]
- Shilenkov VG (2002) New data on the taxonomy of the carabid tribe Tachyini (Coleoptera, Carabidae) [in Russian]. *Entomologicheskoe Obozrenie* 81: 31-41 [DP: >26 February 2002] Note. An English translation was published in *Entomological Review* 82: 509-517.
- Shimonoya T (2004) Distributional notes on the beetles (Coleoptera) in Fukui Prefecture, with including two alien species [in Japanese]. *Fukui-shi Shizenshi Hakubutsukan Kenkyu Hokoku* 51: 31-35.
- Shockley FW, Cline AR (2004) A contribution to the inventory of Coleoptera of Missouri: new records from Benton County. *Journal of the Kansas Entomological Society* 77: 280-284 [DP: 3 August 2004]
- Shook GA (1984) Checklist of tiger beetles from Idaho (Coleoptera: Cicindelidae). *The Great Basin Naturalist* 44: 159-160 [DP: 31 January 1984]
- Shook GA (1989) *Cicindela lemniscata bajacalifornica*, a new subspecies of Cicindelidae (Coleoptera) from Baja California, Mexico. *Cicindela* 21: 1-11 [DP: 22 April 1989]
- Shook GA, Clark WH (1988) Status of the Idaho dunes tiger beetle, *Cicindela arenicola* Rumpp, (Coleoptera: Cicindelidae). *Journal of the Idaho Academy of Science* 24: 38-42.
- Shpeley D (1986) Genera of the subtribe Metallicina and classification, reconstructed phylogeny and geographical history of the species of *Euproctinus* Leng and Mutchler (Coleoptera: Carabidae: Lebiini). *Quaestiones Entomologicae* 22: 261-349 [DP: December 1986]
- Shpeley D (2001) The taxonomic status of *Notiobia cephalus* (Casey) (Coleoptera: Carabidae: Harpalini). *The Coleopterists Bulletin* 55: 113-120 [DP: 20 April 2001]



- Shpeley D, Ball GE (1994) Classification, reconstructed phylogeny and geographical history of the New World species of *Coptodera* Dejean (Coleoptera: Carabidae: Lebiini). *Proceedings of the Entomological Society of Ontario* 124 [1993]: 1-182 [DP: 3 December 1994 (OTU stamp)]
- Shpeley D, Ball GE (1999) The *Cymindis vaporariorum* complex in North America: taxonomic and zoogeographical aspects (Coleoptera Carabidae Lebiini). Pp. 417-428 in Zamotajlov A, Sciaky R (Eds). *Advances in carabidology. Papers dedicated to the memory of Prof. Dr. Oleg L. Kryzhanovskij*. MUIISO Publishers, Krasnodar. 473 pp. [DP: 24 September 1999]
- Shpeley D, Ball GE (2001) A taxonomic review of the subtribe Pericalina (Coleoptera: Carabidae: Lebiini) in the Western Hemisphere, with descriptions of new species and notes about classification and zoogeography. *Insecta Mundi* 14 [2000]: 1-185 [DP: 6 July 2001 (CAL & CML stamps), 9 July 2001 (FSCA copy, Paul E. Skelley pers. comm. 2009)]
- Shpeley D, Ball GE (2008) Taxonomic review of the Neotropical *Tetragonoderus quadriguttatus* assemblage (Coleoptera: Carabidae: Cyclosomini) with description of *T. deuvei*, new species, and new West Indian and Nearctic locality records. *Insecta Mundi* 0050: 1-16 [DP: 10 October 2008]
- Shpeley D, Madge RB, Ball GE (1985) The genus *Celaenephes* Schmidt-Göbel: characteristics, species, and relationships (Coleoptera: Carabidae: Lebiini). *Proceedings of the Entomological Society of Washington* 87: 283-307 [DP: 26 April 1985]
- Shpeley D, Pilny J (1995) First Canadian record for *Bembidion umiatense* Lindroth (Coleoptera: Carabidae: Bembidiini). *The Coleopterists Bulletin* 49: 233 [DP: 18 September 1995]
- Shull VL, Vogler AP, Baker MD, Maddison DR, Hammond PM (2001) Sequence alignment of 18S ribosomal RNA and the basal relationships of adephagan beetles: evidence for monophyly of aquatic families and the placement of Trachypachidae. *Systematic Biology* 50: 945-969 [DP: 14 January 2002 (CUL stamp)]
- Sikes DS (1994) Influences of ungulate carcasses on coleopteran communities in Yellowstone National Park, USA. Available at: <http://virgin.msu.montana.edu/Ynpmsweb/ynpmsin.htm> [accessed 3 November 2008]
- Sikes DS (2003) The beetle fauna of the state of Rhode Island, USA (Coleoptera): 656 new state records. *Zootaxa* 340: 1-38 [DP: 24 October 2003]
- Sikes DS (2004) *The beetle fauna of Rhode Island: an annotated checklist*. The Biota of Rhode Island, volume 3. The Rhode Island Natural History Survey, Kingston. [2] + 286 pp.
- Sikes DS, Webster RP (2005) Bioinventory of Rhode Island Coleoptera: 45 new records. *The Coleopterists Bulletin* 59: 311-327 [DP: 21 October 2005]
- Silfverberg H (1987) Lists of the insect types in the Zoological Museum, University of Helsinki. 2. Coleoptera: Carabidae. *Acta Entomologica Fennica* 48: 11-31 [DP: 30 October 1987]
- Silfverberg H (1995) Insects in the Finnish Museum of Natural History. *Memoranda Societatis pro Fauna et Flora Fennica* 71: 39-49 [DP 27 November 1995 (CML stamp)]
- Silverman B, Horn DJ, Purrington FF, Gandhi KJK (2008) Oil pipeline corridor through an intact forest alters ground beetle (Coleoptera: Carabidae) assemblages in southeastern Ohio. *Environmental Entomology* 37: 725-733 [DP: 26 June 2008 (McD stamp)]
- Silvey JKG (1936) An investigation of the burrowing inner-beach insects of some fresh-water lakes. *Papers of the Michigan Academy of Science, Arts and Letters* 21: 655-696.

- Sloane TG (1905a) Revisional notes on Australian Carabidae. Part I. Tribes Carabini, Pamborini, Pseudozaenini, Clivini; and the genus *Nebriosoma*. *The Proceedings of the Linnean Society of New South Wales* 29 [1904]: 699-733 [DP: 10 April 1905]
- Sloane TG (1905b) Revisional notes on Australian Carabidae. Part II. *The Proceedings of the Linnean Society of New South Wales* 30: 103-135 [DP: 14 July 1905]
- Sloane TG (1907) Further Carabidae from German New Guinea and its dependencies. (Col.). *Deutsche Entomologische Zeitschrift* (Jahrgang 1907): 467-474 [DP: 1 September 1907]
- Sloane TG (1914) Revisional notes on Australian Carabidae. Part V. *The Proceedings of the Linnean Society of New South Wales* 39: 568-614 [DP: 24 November 1914]
- Sloane TG (1923) The classification of the family Carabidae. *The Transactions of the Entomological Society of London for the year 1923*: 234-250 [DP: 10 August 1923]
- Smetana A, Herman L (2001) Brief history of taxonomic studies of the Staphylinidae including biographical sketches of the investigators. Pp. 17-159 in Herman, L. Catalog of the Staphylinidae (Insecta: Coleoptera). 1758 to the end of the second millennium. I. Introduction, history, biographical sketches, and omaliine group. Bulletin of the American Museum of Natural History No 265. vi + 649 pp. [DP: 18 July 2001]
- Smith JB (1890) Catalogue of insects found in New Jersey. Pp. 1-486 in: *Final Report of the State Geologist. Vol. II. Mineralogy. Botany. Zoölogy. Part 2. Zoölogy*. The John L. Murphy Publishing Company, Trenton (N.J.). x + 824 pp. [DP: 25 September 1890 (*Amer. Ent. Soc.*)]
- Smith JB (1900) *Insects of New Jersey. A list of the species occurring in New Jersey, with notes on those of economic importance. Printed as a supplement to the twenty-seventh annual report of the state board of agriculture, 1899*. MacCrellish & Quigley, Trenton (N.J.). 755 pp.
- Smith JB (1910) *Annual report of the New Jersey State Museum including a report of the insects of New Jersey. 1909*. MacCrellish & Quigley, Trenton (N.J.). 888 pp.
- Smith JW, Oseto CY, Balsbaugh EU Jr. (1979) Litter and soil inhabiting microcoleoptera of southwest North Dakota. *Entomological News* 90: 89-94 [DP: 20 April 1979]
- Smith ME (1959) *Carabus auratus* L. and other carabid beetles introduced as gypsy moth predators (Coleoptera, Carabidae). *Proceedings of the Entomological Society of Washington* 61: 7-10 [DP: 6 March 1959]
- Smith RF, Cossentine JE, Rigby SM, Sheffield CS (2004) Species of ground beetle (Coleoptera: Carabidae) in organic apple orchards of British Columbia. *Journal of the Entomological Society of British Columbia* 101: 93-99.
- Smrž J (1979) Über die Larven der *Bembidion* (*Peryphus*)-Arten (Coleoptera, Carabidae, Bembidiinae). *Acta Entomologica Bohemoslovaca* 76: 244-254 [DP: 31 July 1979]
- Smyth EG (1908) Notes on collecting Cicindelidae. - II. *Transactions of the Kansas Academy of Science* 21 (1) [1907]: 180-188 [DP: 9 April 1908 (NRC stamp)]
- Smyth EG (1933) On the Nicolay and Weiss "Synopsis of the Cicindelidae" (Coleop.). *Entomological News* 44: 197-204 [DP: 6 October 1933]
- Snodgrass GL, Cross WH (1983) An annotated list of the Carabidae of Oktibbeha County, Mississippi. *Journal of the Georgia Entomological Society* 18: 11-19 [DP: 11 May 1983 (McD stamp)]

- Snow FH (1877) List of Coleoptera collected in Colorado in June, July and August, 1876, by the Kansas University Scientific Expedition. *Transactions of the Kansas Academy of Science* 5 [1876]: 15-20.
- Snow FH (1878) The insects of Wallace County, Kansas. *Transactions of the Kansas Academy of Science* 6 [1877-78]: 61-70.
- Snow FH (1880) Douglas County additions to the list of Kansas Coleoptera in 1879 and 1880. *Transactions of the Kansas Academy of Science* 7 [1879-80]: 78-79.
- Snow FH (1885) Lists of Lepidoptera and Coleoptera collected in New Mexico by the Kansas University scientific expeditions of 1883 and 1884. *Transactions of the Kansas Academy of Science* 9 [1883-84]: 65-69 [DP: 24 September 1885 (*Amer. Ent. Soc.*)]
- Snow FH (1903) Lists of Coleoptera and Lepidoptera collected in Hamilton, Morton and Clark counties, Kansas, 1902 and 1903. *The Kansas University Science Bulletin* 2: 191-208 [DP: November 1903]
- Snow FH (1906a) Some results of the University of Kansas entomological expeditions to Galveston and Brownsville, Tex., in 1904 and 1905. *Transactions of the Kansas Academy of Science* 20 (1) [1905]: 136-154 [DP: 17 April 1906 (NRC stamp)]
- Snow FH (1906b) Some results of the University of Kansas entomological expeditions to Arizona in 1904 and 1905. *Transactions of the Kansas Academy of Science* 20 (1) [1905]: 155-181 [DP: 17 April 1906 (NRC stamp)]
- Snow FH (1907) Results of the entomological collecting expedition of the University of Kansas to Pima County, Arizona, in June and July, 1906. *Transactions of the Kansas Academy of Science* 20 (2) [1906]: 140-164 [DP: >1 March 1907]
- Sokolov IM (2011) Five new species of *Anillinus* Casey from the southern Appalachian Mountains and the Piedmont Plateau of eastern U.S.A. (Coleoptera: Carabidae: Trechinae: Bembidiini). *Insecta Mundi* 0164: 1-14 [DP: 15 April 2011]
- Sokolov IM, Carlton CE (2008) Two new species of blind, forest litter-inhabiting ground beetles from the subtribe Anillina (Carabidae: Trechinae: Bembidiini) from eastern U.S.A. *Zootaxa* 1740: 37-44 [DP: 2 April 2008]
- Sokolov IM, Carlton CE (2010) New species of *Anillinus* Casey (Carabidae: Trechinae: Bembidiini) from the southern Appalachians and phylogeography of the *A. loweae* species group. *Zootaxa* 2502: 1-23 [DP: 11 June 2010]
- Sokolov IM, Carlton C, Cornell JF (2004) Review of *Anillinus*, with descriptions of 17 new species and a key to soil and litter species (Coleoptera: Carabidae: Trechinae: Bembidiini). *The Coleopterists Bulletin* 58: 185-233 [DP: 13 July 2004]
- Sokolov IM, Sokolova YY, Carlton CE (2007) New species of *Anillinus* Casey (Carabidae: Trechinae: Bembidiini) from Great Smoky Mountains National Park, U.S.A. and phylogeography of the *A. langdoni* species group. *Zootaxa* 1542: 1-20 [DP: 6 August 2007]
- Sokolov IM, Watrous LE (2008) A new species and the first record of the genus *Anillinus* (Carabidae: Trechinae: Bembidiini) from the Ozark region. *The Coleopterists Bulletin* 62: 537-543 [DP: 24 December 2008]
- Solier AJJ (1835) Description de quelques espèces nouvelles de la famille des carabiques. *Annales de la Société Entomologique de France* 4: 111-121 [DP: 6 July 1835 (*Acad. Sci.* published in *Institut, Jour. Acad. Soc. Scient.* 3: 217)]

- Solier AJJ (1848) Observations sur les genres *Procrustes*, *Procerus*, *Carabus* et *Calosoma* formant la famille des carabiens de M. Brullé. *Studi Entomologici* 1: 49-62.
- Solier AJJ (1849) Orden III. Coleopteros. Pp. 105-380, 414-508 in Gay, C. *Historia fisica y politica de Chile segun documentos adquiridos en esta republica durante doce años de residencia en ella y publicada bajo los auspicios del supremo gobierno*. Zoologia. Tomo cuarto. Paris & Museo de Historia Natural, Santiago. 511 pp.
- Sorensen WC (1995) *Brethren of the net: American entomology, 1840-1880*. The University of Alabama Press, Tuscaloosa. xiv + 357 pp.
- Spangler PJ (1956) Habitat notes and description of the larva of *Cicindela circumpecta johnsoni* Fitch (Cicindelidae). *The Coleopterists Bulletin* 9: 81-84 [DP: 25 April 1956]
- Spanton TG (1988) The *Cicindela sylvatica* group: geographical variation and classification of the Nearctic taxa, and reconstructed phylogeny and geographical history of the species (Coleoptera: Cicindelidae). *Quaestiones Entomologicae* 24: 51-161 [DP: May 1988]
- Sparre Schneider J (1910) Maalselvens insektfauna. I. Coleoptera. *Tromsø Museums Aarshefter* 30 [1907]: 37-216 [DP: 31 March 1910]
- Spence JR (1974) The comparative niche biology of *Nebria lacustris* (Casey) and *Nebria pallipes* (Say) in Vermont. M.Sc. Thesis, University of Vermont. x + 118 pp.
- Spence JR (1983) Taxonomic status, relationships, and biogeography of *Anatrichis* LeConte and *Oodinus* Motschulsky (Carabidae: Oodini). *The Coleopterists Bulletin* 36 [1982]: 567-580 [DP: 26 April 1983]
- Spence JR, Bell RT, Bell JR (1976) The larvae of *Nebria lacustris* Casey and *Nebria pallipes* Say (Coleoptera, Carabidae). *The Coleopterists Bulletin* 30: 81-83 [DP: 12 April 1976]
- Spence JR, Spence DH (1988) Of ground-beetles and men: introduced species and the synanthropic fauna of western Canada. Pp. 151-168 in Downes JA, Kavanaugh DH (Eds). *Origins of the North American insect fauna*. Memoirs of the Entomological Society of Canada No. 144. 168 pp. [DP: 15 December 1988 (*Can. Ent.* 127: 992)]
- Spence JR, Sutcliffe JF (1982) Structure and function of feeding in larvae of *Nebria* (Coleoptera: Carabidae). *Canadian Journal of Zoology* 60: 2382-2394 [DP: 29 October 1982]
- Spires S (1985) First reported occurrence of *Carabus sylvosus* Say in north central Ontario (Coleoptera: Carabidae). *The Coleopterists Bulletin* 39: 79 [DP: 9 April 1985]
- Spomer SM (2004) A new subspecies of *Cicindela nevadica* LeConte (Coleoptera: Carabidae: Cicindelinae) from the Badlands of South Dakota. *The Coleopterists Bulletin* 58: 409-412 [DP: 18 October 2004]
- Spomer SM, Brust ML, Backlund DC, Weins S (2008a) *Tiger beetles of South Dakota & Nebraska*. Department of Entomology, University of Nebraska, Lincoln. 60 pp. [DP: May 2008]
- Spomer SM, Nabity PD, Brust ML (2008b) Larval description of *Cicindela (Dromochorus) pruinina* (Casey) (Coleoptera: Carabidae: Cicindelinae) with notes on habitat and adult behavior. *The Coleopterists Bulletin* 62: 37-41 [DP: 4 April 2008]
- Sprague PS (1875) On the species of Coleoptera described by Mr. J.W. Randall, with notes by E.P. Austin. *Proceedings of the Boston Society of Natural History* 17 [1874-75]: 373-385.
- Stafford MP, Barr WF, Johnson JB (1986) Coleoptera of the Idaho National Engineering Laboratory: an annotated checklist. *Great Basin Naturalist* 46: 287-293 [DP: 30 April 1986]

- Staig RA (1931) *The Fabrician types of insects in the Hunterian collection at Glasgow University. Coleoptera. Part 1*. Cambridge University Press, London. xv + 110 pp.
- Steffens JJ, Davidson RL (1979) *Harpalus (Ophonus) puncticeps* Stephens (Coleoptera: Carabidae) in New Jersey and Vermont, U.S.A. *Cordulia* 5: 64 [DP: 9 November 1979 (CAL stamp)]
- Stehr WC (1947) *Tachyura barnesi* n.sp. (Bembidiini, Carabidae, Coleoptera). *The Ohio Journal of Science* 46 [1946]: 284 [DP: 4 January 1947]
- Stehr WC (1949) Notes on the genus *Bradytus* Steph. and descriptions of three new species (Carabidae, Coleoptera). *The Ohio Journal of Science* 49: 205-208 [DP: 22 November 1949]
- Stehr WC (1950) *Brachinus atbarae* n.sp. (Coleoptera, Carabidae). *The Ohio Journal of Science* 50: 102 [DP: 26 May 1950]
- Steiner WE Jr. (2008) Ground beetles (Coleoptera: Carabidae) of Navassa Island, West Indies. *Annals of Carnegie Museum* 77: 129-134 [DP: 20 July 2008]
- Steiner WE, Erwin TL, Ward RD (2007) *Phloeoxena signata* (Dejean): northern range extensions to Maryland and Tennessee, U.S.A., and the first record for Costa Rica (Coleoptera: Carabidae). *The Coleopterists Bulletin* 61: 224-226 [DP: 26 July 2007]
- Stephens JF (1827) *Illustrations of British entomology; or, a synopsis of indigenous insects: containing their generic and specific distinctions; with an account of their metamorphoses, times of appearance, localities, food, and economy, as far as practicable. Mandibulata. Vol. I*. Baldwin & Cradock, London. Pp. 1-76 + pls 1-4.
- Stephens JF (1828a) *Illustrations of British entomology; or, a synopsis of indigenous insects: containing their generic and specific distinctions; with an account of their metamorphoses, times of appearance, localities, food, and economy, as far as practicable. Mandibulata. Vol. I*. Baldwin & Cradock, London. Pp. 77-186 + pls 5-9.
- Stephens JF (1828b) *Illustrations of British entomology; or, a synopsis of indigenous insects: containing their generic and specific distinctions; with an account of their metamorphoses, times of appearance, localities, food, and economy, as far as practicable. Mandibulata. Vol. II*. Baldwin & Cradock, London. Pp. 1-112.
- Stephens JF (1835) *Illustrations of British entomology; or, a synopsis of indigenous insects: containing their generic and specific distinctions; with an account of their metamorphoses, times of appearance, localities, food, and economy, as far as practicable. Mandibulata. Vol. V*. Baldwin & Cradock, London. Pp. 369-448. Note. Volume 5 of this work appeared from 1832 to 1835 and contains 448 pp + 4 pls.
- Stjernberg A (2011) The effect of twice-over rotational cattle grazing on the ground beetles (Coleoptera: Carabidae) and spiders (Araneae) on the Yellow Quill Mixed Grass Prairie Preserve. M.Sc. Thesis, University of Manitoba. xvii + 244 pp.
- Stockton WD (1954) A study of the genus *Euferonia* Casey (Coleoptera, Carabidae). M.Sc. Thesis, Cornell University. [2] + 29 pp. + 8 pls.
- Stork NE (1985) *Dhanya*, a south-east Asian genus of ozaenine ground beetles. *Journal of Natural History* 19: 1113-1138 [DP: 17 October 1985]
- Strand E (1917) Übersicht der in Gistel's „Achthundert und zwanzig neue oder unbeschriebene wirbellose Thiere“ (1857) behandelten Insekten. *Archiv für Naturgeschichte* 82 (Abteilung A, 5. Heft) [1916]: 75-101 [DP: August 1917]



- Strand E (1936) Miscellanea nomenclatorica zoologica et palaeontologica. *Folia Zoologica et Hydrobiologica* 9: 167-170 [DP: 23 May 1936]
- Straneo SL (1944) Note sui Pterostichini -IV. Su alcune specie del gen. *Pterostichus* Bon., subg. *Euferonia* Cas. *Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano* 83: 126-130 [DP: June 1944]
- Straneo SL (1950) Revisione delle specie africane del gen. *Melanchiton* Andrewes (*Melanodes* Chaudoir et Auctt.) (Col. Carab.). *Revue de Zoologie et de Botanique Africaines* 44: 61-104 [DP: 30 December 1950]
- Straneo SL (1977) Chiavi per la determinazione dei generi e sottogeneri dei Pterostichini dell'America del Sud (Coleoptera Carabidae). *Bollettino della Società Entomologica Italiana* 109: 104-116 [DP: 20 October 1977]
- Straneo SL, Ball GE (1989) Synopsis of the genera and subgenera of the tribe Peleciini, and revision of the Neotropical and Oriental species (Coleoptera: Carabidae). *Insecta Mundi* 3: 73-178 [DP: 27 October 1989 (*Insecta Mundi* 4: 132)]
- Sturani M (1962) Osservazioni e ricerche biologiche sul genere *Carabus* Linnaeus (sensu lato) (Coleoptera Carabidae). *Memorie della Società Entomologica Italiana* 41: 85-202 [DP: 20 December 1962]
- Sturani M (1971) Elevages de quelques espèces de Carabes d'Anatolie. *Entomops* 21: 155-176 [DP: 1 June 1971]
- Sturm J (1818) *Deutschlands Fauna in Abbildungen nach der Natur mit Beschreibungen. V. Abtheilung. Die Insecten. Viertes Bändchen. Käfer*. [Author], Nürnberg. 179 pp. + pls 77-104.
- Sturm J (1824) *Deutschlands Fauna in Abbildungen nach der Natur mit Beschreibungen. V. Abtheilung. Die Insecten. Fünftes Bändchen. Käfer*. [Author], Nürnberg. 220 pp. + pls 105-137.
- Sturm J (1825) *Deutschlands Fauna in Abbildungen nach der Natur mit Beschreibungen. V. Abtheilung. Die Insecten. Sechstes Bändchen. Käfer*. [Author], Nürnberg. 188 pp. + pls 138-163.
- Sturm J (1826) *Catalog meiner Insecten-Sammlung. Erster Theil. Käfer*. [Author], Nürnberg. viii + 207 + 16 + [2] pp. + 4 pls.
- Sturm J (1843) *Catalog der Kaefer-Sammlung*. [Author], Nürnberg. xii + 386 pp. + 6 pls [DP: August 1843 (*Ent. Ver. Stettin*)]
- Su Z-H, Imura Y, Okamoto M, Osawa S (2004) Pattern of phylogenetic diversification of the Cychni ground beetles in the world as deduced mainly from sequence comparisons of the mitochondrial genes. *Gene* 326: 43-57 [DP: 4 February 2004]
- Sumlin WD III (1976a) Notes on the tiger beetle holdings of the Nevada State Department of Agriculture (Coleoptera: Cicindelidae). *The Coleopterists Bulletin* 30: 101-106 [DP: 12 April 1976]
- Sumlin WD III (1976b) A new subspecies of *Cicindela politula* from west Texas and a note on *C. cazieri* (Coleoptera: Cicindelidae). *Journal of the Kansas Entomological Society* 49: 521-526 [DP: 23 November 1976]
- Sumlin WD III (1985) A review of *Cicindela politula* LeConte (Coleoptera: Cicindelidae). *Journal of the Kansas Entomological Society* 58: 220-227 [DP: 28 June 1985]

- Summers SV (1873) List of Coleoptera of St. Louis County, Missouri. *The Canadian Entomologist* 5: 132-134, 145-147.
- Summers SV (1874a) Catalogue of the Coleoptera from the region of Lake Pontchartrain, La. *Bulletin of the Buffalo Society of Natural Sciences* 2 [1874-75]: 78-99.
- Summers SV (1874b) Notes on the species of Oodii of Louisiana. *The Canadian Entomologist* 6: 135-136.
- Sundukov YN (2005) A review of species of the subgenus *Lenapterus* (Coleoptera, Carabidae, *Pterostichus*) with description of new species and subspecies from the Sikhote-Alin Mountains [in Russian]. *Zoologicheskii Zhurnal* 84: 803-825 [DP: >8 June 2005; <23 September 2005 (CAL stamp)] Note. An English translation was published in *Entomological Review* 85: 480-503.
- Sustek Z (1993) Description of the 3-rd instar larva of *Nebria jockischi* (Coleoptera, Carabidae). *Biológia (Bratislava)* 48: 519-522.
- Tanner VM (1928) The Coleoptera of Zion National Park, Utah. *Annals of the Entomological Society of America* 21: 269-281 [DP: 18 August 1928]
- Tanner VM (1929a) The Coleoptera of Utah-Cicindelidae. *The Pan-Pacific Entomologist* 6: 78-87 [DP: 19 December 1929]
- Tanner VM (1929b) Thomas Utting Spalding 1866-1929. *Entomological News* 40: 343-344 [DP: 19 December 1929]
- Tanner VM (1942) A new *Elaphrus* (Coleoptera, Carabidae). *The Great Basin Naturalist* 2 [1941]: 137-138 [DP: 25 February 1942]
- Tanner VM (1951) Notes on some Cicindelidae of the western United States and the South Pacific Islands with a description of a new species. *The Great Basin Naturalist* 11: 47-51 [DP: 6 October 1951]
- Tanner VM, Tanner WW (1974) Additional records of Coleoptera collected at the Nevada test site, Mercury, Nevada. *The Great Basin Naturalist* 34: 218-220 [DP: 30 September 1974]
- Tellkamp TG (1844) Ueber den blinden Fisch der Mammuthöhle in Kentucky, mit Bemerkungen über einige andere in dieser Höhle lebende Thiere. *Archiv für Anatomie, Physiologie und Wissenschaftliche Medicin* (Jahrgang 1844): 381-394.
- Theil N (1882) *Grand dictionnaire de la langue latine, sur un nouveau plan par le Dr Guill. Freund. Traduit en français, revu sur les textes, et considérablement augmenté, d'après les travaux lexicographiques et épigraphiques les plus récents, français et étrangers. [Tome premier]*. Firmin-Didot et Cie, Paris. xxxv + 1160 pp.
- Theil N (1883) *Grand dictionnaire de la langue latine, sur un nouveau plan par le Dr Guill. Freund. Traduit en français, revu sur les textes, et considérablement augmenté, d'après les travaux lexicographiques et épigraphiques les plus récents, français et étrangers. Tome troisième*. Firmin-Didot et Cie, Paris. 612 pp.
- Thomas C (1861) Notes on Illinois insects. *Transactions of the Illinois State Agricultural Society* 4 [1859-60]: 631-649 [DP: >18 February 1861] Note. This paper was also issued in 1862 in *Transactions of the Illinois Natural History Society* 1: 103-121.
- Thomas MC (2011) New Florida, U.S.A. records of *Apenes* LeConte (Coleoptera: Carabidae). *The Coleopterists Bulletin* 65: 307-308 [DP: 20 September 2011]

- Thompson RG (1979a) Larvae of North American Carabidae with a key to the tribes. Pp. 209–291 in Erwin TL, Ball GE, Whitehead DR, Halpern AL (Eds). *Carabid beetles: their evolution, natural history, and classification*. Proceedings of the First International Symposium of Carabidology Smithsonian Institution, Washington D.C. August 21, 23, and 25, 1976. Dr W. Junk bv Publishers, The Hague.
- Thompson RG (1979b) A systematic study of larvae in the tribes Pterostichini, Morionini, and Amarini (Coleoptera: Carabidae). Agricultural Experiment Station, University of Arkansas, Bulletin 837. 105 pp. [DP: September 1979]
- Thompson RG, Allen RT (1974) Descriptions of larval Carabidae I. *The Coleopterists Bulletin* 28: 185–201 [DP: 31 December 1974]
- Thomson CG (1857) *Skandinaviens Coleoptera, synoptiskt bearbetade. Häftet I. Carabici*. Berlingska Boktryckeriet, Lund. [2] + 64 pp. [DP: November 1857 (*Svensk Bibl.*)]
- Thomson CG (1859) *Skandinaviens Coleoptera, synoptiskt bearbetade. I. Tom*. Berlingska Boktryckeriet, Lund. [2] + 290 pp. [DP: November 1859 (*Svensk Bibl.*)]
- Thomson CG (1871) *Opuscula entomologica. Fasciculus quartus*. Berlingska Boktryckeriet, Lund. Pp. 361–452.
- Thomson J (1857) *Monographie des cicindélides ou exposé méthodique et critique des tribus, genres et espèces de cette famille. Tome premier*. J.-B. Ballières, Paris. xvii + 66 pp. + 10 pls. Note. This work was published in three livraisons. According to von Hayek (1989, *Arch. Nat. Hist.* 16: 92), the third livraison (pp. 19–66) was likely published in 1858. Until evidence is found to confirm this, the date on the title page (e.g., 1857) is retained.
- Thomson J (1858) *Archives entomologiques ou recueil contenant des illustrations d'insectes nouveaux ou rares. Tome deuxième*. [Author], Paris. 469 + [2] pp. + 14 pls. Note. The second volume of the *Archives entomologiques* has a second title page which reads “*Voyage au Gabon. Histoire naturelle des insectes et des arachnides recueillis pendant un voyage fait au Gabon en 1856 et en 1857 par M. Henry C. Deyrolle sous les auspices de MM. le Comte de Mnischev et James Thomson précédée de l'histoire du voyage par M. James Thomson - Arachnides, par M. H. Lucas.*” This volume made up livraisons 13–20 of the entire work. According to von Hayek (1989, *Arch. Nat. Hist.* 16: 89), livraisons 18–20 (pp. 337–464) were probably published in 1859.
- Tinerella PP (2003) New records of ground beetles (Coleoptera: Carabidae) for North Dakota. *Journal of the Kansas Entomological Society* 76: 634–637 [DP: 25 September 2003]
- Tinerella PP, Rider DA (2000) Occurrence of the tiger beetle *Cicindela cursitans* (Coleoptera: Carabidae) in northwestern Minnesota. *Entomological News* 111: 367–369 [DP: 29 December 2000]
- Tinerella PP, Rider DA (2001) New records of five ground beetles (Coleoptera: Carabidae) from tallgrass prairie remnants in western Minnesota. *Entomological News* 112: 319–322 [DP: 28 December 2001]
- Toledano L (1999) Revision of the palaearctic species of the subgenus *Bembidion* with description of three new taxa from China (Coleoptera Carabidae Bembidiini). Pp. 195–228 in Zamotajlov A, Sciaky R (Eds). *Advances in carabidology. Papers dedicated to the memory of Prof. Dr. Oleg L. Kryzhanovskij*. MUIISO Publishers, Krasnodar. 473 pp. [DP: 24 September 1999]

- Toledano L (2000) Systematic notes on the palaearctic Bembidiini with particular reference to the fauna of China (Coleoptera Carabidae). *Memorie della Società Entomologica Italiana* 78 [1999]: 5-70 [DP: 30 April 2000]
- Toledano L (2002) Nomenclatorial revision of the supraspecific taxa of Bembidiini s.str. of South America described by Jeannel (1962) and related taxa with some considerations on the fauna of South America (Coleoptera: Carabidae). *Koleopterologische Rundschau* 72: 1-14 [DP: June 2002]
- Toledano L (2008) Systematic notes on the Palaearctic *Bembidion* Latreille, 1802 (Coleoptera, Carabidae) with particular reference to the fauna of China. *Memorie del Museo Civico di Storia Naturale di Verona* (II serie), Sezione Scienze della Vita 18: 5-46.
- Toledano L (2011) Notes on new and poorly known Chinese Bembidiina (Coleoptera: Carabidae). *Koleopterologische Rundschau* 81: 5-19 [DP: September 2011]
- Toledano L, Schmidt J (2010) Revision of the *Bembidion kara* Andrewes, 1921 species group and notes on the Palaearctic species of *Bembidion* subgenus *Trichoplataphus* Netolitzky, 1914 (Coleoptera, Carabidae, Bembidiini). *Entomologische Blätter für Biologie und Systematik der Käfer* 106: 371-406 [DP: 30 December 2010]
- Torres R, Ruberson JR (2006) Abundance and diversity of ground-dwelling arthropods of pest management importance in commercial Bt and non-Bt cotton fields. *Annals of Applied Biology* 150: 27-39.
- Toulgoët H de (1975) Les types du genre *Carabus* (s.l.) du Muséum d'Histoire Naturelle de Paris (Coléoptères Carabidae Carabinae). *Nouvelle Revue d'Entomologie* 5: 13-29 [DP: 15 April 1975], 221-237 [DP: 15 November 1975]
- Toulgoët H de (1976) Les types du genre *Carabus* (s.l.) du Muséum National d'Histoire Naturelle de Paris (Coléoptères Carabidae Carabinae) (suite et fin). *Nouvelle Revue d'Entomologie* 6: 25-43 [DP: 23 April 1976]
- Tschitschérine TS (1891) Remarques sur quelques *Feronia* de la faune paléarctique. *Horae Societatis Entomologicae Rossicae* 25 [1890-91]: 141-149 [DP: 1 April 1891 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1893) Contributions à la faune des carabiques de la Russie. I. Enumération des espèces rapportées de la Sibérie orientale par M. J. Wagner. *Horae Societatis Entomologicae Rossicae* 27 [1892-893]: 359-378 [DP: 11 August 1893 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1894) Matériaux pour servir à l'étude des Féroniens. II. *Horae Societatis Entomologicae Rossicae* 28 [1893-94]: 366-435 [DP: 27 November 1894 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1895) Contributions à la faune des carabiques de la Russie. II. Enumération des espèces rapportées des environs de Chanskaïa-Stavka (gouvernement d'Astrachan) par M. Wl. Plustschewsky-Plustschik. *Horae Societatis Entomologicae Rossicae* 29 [1894-95]: 211-241 [DP: 12 May 1895 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1896a) Note sur les *Derus* Motsch. *Annuaire du Musée Zoologique de l'Académie Impériale des Sciences de St.-Petersbourg* 1: 105-112 [DP: December 1896]

- Tschitschérine TS (1896b) Note sur deux nouvelles formes arctiques du genre *Feronia* Latr. Dej. *Annuaire du Musée Zoologique de l'Académie Impériale des Sciences de St.-Petersbourg* 1: 373-377 [DP: December 1896]
- Tschitschérine TS (1897) Carabiques nouveaux ou peu connus. *L'Abeille, Journal d'Entomologie* 29 [1896-1900]: 45-75 [DP: 13 October 1897 (*Soc. Ent. Fr.*)]
- Tschitschérine TS (1898a) Matériaux pour servir à l'étude des Féroniens. IV. *Horae Societatis Entomologicae Rossicae* 32: 1-224 [DP: 22 July 1898 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1898b) Notes sur divers Harpalini paléarctiques. *Annales de la Société Entomologique de France* 67: 168-188 [DP: October 1898]
- Tschitschérine TS (1899a) Sur l'emploi des noms de *Feronia* et de *Platysma* et sur les rapports des *Zabrus* avec les *Amara* [Col.]. *Bulletin de la Société Entomologique de France* (année 1899): 83-85.
- Tschitschérine TS (1899b) Mémoire sur le genre *Trichocellus* (Ganglb.). *Horae Societatis Entomologicae Rossicae* 32 [1898]: 444-477 [DP: 2 April 1899 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1899c) Note sur un nouveau genre de la tribu des Harpaliens. *Horae Societatis Entomologicae Rossicae* 32 [1898]: 601-603 [DP: 2 April 1899 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1899d) Révision du sous-genre *Lagarus* Chaudoir (genre *Platysma* [Bon.]). *L'Abeille, Journal d'Entomologie* 29 [1896-1900]: 284-287 [DP: 28 June 1899 (*Soc. Ent. Fr.*)]
- Tschitschérine TS (1900a) Mémoire sur la tribu de Harpalini. *Horae Societatis Entomologicae Rossicae* 34 [1899-1900]: 335-370 [DP: 14 August 1900 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1900b) Notes sur les Platysmatini du Muséum d'Histoire Naturelle de Paris. VI. *Horae Societatis Entomologicae Rossicae* 34 [1899-1900]: 371-397 [DP: 14 August 1900 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1900c) Notes sur les Platysmatini du Muséum d'Histoire Naturelle de Paris. VII. *Horae Societatis Entomologicae Rossicae* 34 [1899-1900]: 448-478 [DP: 14 August 1900 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1900d) Révision du sous-genre *Bothriopterus* Chaud. (genre *Platysma* Bon., Tsch.). *Horae Societatis Entomologicae Rossicae* 34 [1899-1900]: 606-613 [DP: 14 August 1900 (Kerzhner 1984, *Entomol. Obozr.* 63: 852)]
- Tschitschérine TS (1901) Genera des Harpalini des régions paléarctique et paléanarctique. *Horae Societatis Entomologicae Rossicae* 35 [1901-02]: 217-251 [DP: 23 May 1901 (Kerzhner 1984, *Entomol. Obozr.* 63: 853)]
- Tschitschérine TS (1902a) Platysmatini (Coleoptera, Carabidae) nouveaux ou peu connus de l'Asie orientale. *Horae Societatis Entomologicae Rossicae* 35 [1901-02]: 494-501 [DP: 8 May 1902 (Kerzhner 1984, *Entomol. Obozr.* 63: 853)]
- Tschitschérine TS (1902b) Synonymische und systematische Bemerkungen zu einigen Arten der Gattung *Platysma* (Bon.) Tsch. (Coleoptera, Carabidae). *Revue Russe d'Entomologie* 2: 103-105.



- Tschitschérine TS (1904) *Platysma (Pseudocryobius) aquilonium*, sp.n. *Horae Societatis Entomologicae Rossicae* 37 [1904-05]: 125-126 [DP: 28 November 1904 (Kerzhner 1984, *Entomol. Obozr.* 63: 853)]
- Tucker ES (1906) Determinations of some Texas Coleoptera, with records. *Transactions of the Kansas Academy of Science* 20 (1) [1905]: 85-89 [DP: 17 April 1906 (NRC stamp)]
- Turin H, Casale A, Kryzhanovskij OL, Makarov KV, Penev LD (1993) *Checklist and atlas of the genus Carabus Linnaeus in Europe (Coleoptera, Carabidae)*. Universal Book Services / Dr. W. Backhuys, Leiden. 79 pp.
- Turnbow RH Jr., Thomas MC (2008) An annotated checklist of the Coleoptera (Insecta) of the Bahamas. *Insecta Mundi* 34: 1-64 [DP: 11 April 2008]
- Turton W (1802) *A general system of nature, through the three grand kingdoms of animals, vegetables, and minerals; systematically divided into their several classes, orders, genera, species, and varieties, with their habitations, manners, economy, structure, and peculiarities. Translated from Gmelin's last edition of the celebrated Systema Naturæ, by Sir Charles Linné. Amended and enlarged by the improvements and discoveries of later naturalists and societies, with appropriate copper-plates. Vol. II.* Lackington, Allen, and Co., London. 717 + [2] pp. + 1 pl. [DP: July 1802 (*Critical Rev.*)]
- Uéno S-I (1953) The Coleoptera of Japan [in Japanese]. *Shin Konchu* 6 (12): 37-43 [DP: 25 October 1953 (Uéno 2008, *Checklist of writings by Shun-Ichi Uéno (1949-2008)*, p. 3)]
- Uéno S-I (1955) Two new species of the genus *Nebria* (Coleoptera, Carabidae). *The Entomological Review of Japan* 6: 45-50 [DP: 25 June 1955]
- Uéno S-I (1974) The type material of *Lasiotrechus discus* (Fabricius) (Coleoptera, Trechinae). *Kontyû* 42: 269 [DP: 25 September 1974]
- Uéno S-I (1989) Systematic position of the trechine genus *Eocnides* (Coleoptera, Trechinae). *Elytra* 17: 9-18 [DP: 15 May 1989]
- Ulke H (1875) Report upon the collections of Coleoptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, during the years 1871, 1872, 1873, and 1874. Pp. 809-827+ pl. 41 in: *Report upon geographical and geological explorations and surveys west of the one hundredth meridian, in charge of First Lieut. Geo. M. Wheeler, corps of engineers, U.S. Army, under the direction of Brig. Gen. A.A. Humphreys, chief of engineers, U.S. Army. Published by authority of Hon. Wm. W. Belknap, Secretary of war, in accordance with acts of Congress of June 23, 1874, and February 15, 1875. In six volumes, accompanied by one topographical and one geological atlas. Vol. V.- Zoology.* Engineer Department, United States Army, Washington. 1019 + [1] pp. + 45 pls [DP: >15 February 1875]
- Ulke H (1889) A new species of *Pterostichus*. *Entomologica Americana* 5: 59 [DP: 28 March 1889 (*Amer. Ent. Soc.*)]
- Ulke H (1902) A list of the beetles of the District of Columbia. *Proceedings of the United States National Museum* 25: 1-57 [DP: 2 September 1902]
- Ulyshen MD, Hanula JL, Horn S (2005) Using malaise traps to sample ground beetles (Coleoptera: Carabidae). *The Canadian Entomologist* 137: 251-256 [DP: April 2005]
- Usis JD, MacLean DB (1998) The ground beetles (Coleoptera: Carabidae) of Stillfork Swamp Nature Preserve, Carroll County, Ohio. *The Ohio Journal of Science* 98 (4-5): 66-68.

- Valdés P (1999) Lista anotada de los escarabajos tigres (Coleoptera: Carabidae) de Cuba. *Cocuyo* 8: 13-14.
- Valdés P (2009) Seven new Neotropical species of the genus *Ardistomis* Putzeys (Coleoptera: Carabidae: Scaritinae: Clivinini): notes about classification and a checklist of species names of that genus. *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique, Entomologie & Biologie* [Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, Entomologie & Biologie] 79: 59-72 [DP: 17 December 2009]
- Valdés P (2012) Notes about morphological features of the Western Hemisphere subtribe Ardistomina, and revision of genus *Semiardistomis* Kult (Coleoptera, Carabidae, Scaritinae, Clivinini). *ZooKeys* 210: 19-67 [DP: 24 July 2012]
- Valentine BD, Ivie MA (2005) Beetles: Coleoptera. Pp. 274-282 in Lazell, J.D. *Island: fact and theory in nature*. University of California Press, Berkeley. xx + 382 pp.
- Valentine JM (1931) New cavernicole Carabidae of the subfamily Trechinae Jeannel. *Journal of the Elisha Mitchell Scientific Society* 46 [1930-31]: 247-258 [DP: June 1931]
- Valentine JM (1932a) A classification of the genus *Pseudanophthalmus* Jeannel (fam. Carabidae) with descriptions of new species and notes on distribution. *Journal of the Elisha Mitchell Scientific Society* 47: 261-280 [DP: May 1932]
- Valentine JM (1932b) *Horologion*, a new genus of cave beetles (fam. Carabidae). *Annals of the Entomological Society of America* 25: 1-11 [DP: 31 March 1932]
- Valentine JM (1935) Speciation in *Steniridia*, a group of cychrine beetles (family Carabidae, genus *Scaphinotus*). *Journal of the Elisha Mitchell Scientific Society* 51: 341-375 [DP: December 1935]
- Valentine JM (1936) Racial variation in *Steniridia andrewsi* Harris, a supplement to speciation in *Steniridia*. *Journal of the Elisha Mitchell Scientific Society* 52: 223-234 [DP: December 1936]
- Valentine JM (1937) Anophthalmid beetles (fam. Carabidae) from Tennessee caves. *Journal of the Elisha Mitchell Scientific Society* 53: 93-100 [DP: July 1937]
- Valentine JM (1945) Speciation and racial variation in *Pseudanophthalmus* (cavernicolous Carabidae). *Transactions of the Connecticut Academy of Arts and Sciences* 36: 631-671 [DP: July 1945]
- Valentine JM (1948) New anophthalmid beetles (fam. Carabidae) from the Appalachian region. Geological Survey of Alabama, Museum Paper 27. 19 pp.
- Valentine JM (1952) New genera of anophthalmid beetles from Cumberland caves (Carabidae, Trechini). Geological Survey of Alabama, Museum Paper 34. 41 pp. [DP: November 1952]
- Valentine JM (1987) Some ancient and zoogeographically significant carabid beetles from the South Pacific (Coleoptera: Carabidae), with descriptions of new taxa. *Bishop Museum Occasional Papers* 27: 73-89 [DP: February 1987]
- Van Dyke EC (1918) New inter-tidal rock-dwelling Coleoptera from California. *Entomological News* 29: 303-308 [DP: 4 October 1918]
- Van Dyke EC (1919a) A new genus and species of cave-dwelling Carabidae (Coleoptera) from the United States. *Journal of the New York Entomological Society* 26 [1918]: 179-182 [DP: 18 February 1919 (USNM stamp), 19 February 1919 (CAL stamp)]
- Van Dyke EC (1919b) The distribution of insects in western North America. *Annals of the Entomological Society of America* 12: 1-12 [DP: 26 April 1919]

- Van Dyke EC (1924a) The Coleoptera collected by the Katmai Expeditions. National Geographic Society, Contributed Technical Papers No. 2. 26 pp.
- Van Dyke EC (1924b) New species and subspecies of Cychrini (Carabidae-Coleoptera) from western North America. *The Pan-Pacific Entomologist* 1 [1924-25]: 1-6 [DP: 25 June 1924]
- Van Dyke EC (1925) Studies of western North American Carabinae (Coleoptera) with descriptions of new species. *The Pan-Pacific Entomologist* 1 [1924-25]: 111-125 [DP: 14 February 1925]
- Van Dyke EC (1926a) New species of Carabidae in the subfamily Harpalinae, chiefly from western North America. *The Pan-Pacific Entomologist* 2 [1925-26]: 65-76 [DP: 16 January 1926], 113-126 [DP: 8 May 1926]
- Van Dyke EC (1926b) Certain peculiarities of the coleopterous fauna of the Pacific Northwest. *Annals of the Entomological Society of America* 19: 1-12 [DP: 5 May 1926]
- Van Dyke EC (1927a) *Pterostichus horni* Lec. *The Pan-Pacific Entomologist* 3: 196 [DP: 9 June 1927]
- Van Dyke EC (1927b) A new species of *Micrixys* (Coleoptera-Carabidae). *The Pan-Pacific Entomologist* 4 [1927-28]: 93 [DP: 3 December 1927]
- Van Dyke EC (1936) A review of the subgenus *Nomaretus* Le Conte of the genus *Scaphinotus* Dejean (Coleoptera - Carabidae). *Bulletin of the Brooklyn Entomological Society* 31: 37-44 [DP: 16 April 1936]
- Van Dyke EC (1938) A review of the genus *Scaphinotus*, subgenus *Scaphinotus* Dejean (Coleoptera - Carabidae). *Entomologica Americana* (new series) 18: 93-133 [DP: 10 September 1938]
- Van Dyke EC (1943) New species and subspecies of North American Carabidae. *The Pan-Pacific Entomologist* 19: 17-30 [DP: 22 March 1943]
- Van Dyke EC (1944) A review of the subgenera *Stenocantharis* Gistel and *Neocychnus* Roeschke of the genus *Scaphinotus* Dejean (Coleoptera, Carabidae). *Entomologica Americana* (new series) 24: 1-18 [DP: 14 August 1944]
- Van Dyke EC (1945a) A review of the North American species of the genus *Carabus* Linnaeus. *Entomologica Americana* (new series) 24 [1944]: 87-137 [DP: 9 February 1945]
- Van Dyke EC (1945b) New species of North American Coleoptera. *The Pan-Pacific Entomologist* 21: 101-109 [DP: 30 July 1945]
- Van Dyke EC (1947) New species of Coleoptera from western North America. *The Pan-Pacific Entomologist* 23: 155-161 [DP: 30 December 1947]
- Van Dyke EC (1949a) New species of North American Coleoptera. *The Pan-Pacific Entomologist* 25: 49-56 [DP: 25 May 1949]
- Van Dyke EC (1949b) Notes on *Bembidion*. *The Pan-Pacific Entomologist* 25: 56 [DP: 25 May 1949]
- Van Dyke EC (1951) New species of Coleoptera from North America. *The Pan-Pacific Entomologist* 27: 27-35 [DP: 31 March 1951]
- Van Dyke EC (1953a) New Coleoptera from western North America (Carabidae, Throscidae, Curculionidae). *The Pan-Pacific Entomologist* 29: 98-101 [DP: 25 June 1953]
- Van Dyke EC (1953b) New Coleoptera from western North America (Carabidae, Melasidae, Buprestidae, Curculionidae). *The Pan-Pacific Entomologist* 29: 102-107 [DP: 25 June 1953]

- Vaněk S (1984) Larvae of the Palaearctic species *Clivina collaris* and *Clivina fossor* (Coleoptera, Carabidae, Scaritini). *Acta Entomologica Bohemoslovaca* 81: 99-112 [DP: 30 March 1984]
- Varas Arangua E (1928) III contribucion al estudio de los Cicindelidae. Dos nuevas razas de *Cicindela* del grupo «*purpurea-oregona*». *Revista Chilena de Historia Natural pura y aplicada* 31 [1927]: 173-175.
- Varas Arangua E (1929) IV contribucion al estudio de los Cicindelidae. Notas sobre las variedades de algunas especies de *Cicindela* del grupo «*formosa purpurea oregona*». *Revista Chilena de Historia Natural pura y aplicada* 32 [1928]: 231-251 [DP: February 1929]
- Vaurie P (1950) Four new subspecies of the genus *Cicindela* (Coleoptera, Cicindelidae). *American Museum Novitates* No. 1458. 6 pp. [DP: 16 March 1950]
- Vaurie P (1951) Five new subspecies of tiger beetles of the genus *Cicindela* and two corrections (Coleoptera, Cicindelidae). *American Museum Novitates* No. 1479. 12 pp. [DP: 10 January 1951]
- Vaurie P (1955) A review of the North American genus *Amblycheila* (Coleoptera, Cicindelidae). *American Museum Novitates* No. 1724. 26 pp. [DP: 29 April 1955]
- Vereshchagina TN, Makarov KV (1986) Ground beetles of the genus *Laemostenus* Bon. of the Caucasus (Coleoptera, Carabidae). II. Larvae of the *L. koenigi* Rtt. species-group [in Russian]. *Entomologicheskoe Obozrenie* 65: 367-373 [DP: >29 May 1986; <5 September 1986 (CAL stamp)] Note. An English translation was issued in *Entomological Review* 65(4): 166-173.
- Verhoeff KW (1917) Zur Systematik der *Carabus*-Larven. *Zeitschrift für wissenschaftliche Insektenbiologie* 13: 41-43 [DP: 30 April 1917]
- Verhoeff KW (1921) Über vergleichende Morphologie der Mundwerkzeuge der Coleopteren-Larven und -Imagines, zugleich ein Beitrag zur Entwicklung, Biologie und Systematik der *Carabus*-Larven. *Zoologische Jahrbücher, Abteilung für Systematik, Geographie und Biologie der Tiere* 44: 69-194 [DP: 15 August 1921]
- Vigna Taglianti A, Rossi W (1998) Laboulbeniales (Ascomycetes) and systematics of their carabid hosts (Coleoptera). Pp. 511-518 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Vigna Taglianti A, Santarelli F, Di Giulio A, Oliverio M (1998) Phylogenetic implications of larval morphology in the tribe Ozaenini (Coleoptera: Carabidae). Pp. 273-296 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Villa A, Villa GB (1833) *Coleoptera Europae dupleta in collectione Villa quae pro mutua commutatione offerri possunt*. Mediolani. 36 pp.
- Villa-Castillo J, Wagner MR (2002) Ground beetle (Coleoptera: Carabidae) species assemblage as an indicator of forest condition in northern Arizona *Ponderosa* pine forests. *Environmental Entomology* 31: 242-252 [DP: 18 April 2002 (CUL stamp)]

- Villers CJ de (1789) *Caroli Linnaei entomologia, Faunae Suecicae descriptionibus aucta; DD. Scopoli, Geoffroy, de Geer, Fabricii, Schrank, &c. speciebus vel in systemate non enumeratis, vel nuperrime detectis, vel speciebus Galliae australis locupletata, generum specierumque rariorum iconibus ornata. Tomus primus*. Piestre et Delamollière, Lugduni. xvi + [4] + 765 + [1] pp. + 3 pls.
- Vogler AP, Barraclough TG (1998) Reconstructing shifts in diversification rate during the radiation of Cicindelidae (Coleoptera). Pp. 251-260 in Ball GE, Casale A, Vigna Taglianti A (Eds). *Phylogeny and classification of Caraboidea (Coleoptera: Adephaga)*. Proceedings of a symposium (28 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino. 543 pp. [DP: December 1998]
- Vogler AP, Welsh A (1997) Phylogeny of North American *Cicindela* tiger beetles inferred from multiple mitochondrial DNA sequences. *Molecular Phylogenetics and Evolution* 8: 225-235.
- Vogt GB (1949) Three new Cicindelidae from south Texas with collecting notes on other Cicindelidae (Coleoptera). *Bulletin of the Brooklyn Entomological Society* 44: 1-9 [DP: 23 March 1949]
- Vulinec K, Davis RA (1984) Coleoptera types in the Charles Dury collection of the Cincinnati Museum of Natural History. *The Coleopterists Bulletin* 38: 232-239 [DP: 9 November 1984]
- Vysoký V (1986) Contribution to the knowledge of genus *Bembidion* Latreille, 1802 (Coleoptera, Carabidae) [in Czech]. *Fauna Bohemiae Septentrionalis* 11: 91-103.
- Walker F (1866) List of Coleoptera. Pp. 309-334 in Lord, J.K. *The naturalist in Vancouver Island and British Columbia. In two volumes - Vol. II*. Richard Bentley, London. vii + [2] + 375 pp. + 3pls [DP: June 1866 (*English Cat. Books* 1966: 35)]
- Walker TJ Jr. (1957) Ecological studies of the arthropods associated with certain decaying materials in four habitats. *Ecology* 38: 262-276 [DP: April 1957]
- Wallis JB (1961) *The Cicindelidae of Canada*. University of Toronto Press, Toronto. x + [4] + 74 pp.
- Ward RD (1972) On spring collecting in Louisiana, Texas and Arkansas with notes on *Cicindela sexguttata tridens* Casey. *Cicindela* 3 [1971]: 69-77 [DP: 4 April 1972 (CAL stamp), 7 April 1972 (CUL stamp)]
- Ward RD (1979) Metathoracic wing structures as phylogenetic indicators in the Adephaga (Coleoptera). Pp. 181-191 in Erwin TL, Ball GE, Whitehead DR, Halpern AL (Eds). *Carabid beetles: their evolution, natural history, and classification*. Proceedings of the First International Symposium of Carabidology Smithsonian Institution, Washington D.C. August 21, 23, and 25, 1976. Dr W. Junk bv Publishers, The Hague. 635 pp.
- Ward RD (1982) Lectotype designations for the species of tiger beetles described by George Henry Horn. *Cicindela* 12 [1980]: 57-63 [DP: 25 May 1982 (CUL stamp), 28 May 1982 (CAL stamp)]
- Warner BG, Morgan AV, Karrow PF (1988) A Wisconsinan interstadial arctic flora and insect fauna from Clarksburg, southwestern Ontario, Canada. *Palaeogeography, Palaeoclimatology, Palaeoecology* 68: 27-47.
- Wasmann E (1926) Die Paussidengattungen des baltischen Bernsteins. (265 Beitrag zur Kenntnis der Myrmecophilen). *Zoologischer Anzeiger* 68: 25-30 [DP: 5 August 1926]



- Waterhouse CO (1879) Notice of a small collection of Coleoptera from Jamaica, with descriptions of new species from the West Indies. *The Transactions of the Entomological Society of London for the year 1878*: 303–311 [DP: 6 January 1879 (Wheeler 1912, *Trans. Entomol. Soc. London* 1911: 757)]
- Waterhouse GR (1833) Monographia Notiophilôn Angliae. *The Entomological Magazine* 1: 202–211.
- Waterhouse GR (1863) [Notes on British specimens of *Oxypoda lentula*, Erichs., Kraatz, &c., *Oxypoda misella*, Kraatz, *Trechus obtusus*, Erichs., and *Bembidium (Philochthus) mannerheimii*, Sahlberg]. *Journal of the Proceedings of the Entomological Society of London* [for] 1863: 147–148.
- Webb DW (1980) Primary insect types in the Illinois Natural History Survey collection, exclusive of the Collembola and Thysanoptera. *Illinois Natural History Survey Bulletin* 32: 55–191 [DP: July 1980]
- Webb JL (1901) Notes on *Cychrus*, with the description of a new species. *Entomological News* 12: 133–136 [DP: 2 May 1901 (CUL stamp)]
- Weber DC, Kavanaugh DH (1992) A new locality record for *Scaphinotus longiceps* Van Dyke (Coleoptera: Carabidae), with notes about habitat. *The Coleopterists Bulletin* 46: 394–396 [DP: 22 December 1992]
- Weber F (1801) *Observationes entomologicae, continentes novorum quae condidit generum characteres, et nuper detectarum specierum descriptiones*. Impensis Bibliopolii Academici Novi, Kiliae. xii + 116 pp. [DP: <March 1801 (Evenhuis 1997b: 809)]
- Webster RP, Bousquet Y (2008) New ground beetle (Coleoptera: Carabidae) records in New Brunswick, Canada. *Journal of the Acadian Entomological Society* 4: 14–24 [DP: 18 July 2008]
- Webster RP, DeMerchant I (2012) New Coleoptera records from New Brunswick, Canada: Gyrinidae, Carabidae, and Dytiscidae. *ZooKeys* 179: 1–10 [DP: 4 April 2012]
- Weiss HB (1936) *The pioneer century of American entomology*. [Author], New Brunswick (NJ). 320 pp.
- Wencker JA, Silbermann GH (1866) *Catalogue des coléoptères de l'Alsace et des Vosges. Suivi de descriptions de plusieurs espèces nouvelles par Ch. Brisout de Barneville et Wencker*. G. Silbermann, Strasbourg. vi + 142 pp. [DP: 15 September 1866 (*Bibl. Fr.*)]
- Werner K (2000) *The tiger beetles of Africa. Volume 1 (Coleoptera: Cicindelidae)*. Taita Publishers, Hradec Kralove (Czech Republic). 191 pp.
- Wesmael C (1835) Revue des coléoptères de la famille des carnassiers de Belgique [deuxième partie]. *Bulletins de l'Académie Royale des Sciences et Belles-Lettres de Bruxelles* 2: 47–48.
- Westcott RL, LaBonte JR, Parsons GL, Johnson PJ (2006) New records and other notes for Oregon Coleoptera. *Zootaxa* 1142: 1–33 [DP: 8 March 2006]
- Westwood JO (1831) Mémoire pour servir à l'histoire naturelle de la famille des cicindelètes. *Annales des Sciences Naturelles* 22: 299–317.
- Westwood JO (1838) *Synopsis of the genera of British insects*. Longman, Orme, Brown, Green, & Longmans, London. Pp. 1–48 [DP: May 1838 (pp. 1–16), July 1838 (pp. 17–32), November 1838 (pp. 33–48)] Note. This work contains 158 pages and was published from 1838 to 1840 as an appendix, with separate pagination, of “*An introduction to the modern*

classification of insects; founded on the natural habits and corresponding organisation of the different families." See ICZN (1957, Direction 63, *Opin. Decl.* 1E: 23) for the dates of publications of each part.

- White A (1851) List of insects taken by Sir John Richardson and John Rae, Esq., in arctic North America. Pp. 357-363 in Richardson, J. *Arctic searching expedition: a journal of a boat-voyage through Rupert's Land and the Arctic Sea, in search of the discovery ships under command of Sir John Franklin. With an appendix on the physical geography of North America. In two volumes. Vol. II.* Longman, Brown, Green, and Longmans, London. vii + 426 pp. Note. The book was also issued in 1852 in one volume by Harper & Brothers, New York.
- Whitehead DR (1967) A review of *Halocoryza* Alluaud, with notes on its relationship to *Schizogenius* Putzeys (Coleoptera: Carabidae). *Psyche* 73 [1966]: 217-228 [DP: 25 January 1967]
- Whitehead DR (1969) Variation and distribution of the intertidal beetle *Halocoryza arenaria* (Darlington) in Mexico and the United States (Coleoptera: Carabidae). *Journal of the New York Entomological Society* 77: 36-39 [DP: 6 May 1969]
- Whitehead DR (1970) Notes on *Dyschirius* Bonelli and *Akephorus* LeConte, with a peculiar new *Dyschirius* from Texas (Coleoptera: Carabidae: Scaritini). *Journal of the New York Entomological Society* 77 [1969]: 179-192 [DP: 26 February 1970]
- Whitehead DR (1972) Classification, phylogeny, and zoogeography of *Schizogenius* Putzeys (Coleoptera: Carabidae: Scaritini). *Quaestiones Entomologicae* 8: 131-348 [DP: 18 July 1972]
- Whitehead DR (1973) Annotated key to *Platynus*, including *Mexisphodrus* and most "Colpodes", so far described from North America including Mexico (Coleoptera: Carabidae: Agonini). *Quaestiones Entomologicae* 9: 173-217 [DP: 9 October 1973 (CUL stamp), 16 October 1973 (CAL stamp)]
- Whitehead DR (1974) *Clivina texana* LeConte, a synonym of *C. planicollis* LeConte (Coleoptera: Carabidae: Scaritini). *Proceedings of the Entomological Society of Washington* 76: 454 [DP: 31 December 1974]
- Wickham HF (1888) A list of the Coleoptera of Iowa City and vicinity. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 1 [1888-90]: 81-92 [DP: November 1888]
- Wickham HF (1893a) On the early stages of three North American Coleoptera. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 2 [1891-93]: 195-201 [DP: January 1893]
- Wickham HF (1893b) Description of the early stages of several North American Coleoptera. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 2 [1891-93]: 330-344 [DP: November 1893]
- Wickham HF (1895a) Preliminary hand-book of the Coleoptera of north eastern America. *Journal of the New York Entomological Society* 3: 180-190.
- Wickham HF (1895b) On the early stages of some Carabidae and Chrysomelidae. *The American Naturalist, an Illustrated Magazine of Natural History* 29: 762-766.
- Wickham HF (1896a) A list of some Coleoptera from the northern portions of New Mexico and Arizona. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 3 [1894-96]: 153-171 [DP: February 1896]

- Wickham HF (1896b) Preliminary handbook of the Coleoptera of northeastern America. *Journal of the New York Entomological Society* 4: 33-49.
- Wickham HF (1896c) A list of Coleoptera from the southern shore of Lake Superior. With remarks on geographical distribution. *Proceedings of the Davenport Academy of Natural Sciences* 6 [1889-97]: 125-169.
- Wickham HF (1897) The Coleoptera of the Lower Rio Grande Valley. I. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 4 [1896-98]: 96-115 [DP: December 1897]
- Wickham HF (1898) The beetles of southern Arizona. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 4 [1896-98]: 295-312 [DP: June 1898]
- Wickham HF (1899) The habits of American Cicindelidae. *Proceedings of the Davenport Academy of Natural Sciences* 7 [1897-99]: 206-228.
- Wickham HF (1902) A catalogue of the Coleoptera of Colorado. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 5 [1899-1904]: 217-309 [DP: October 1902]
- Wickham HF (1905) New species of Coleoptera from the western United States. Second paper. *The Canadian Entomologist* 37: 165-171 [DP: 5 May 1905]
- Wickham HF (1909) New fossil Coleoptera from Florissant. *The American Journal of Science* (fourth series) 28: 126-130 [DP: August 1909]
- Wickham HF (1910) New fossil Coleoptera from Florissant, with notes on some already described. *The American Journal of Science* (fourth series) 29: 47-51 [DP: January 1910]
- Wickham HF (1911a) Fossil Coleoptera from Florissant, with descriptions of several new species. *Bulletin of the American Museum of Natural History* 30: 53-69 [DP: 26 May 1911]
- Wickham HF (1911b) A list of the Coleoptera of Iowa. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 6 (2) [1911-13]: 1-40 [DP: October 1911]
- Wickham HF (1912) A report on some recent collections of fossil Coleoptera from the Miocene shales of Florissant. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 6 (3) [1911-13]: 3-38 + 8 pls [DP: 18 May 1912]
- Wickham HF (1913) Fossil Coleoptera from the Wilson ranch near Florissant, Colorado. *Bulletin from the Laboratories of Natural History of the State University of Iowa* 6 (4) [1911-13]: 3-29 + 7 pls [DP: 26 April 1913]
- Wickham HF (1917a) New species of fossil beetles from Florissant, Colorado. *Proceedings of the United States National Museum* 52: 463-472 [DP: 23 February 1917]
- Wickham HF (1917b) Some fossil beetles from the Sangamon peat. *The American Journal of Science* (fourth series) 44: 137-145 [DP: August 1917]
- Wickham HF (1919a) *Scaphinotus* (*Pseudonomaretus*) *mannii* n.sp. (Coleoptera Carabidae). *Proceedings of the Entomological Society of Washington* 21: 170-173 [DP: 13 October 1919]
- Wickham HF (1919b) Two new species of *Asaphidion* from North America (Coleoptera, Carabidae). *Proceedings of the Entomological Society of Washington* 21: 178-181 [DP: 10 November 1919]
- Wickham HF (1931) Coleoptera. Pp. 317-318 in *Insects from the Miocene (Latah) of Washington*. *Annals of the Entomological Society of America* 24: 307-322 [DP: 30 June 1931]

- Wiedemann CRW, Germar EF (1821) Neue exotische Käfer. *Magazin der Entomologie* 4: 107-183.
- Wiedenmann RN, Larrain PL, O'Neil RJ (1992) Pitfall sampling of ground beetles (Coleoptera: Carabidae) in Indiana soybean fields. *Journal of the Kansas Entomological Society* 65: 279-291 [DP: 4 November 1992]
- Wiesner J (1992) Verzeichnis der Sandlaufkäfer der Welt (Coleoptera, Cicindelidae). Checklist of the tiger beetles of the world (Coleoptera, Cicindelidae). Erna Bauer, Keltern. 364 pp. [DP: >25 September 1992]
- Will KW (1997) Review of the species of the subgenus *Megapangus* Casey (Coleoptera: Carabidae, Harpalini, *Harpalus* Latreille). *The Coleopterists Bulletin* 51: 43-51 [DP: 3 April 1997]
- Will KW (1998) A new species of *Diplocheila* Brullé from North America, with notes on female reproductive tract characters in selected Licinini and implications for evolution of the subgenus *Isorembus* Jeannel (Coleoptera: Carabidae: Licinini). *Proceedings of the Entomological Society of Washington* 100: 95-103 [DP: 28 January 1998]
- Will KW (1999) Systematics and zoogeography of the genus *Lophoglossus* Leconte (Coleoptera Carabidae Pterostichini). Pp. 259-276 in Zamotajlov A, Sciaky R (Eds). *Advances in carabidology. Papers dedicated to the memory of Prof. Dr. Oleg L. Kryzhanovskij*. MUIO Publishers, Krasnodar. 473 pp. [DP: 24 September 1999]
- Will KW (2000) Systematics and zoogeography of abaryform genera (Coleoptera: Carabidae: Pterostichini) and a phylogenetic hypothesis for pterostichine genera. Ph.D. Thesis, Cornell University. 289 pp.
- Will KW (2002a) A new species of *Harpalus* Latreille (Coleoptera: Carabidae) from southeastern North America. *The Coleopterists Bulletin* 55 [2001]: 447-452 [DP: 2 January 2002]
- Will KW (2002b) Revision of the New World abariform genera *Neotalus* n.gen. and *Abaris* Dejean (Coleoptera: Carabidae: Pterostichini (auctorum)). *Annals of Carnegie Museum* 71: 143-213 [DP: 16 August 2002]
- Will KW (2004) Review and cladistic analysis of the generic-level taxa of Morionini Brullé (Coleoptera: Carabidae). *The Pan-Pacific Entomologist* 79 [2003]: 212-229 [DP: 22 September 2004]
- Will KW (2005) The Neotropical genera *Oxycrepis* Reiche and *Stolonis* Motschulsky: a taxonomic review, key to the described species and description of new *Stolonis* species from Ecuador (Coleoptera: Carabidae: Loxandrinini). *Zootaxa* 1049: 1-17 [DP: 13 September 2005]
- Will KW (2007) Four new species of the subgenus *Leptoferonia* Casey (Coleoptera, Carabidae, *Pterostichus* Bonelli) from California. *Proceedings of the California Academy of Sciences* (fourth series) 58 (4): 49-57 [DP: 30 April 2007]
- Will KW, Androw RA (1993) Collecting Tar Hollow State Park and Forest. *The Ohio Coleopterist* 2(4): 4-6.
- Will KW, Gill AS (2008) Phylogeny and classification of *Hypherpes* auctorum (Coleoptera: Carabidae: Pterostichini: *Pterostichus*). *Annals of Carnegie Museum* 77: 93-127 [DP: 20 July 2008]
- Will KW, Liebherr JK (1998) New and little known species of *Loxandrus* LeConte 1852 (Coleoptera: Carabidae) from North and South America. *Studies on Neotropical Fauna and Environment* 32 [1997]: 230-238.

- Will KW, Purrington FF, Horn DJ (1995) Ground beetles of islands in the Western Basin of Lake Erie and the adjacent mainland (Coleoptera: Carabidae, including Cicindelini). *The Great Lakes Entomologist* 28: 55-70 [DP: 14 September 1995 (CAL stamp)]
- Willand JE, Wodika BR, Palmer J, Jenkins SE, McCravy KW (2011) Diversity of ground beetles (Coleoptera: Carabidae) in relation to habitat type in west-central Illinois. *The American Midland Naturalist* 166: 266-282.
- Willis HL (1967) Bionomics and zoogeography of tiger beetles of saline habitats in the Central United States (Coleoptera: Cicindelidae). *The University of Kansas Science Bulletin* 47: 145-313 [DP: 11 October 1967]
- Willis HL (1968) Artificial key to the species of *Cicindela* of North America north of Mexico (Coleoptera: Cicindelidae). *Journal of the Kansas Entomological Society* 41: 303-317 [DP: 18 September 1968]
- Willis HL (1982) Description of the larva of *Cicindela patruela*. *Cicindela* 12 [1980]: 49-56 [DP: 25 May 1982 (CUL stamp), 28 May 1982 (CAL stamp)]
- Wilson DA (1973) T.W. Harris & E.D. Harris: their contributions to cicindelid entomology. *Cicindela* 4 [1972]: 69-77 [DP: 16 May 1973 (CUL stamp), 17 May 1973 (CAL stamp)]
- Wilson DA, Laroche A (1980) *Cicindela ancocisconensis* T.W. Harris. *Cicindela* 11 [1979]: 33-48 [DP: 30 October 1980 (CAL stamp), 31 October 1980 (CUL stamp)]
- Wilson J, Duncan J (1834) *Entomologia Edinensis, or a description and history of the insects found in the neighbourhood of Edinburgh. Coleoptera*. William Blackwood, Edinburgh and T. Cadell, London. vi + [2] + 351 pp. + 2 pls [DP: February 1834 (Peddie and Waddington 1914, *The English catalogue of books*, p. 642)]
- Wilson MVH (1978) Paleogene insect faunas of western North America. *Quaestiones Entomologicae* 14: 13-34 [DP: 24 April 1978 (CUL stamp)]
- Winton RC, Kippenhan MG, Ivie MA (2010) New state record for *Cicindela arenicola* Rumpff (Coleoptera: Carabidae: Cicindelinae) in southwestern Montana. *The Coleopterists Bulletin* 64: 43-44 [DP: 17 April 2010]
- Wolcott AB (1895) Coleoptera of central Illinois. *Entomological News* 6: 309-310.
- Wolcott AB (1896) Coleoptera of central Illinois.—No. II. *Entomological News* 7: 234-238.
- Wolcott AB (1900) Coleoptera of central Illinois - No. III. *Entomological News* 11: 468-470 [DP: 2 May 1900 (CUL stamp)]
- Wolcott AB, Montgomery BE (1933) An ecological study of the coleopterous fauna of a tamarack swamp. *The American Midland Naturalist* 14: 113-169 [DP: March 1933]
- Wolcott GN (1936) "Insectae Borinquenses." A revision of "'Insectae Portoricensis': a preliminary annotated check-list of the insects of Porto Rico, with descriptions of some new species" and "First supplement to Insectae Portoricensis." *The Journal of Agriculture of the University of Puerto Rico* 20: 1-600. Note. The title cited here is that on the first page. The title on the wrapper reads "Insectae Borinquenses." A revised annotated check-list of the insects of Puerto Rico."
- Wolcott GN (1941) A supplement to "Insectae Borinquenses." *The Journal of Agriculture of the University of Puerto Rico* 25: 33-158 [DP: July 1941]



- Wollaston TV (1854) *Insecta Maderensia; being an account of the insects of the islands of the Madeiran group*. John Van Voorst, London. xliii + 634 pp. + 13 pls [DP: 3 September 1854 (information contained in a letter written by Wollaston housed in CNC)]
- Woodcock RM, Kippenhan MG, Knisley CB, Foster JA (2006) Molecular genetics of *Cicindela* (*Cylindera*) *terricola* and elevation of *C. lunalonga* to species level, with comments on its conservation status. *Conservation Genetics* 8: 865-877 [DP: 14 December 2006 (online version)]
- Woodcock RM, Knisley CB (2010) Genetic analysis of an unusual population of the problematic tiger beetle group, *Cicindela spendida*/*C. limbalis*, from Virginia, U.S.A. (Coleoptera: Cicindelidae) using mtDNA. *Entomological News* 120: 341-348 [DP: 13 May 2010]
- Woodcock TS, Kevan PG, Roughley RE (2011) Subarctic records and range extensions of two species of tiger beetles (Coleoptera: Cicindelidae) in Churchill and Wapusk National Park, Manitoba. *The Canadian Field-Naturalist* 124 [2010]: 118-121 [DP: 25 May 2011]
- Woodman N, Schwert DP, Frest TJ, Ashworth AC (1996) Paleoecology of subarctic faunal assemblages from the Woodfordian Age (Pleistocene: Wisconsinan) Elkader site, northeastern Iowa. The University of Kansas Natural History Museum Occasional Papers No 178. 33 pp. [DP: 31 July 1996]
- Woodruff RE, Graves RC (1963) *Cicindela olivacea* Chaudoir, an endemic Cuban tiger beetle, established in the Florida Keys (Coleoptera: Cicindelidae). *The Coleopterists Bulletin* 17: 79-83 [DP: 9 October 1963]
- Wright JF (1939) A new *Loxandrus* (Coleoptera, Carabidae) from Cincinnati Ohio. *Bulletin of the Brooklyn Entomological Society* 34: 257-258 [DP: 13 November 1939]
- Wright JF, Whitehouse J (1941) Additions to the list of Cincinnati Coleoptera. *Bulletin of the Brooklyn Entomological Society* 36: 69-73 [DP: 27 May 1941]
- Xambeau PV (1892) Moeurs et métamorphoses d'insectes. 2me mémoire. Coléoptères. *L'Échange, Revue Linnéenne* 8 [separate pagination]: 1-42.
- Xambeau PV (1894) Moeurs et métamorphoses d'insectes. Cinquième mémoire. *Annales de la Société Linnéenne de Lyon* (nouvelle série) 41: 107-156.
- Xambeau PV (1898) Moeurs et métamorphoses des insectes. 9<sup>e</sup> mémoire. *Revue d'Entomologie* 17: 1-63.
- Xambeau PV (1901) Moeurs et métamorphoses des insectes. 9<sup>e</sup> mémoire. Troisième partie. *Revue d'Entomologie* 20: 7-68.
- Xambeau PV (1903) Moeurs et métamorphoses des insectes (suite). Mélanges entomologiques. *Annales de la Société Linnéenne de Lyon* (nouvelle série) 49 [1902]: 1-53 [DP: 9 December 1903 (Soc. Ent. Fr.)]
- Xambeau PV (1904) Moeurs et métamorphoses des insectes (suite). Mélanges entomologiques. *Annales de la Société Linnéenne de Lyon* (nouvelle série) 50 [1903]: 79-129 [DP: 27 July 1904 (Soc. Ent. Fr.)]
- Xambeau PV (1911) Moeurs et métamorphoses des insectes. 16<sup>e</sup> mémoire. 3<sup>e</sup> fascicule. *Annales de la Société Linnéenne de Lyon* (nouvelle série) 57 [1910]: 67-116 [DP: 2 February 1911 (Soc. Ent. Fr.)]

- Yahiro K (1990) A comparative morphology of the alimentary canal in the adults of ground-beetles (Coleoptera) I. Classification into the types. *Esakia* (special issue) 1: 35-44 [DP: 20 April 1990]
- Yahiro K (1996) Comparative morphology of the alimentary canal and reproductive organs of the terrestrial Caraboidea (Coleoptera: Adephaga) Part 1. *Japanese Journal of Entomology* 64: 536-550 [DP: 25 September 1996]
- Zaballos JP, Jeanne C (1994) *Nuevo catalogo de los Carabidos (Coleoptera) de la Peninsula Iberica*. Monografias S.E.A.-1. Sociedad Entomológica Aragonesa, Zaragoza. 159 pp.
- Zack RS, Strenge DL, Landolt PJ (2003) Biological diversity study of terrestrial arthropods of selected sites on the Hanford Reach National Monument. Available at: [http://www.pnl.gov/ecomon/docs/biodiversity/Zack\\_03.pdf](http://www.pnl.gov/ecomon/docs/biodiversity/Zack_03.pdf) [accessed 6 March 2008]
- Zamotajlov A (2002) Inferring phylogenetic system of the carabid subfamily Patrobinae (Coleoptera, Carabidae) [in Russian]. *Chteniya Pamyati Nikolaya Aleksandrovicha Kholodkovskogo* 55 (1): 1-147.
- Zamotajlov A (2003a) Carabidae: Patrobini. Pp. 21-22 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Zamotajlov A (2003b) Tribe Patrobini Kirby, 1837. Pp. 280-286 in Löbl I, Smetana A (Eds). *Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata - Myxophaga - Adephaga*. Apollo Books, Stenstrup. 819 pp. [DP: 30 May 2003]
- Zamotajlov A (2003c) Nomenclatural changes in the genus *Patrobus* (Coleoptera: Carabidae: Patrobini). *Acta Societas Zoologicae Bohemicae* 67: 239-244 [DP: 3 October 2003]
- Zamotajlov A, Isaev AY (2006) On subspecific structure of *Patrobus septentrionis* Dejean, 1828 (Coleoptera: Carabidae) [in Russian]. *Caucasian Entomological Bulletin* 2: 15-20.
- Zamotajlov A, Lafer GSh (2001) Contribution to the knowledge of the ground beetle genus *Platidiolus* Chaudoir, 1878 (Coleoptera, Carabidae) from continental Asia [in Russian]. *Entomologicheskoe Obozrenie* 80: 411-435 [DP: >31 May 2001] Note. An English translation was published in *Entomological Review* 81: 402-422.
- Zamotajlov A, Sciaky R (1996) Contribution to the knowledge of Patrobinae (Coleoptera, Carabidae) from south-east Asia. *Coleoptera* 20: 1-63 [DP: 15 May 1996]
- Zang R (1901) Beiträge zur Biologie von *Carabus nemoralis* Müll. *Allgemeine Zeitschrift für Entomologie* 6: 273-276 [DP: 23 October 1901 (Soc. Ent. Fr.)]
- Zazula GD, Froese DG, Elias SA, Kuzmina S, La Farge C, Reyes AV, Sanborn PT, Schweger CE, Smith CAS, Mathewes RW (2006) Vegetation buried under Dawson tephra (25,300 <sup>14</sup>C years BP) and locally diverse late Pleistocene paleoenvironments of Goldbottom Creek, Yukon, Canada. *Palaeogeography, Palaeoclimatology, Palaeoecology* 242: 253-286.
- Zerm M, Wiesner J, Ledezma J, Brzoska D, Drechsel U, Cicchino AC, Rodríguez JP, Martinsen L, Adis J, Bachmann L (2007) Molecular phylogeny of Megacephalina Horn, 1910 tiger beetles (Coleoptera: Cicindelidae). *Studies on Neotropical Fauna and Environment* 42: 211-219.
- Zetterstedt JW (1828) *Fauna insectorum Lapponica. Pars I*. Schulz, Hammone. xx + 563 pp.
- Zetterstedt JW (1837) *Insecta Lapponica. Sectio Prima. Coleoptera, Orthoptera et Hemiptera. [Heft 1]*. Leopoldi Voss, Lipsiae. 192 pp. [DP: 6 October 1837 (Allg. Bibl. Deutsch.)] Note.

- The first section of this work was published in two *Hefte*, 1837-1838, and contains 314 pages. All pages, except those of *praefamen*, are in double column, each numbered.
- Zetto Brandmayr T, Marano I (1994) Descrizione larvale dei generi *Stomis* Clairville, *Metapedius* Fiori e *Platyderus* Stephens (Coleoptera, Carabidae, Pterostichinae). *Bollettino dell'Istituto di Entomologia "Guido Grandi" della Università degli Studi di Bologna* 48 [1993]: 27-43.
- Zetto Brandmayr T, Marano I, Pizzolotto R (1995) Larval morphology and bionomy of *Amara* (*Leirides*) *alpestris* Villa (Coleoptera, Carabidae). *Gortania - Atti del Museo Friulano di Storia Naturale* 16 [1994]: 187-202 [DP: 31 May 1995]
- Zhang J, Drummond F, Liebman M (1994) Spread of *Harpalus rufipes* DeGeer (Coleoptera: Carabidae) in eastern Canada and the United States. *Entomology (Trends in Agriculture Sciences)* 2: 67-71.
- Zhou J, Goyer RA (1993) Descriptions of the immature stages of *Calleida viridipennis* (Say) and *Plochionus timidus* Haldeman (Coleoptera: Carabidae: Lebiini). *The Coleopterists Bulletin* 47: 233-242 [DP: 19 October 1993]
- Zimmermann CCA (1832) Ueber die bisherige Gattung *Amara*. Ein Beitrag zu einer künftigen Monographie der hieher gehörigen Thiere. *Faunus, Zeitschrift für Zoologie und vergleichende Anatomie* 1: 5-40. Note. A French translation was published in *Revue Entomologique* 2: 189-232.
- Zimsen E (1964) *The type material of I.C. Fabricius*. Munksgaard, Copenhagen. 656 pp.
- Znojko DV (1929) A short key for determining larvae of the carabid genera occurring in the USSR, with descriptions of the larvae of *Zabrus tenebrioides* Goeze, *Harpalus pubescens* Müll., and *Amara equestris* Duft. [in Russian]. *La Défense des Plantes: Bulletin du Bureau permanent des Congrès entomo-phytopathologiques de Russie* 6: 335-360 [DP: October 1929]
- Zoubkoff B (1829) Notice sur un nouveau genre et quelques nouvelles espèces de coléoptères. *Bulletin de la Société Impériale des Naturalistes de Moscou* 1: 147-168 [DP: >1 September 1829]

## Appendix I. List of North American fossil Geadephaga

### NEBRIINI

*Nebria abstracta* Scudder, 1900b: 70. Type locality: «Reservoir Park, Toronto [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. According to Kavanaugh (1978: 276), the holotype probably belongs to the genus *Agonum*.

*Nebria occlusa* Scudder, 1900a: 17. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype [by monotypy] in MCZ [# 1755]. NOTE. 1. Although noted originally as from the Miocene period, most authors agree that the shales of the Florissant Basin are from the Early Oligocene (Wilson 1978: 17). 2. According to Kavanaugh (1978: 275), the holotype probably belongs to the genus *Amara*.

*Nebria paleomelas* Scudder, 1879: 178B. Type locality: «Nicola River, below main coal seam [British Columbia]» (original citation), from the Miocene period. Holotype [by monotypy] location unknown. NOTE. According to Kavanaugh (1978: 275), the holotype probably belongs to the genus *Amara*.

### CYCHRINI

*Cychrus minor* Horn, 1876b: 243. Type locality: «Port Kennedy, Penn[sylvani]a» (original citation), from the Pleistocene period. Holotype location unknown. NOTE. According to Horn (1876b: 243), this species is “almost exactly that of *andrewsii*” but Roeschke (1907a: 270) believed it belongs to the *elevatus* group rather than to be related to *S. andrewsii*.

*Cychrus wheatleyi* Horn, 1876b: 242. Type locality: «Port Kennedy, Penn[sylvani]a» (original citation), from the Pleistocene period. Holotype location unknown. Etymology. The specific name was proposed for Charles M. Wheatley [1822-1882], mine operator, mineralogist, palaeontologist, naturalist, conchologist, and copper metallurgist. Born in England, Wheatley emigrated to the United States with his parents as a young boy. NOTE. Horn (1876b: 242) believed this species is related to *Scaphinotus viduus*.

*Nomaretus serus* Scudder, 1900a: 13. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype [by monotypy] in MCZ [# 1762]. NOTE. Roeschke (1907a: 271) stated that this species is not a member of the tribe Cychrini.

### CARABINI

*Calosoma calvini* Wickham, 1909: 126. Type locality: «Florissant [Teller County, Colorado]» (original citation), from the early Oligocene period. Holotype in PMNH [# 4]. NOTE. According to Jeannel (1940a: 34), the only difference between this species and *C. emmonsii* is the slightly longer size of the elytra and the specimen could be conspecific with those of *C. scrutator*.

- Calosoma cockerelli* Wickham, 1910: 47. Type locality: Florissant [Teller County], Colorado (inferred from title of the book), from the early Oligocene period. Holotype in PMNH [# 10]. NOTE. Jeannel (1940a: 34) had no opinion on the specimen.
- Calosoma emmonsii* Scudder, 1900a: 16. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype [by monotypy] in MCZ [# 1756, 1757]. Etymology. The specific name honors the American geologist, educator, and physician Ebenezer Emmons [1799-1863] who is credited for having named the Adirondack Mountains in 1838 and the Taconic Mountains in 1844. NOTE. Lapouge (1930: 159) stated that this species does not differ from *C. externum* and Jeannel (1940a: 34) believed it could be identical to *C. scrutator*.
- Calosoma fernquisti* Cockerell, 1924: 14. Type locality: «Deep Creek Canon, near Spokane, Washington» (original citation), from the Upper Eocene period. Holotype in USNM [# 69218]. NOTE. 1. Jeannel (1940a: 34) believed the species is very likely *C. externum*. 2. According to Nel (1989: 265), fossil specimens described as *Calosoma* by Wickham, Scudder, and Cockerell could all be conspecific.
- Carabus jeffersoni* Scudder, 1900a: 15. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Two syntypes [2 specimens originally cited] in MCZ [# 1758, 1759]. Etymology. The specific name honors Thomas Jefferson [1743-1826], third president of the United States and one of the earliest writers on American palaeontology. Jefferson is also famous for writing the Declaration of Independence in 1776. NOTE. According to Lapouge (1930: 159), this species does not belong to the subfamily Carabinae.
- Carabus maeander sangamon* Wickham, 1917b: 139. Type locality: «north bank of the Sangamon River near Mahomet, Champaign County, Illinois» (original citation), from the Pleistocene period. Holotype [by monotypy] in UICU.
- Neothanes testeus* (Scudder, 1878: 758) (as *Cychnus testeus*). Type locality: «immediate vicinity of Green River Station on the Union Pacific Railroad in Wyoming» (original citation), from the Eocene period. Holotype [by monotypy] location unknown. NOTE. The genus *Neothanes* was proposed by Scudder (1890: 535) for *Cychnus testeus* Scudder, 1878 and, according to him, is “allied to *Carabus*.”

#### CICINDELINI

- Cicindelopsis eophilus* Cockerell, 1920: 254. Type locality: «White River, Colorado» (original citation), from the “Eocene rock of Green River Age.” Holotype in USNM [# 66576]. NOTE. 1. According to Wilson (1978: 14), the “White River” collections made by Scudder, some of which were described by Cockerell, came from the Green River Formation localities along the White River near the Colorado-Utah border. 2. According to Cockerell (1920: 254), the single elytron representing this species “suggests a cicindelid” but is narrower, without any distinct inner apical angle, and the surface is neither punctured nor striate. He also stated that “the Collyrinae have narrow elytra shaped essentially as in *Cicindelopsis*.” The species was subsequently transferred to the Melandryidae (Cockerell 1924: 12)



based on Herbert S. Barber's opinion. The holotype was also studied by Walther Horn who believed it did not belong to the Cicindelinae (Cockerell 1924: 12).

#### ELAPHRINI

*Diacheila matthewsi* Böcher, 1995: 21. Type locality: «Peary Land, Greenland» (original citation), from the Plio-Pleistocene period (2–2.5 million years B.P.). Holotype in ZMUC. NOTE. Böcher (1995: 21, 22) noted that fossil remnants of *Diacheila* reported from Alaska (about 2.9 million B.P.), Yukon Territory, Banks, Prince Patrick and Meighen Islands (Pliocene), and Ellesmere Island probably belong to this species.

*Elaphrus clairvillei lynni* Pierce, 1948a: 52. Type locality: «Lynn Creek, British Columbia» (original citation), from the Pleistocene period. Holotype in LACM. NOTE. Goulet (1983: 271) listed this name in synonymy with *Elaphrus clairvillei* Kirby, 1837.

*Elaphrus irregularis* Scudder, 1890: 534. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Holotype [by monotypy] in MCZ. NOTE. Goulet (1983: 321) concluded from a study of the fossil elytron that several character states present in the holotype suggest “a match with *E. parviceps* [= *E. trossulus* Semenov].”

*Elaphrus ruscarius foveatus* Pierce, 1948b: 54. Type locality: «McKittrick [Kern County, California]» (original citation), from the Pleistocene period. Holotype in LACM. NOTE. Goulet (1983: 303) listed this name in synonymy with *Elaphrus finitimus* Casey, 1920.

#### LORICERINI

*Loricera exita* Scudder, 1900b: 70. Type locality: «Scarborough [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. Ball and Erwin (1969: 894) stated that the single fragment of an elytron representing this species probably belongs “to a carabid, possibly an agonine.”

*Loricera glacialis* Scudder, 1877: 763. Type locality: Scarborough, Ontario (inferred from title of the paper), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. Ball and Erwin (1969: 894) indicated that the elytra of two specimens assigned to this species “are probably those of a weevil.”

*Loricera ? lutosa* Scudder, 1890: 533. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. Ball and Erwin (1969: 894) stated that the single elytron representing this species has characteristics “of a brachyrhinine weevil, not of a carabid, and certainly not of *Loricera*.” Morgan and Morgan (1980: 23) stated that the species is “definitely a member of the Scarabaeidae, almost certainly of the genus *Aegialia* and probably *A. lacustris* LeC.”

#### TRECHINI

*Trechus fractus* Wickham, 1912: 6. Type locality: Florissant [Teller County], Colorado (inferred from title of the paper), from the early Oligocene period. Holotype in

UCM [# 8272]. NOTE. Based on the illustration provided, this species, if really of a carabid, could belong to any groups and not necessary to the genus *Trechus*.

#### BEMBIDIINI

*Bembidium damnosum* Scudder, 1900b: 73. Type locality: «Scarborough [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Bembidion davidae* Pierce, 1944: 7. Type locality: «Cuyama River outcrop section on the west bank of the river, near its junction with Huasna Creek, in San Luis Obispo County near center of section 27, Township 11 N, R. 33 W. San Bernardino Base Line and Meridian [California]» (original citation), from the “Upper Lower Miocene.” Holotype in LACM. Etymology. The specific name was proposed for the American palaeontologist Lore Rose David [1905-1985]. NOTE. This species is represented by a single elytron and was assigned to the subgenus *Ochthedromus* by Pierce (1944: 7).

*Bembidion everestae* Pierce, 1944: 11. Type locality: «Bellevue District, near town of Rosedale, 6 miles due west of Bakersfield, Kern Co[unty], California» (original citation), from the “Upper Lower Miocene, Saucian Age.” Holotype in LACM. NOTE. This species, represented by a fragment of an elytron and its impression in oil shale core, was tentatively assigned to the subgenus *Odontium* LeConte by Pierce (1944: 12).

*Bembidium exoletum* Scudder, 1876: 77. Type locality: «Green River group, near White River, in one of the two localities called ... Chagrin Valley and Fossil Cañon» (original citation), from the Eocene period. Holotype [by monotypy] location unknown.

*Bembidium expletum* Scudder, 1900b: 72. Type locality: «Reservoir Park, Toronto [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Bembidium florissantensis* Wickham, 1913: 6. Type locality: Florissant [Teller County], Colorado (inferred from title of the paper), from the early Oligocene period. Holotype in USNM [# 90451].

*Bembidion fragmentum* Scudder, 1890: 531. Type locality: «shores of Lake Erie, near Cleveland, Ohio» (Scudder 1895: 54), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. The type locality was originally cited as “Scarboro[ugh], Ontario” but corrected to the present one subsequently. Scudder (1890: 531) indicated that this species “is represented by a single elytron with the tip broken off” and agrees “better among modern types with *B. constrictum*.”

*Bembidion glaciatum* Scudder, 1890: 531. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Syntype(s) [2 originally cited] location unknown. NOTE. According to Scudder (1890: 531), this species is represented by a couple of elytra and is “nearly allied to the scarcely smaller *B. longulum* LeC. [= *Bembidion concolor* (Kirby)].”

*Bembidium haywardi* Scudder, 1900*b*: 70. Type locality: «Logan's brickyard, Toronto [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Bembidium obductum* Scudder, 1900*a*: 18. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype in MCZ [# 1768].

*Bembidium praeteritum* Scudder, 1900*b*: 72. Type locality: «Scarborough [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Bembidium tumulorum* Scudder, 1900*a*: 19. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype in USNM.

*Bembidium vanum* Scudder, 1900*b*: 71. Type locality: «Scarborough; Reservoir Park, Toronto [Ontario]» (original citation), from the Pleistocene period. Syntypes [2 originally cited] location unknown.

*Bembidium vestigium* Scudder, 1900*b*: 71. Type locality: «Scarborough [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Tachys haywardi* Wickham, 1913: 7. Type locality: Florissant [Teller County], Colorado (inferred from title of the paper), from the early Oligocene period. Holotype in USNM [# 90582B].

#### PATROBINI

*Patrobus decessus* Scudder, 1900*b*: 73. Type locality: «Reservoir Park, Toronto; Scarborough [Ontario]» (original citation), from the Pleistocene period. Lectotype [as type], designated by Darlington (1938: 155), in MCZ. NOTE. Darlington (1938: 155) listed this name in synonymy with *Patrobus stygicus* Chaudoir, 1871.

*Patrobus frigidus* Scudder, 1900*b*: 74. Type locality: «Reservoir Park, Toronto [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] in MCZ. NOTE. Darlington (1938: 155) listed this name in synonymy with *Patrobus stygicus* Chaudoir, 1871.

*Patrobus gelatus* Scudder, 1890: 530. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Holotype [by monotypy] in MCZ. NOTE. Darlington (1938: 155) listed this name in synonymy with *Patrobus stygicus* Chaudoir, 1871.

*Patrobus henshawi* Wickham, 1917*b*: 140. Type locality: «north bank of the Sangamon River near Mahomet, Champaign County, Illinois» (original citation), from the Pleistocene period. Holotype [by monotypy] in UICU.

#### BRACHININI

*Brachinus newberryi* Scudder, 1900*a*: 32 (as *Brachynus newberryi*). Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Four syntypes [4 originally cited] in MCZ [# 1850-1853]. Etymology. The specific name was proposed in honor of the American geologist, palaeontolo-

gist, physician, explorer, and author John Strong Newberry [1822-1892]. NOTE. Erwin (1970a: 164) noted that the specimens assigned to this species “should be placed in the genus *Lebia*.”

*Brachinus repressus* Scudder, 1900a: 33 (as *Brachynus repressus*). Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype in MCZ [# 1848]. NOTE. According to Erwin (1970a: 164), the single specimen of this species “is too fragmentary to make definitive comparisons, but is similar in some respects to members of *Cymindis*.”

#### PAUSSINI

*Paussopsis nearctica* Cockerell, 1911: 71. Type locality: «Florissant [Teller County, Colorado]» (original citation), from the early Oligocene period. Holotype in UCM [# 4508]. NOTE. The genus *Paussopsis* Cockerell, 1911 was proposed for this species.

*Paussopsis secunda* Wickham, 1912: 10. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype in UCM [# 8200]. NOTE. According to Wasmann (1926: 25), members of *Paussopsis* do not belong to paussines.

#### PTEROSTICHINI

*Cyclotrachelus tenebricus* (Scudder, 1900a: 24) (as *Evarthrus tenebricus*). Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype [by monotypy] in MCZ [# 1786]. NOTE. This species is represented only by a head. Based on the original description, Freitag (1969: 168) stated that the specimen “may or may not be a member of the genus *Evarthrus* [= *Cyclotrachelus*].”

*Loxandrus gelidus* Scudder, 1877: 763. Type locality: Scarborough, Ontario (inferred from title of the paper), from the Pleistocene period. Syntype(s) [5 originally cited] location unknown. NOTE. According to Scudder (1890: 528), this species closely resembles *Pterostichus hudsonicus* LeConte.

*Myas rigeffectus* Scudder, 1900a: 20. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype [by monotypy] in MCZ [# 1766].

*Myas umbrarum* Scudder, 1900a: 21. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Syntype(s) [3 originally cited] in MCZ [# 1763, 1764, 1767].

*Pterostichus abrogatus* Scudder, 1890: 525. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. According to Scudder (1890: 525), this species is represented by a “fragment of an elytron” and its features suggest “a species closely allied to *P. herculaneus* Mann.”

*Pterostichus depletus* Scudder, 1900b: 75. Type locality: «Scarborough [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

- Pterostichus destitutus* Scudder, 1890: 526. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. According to Scudder (1890: 526), this species is “represented by a single elytron of a mahogany color, which seems to be nearly related to *P. sayi* Brullé [= *Poecilus chalcites* (Say)].”
- Pterostichus destructus* Scudder, 1890: 527. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Syntype(s) [2 originally cited] location unknown. NOTE. According to Scudder (1890: 527), this species, represented by a couple of elytra, “closely resembles *P. patruelis* Dej.”
- Pterostichus dormitans* Scudder, 1890: 526. Type locality: «shores of Lake Erie, near Cleveland, Ohio» (Scudder 1895: 51), from the Pleistocene period. Syntype(s) [2 originally cited] location unknown. NOTE. The type locality was originally listed as “Scarboro[ugh], Ontario” but corrected to the present one subsequently. According to Scudder (1890: 526), this species, “represented by two opposite ends of elytra, is very close indeed in size and general character to *P. laetulus* LeC. [= *Poecilus laetulus* (LeConte)].”
- Pterostichus fernquisti* Wickham, 1931: 318. Type locality: «Deep Creek Canyon [near Spokane, Washington]» (original citation), from the Miocene period. Holotype in MCZ. NOTE. According to Wickham (1931: 318), this species, represented by three elytra, is perhaps “most reminiscent of *P. gracilior*.”
- Pterostichus fractus* Scudder, 1890: 527. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. This species is represented by a single elytron with the extreme apex broken. According to Scudder (1890: 527), the species is “closely allied to *P. destitutus*.”
- Pterostichs laevigatus* Scudder, 1890: 528. Type locality: «Bone caves of Port Kennedy, Pennsylvania» (original citation), from the Pleistocene period. Syntype(s) location unknown.
- Pterostichus pumpellyi* Scudder, 1900a: 23. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Two syntypes [2 originally cited] in MCZ [# 1775, 1776]. Etymology. The specific name was proposed for the American geologist and explorer Raphael Pumpelly [1837-1923].
- Pterostichus walcotti* Scudder, 1900a: 23. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Syntype(s) [6 originally cited] in MCZ [# 1769-1772, 1774] and USNM. Etymology. The specific name honors the American geologist and palaeontologist Charles Doolittle Walcott [1850-1927] who for some time was director of the United States Geological Survey.

## ZABRINI

- Amara cockerelli* Wickham, 1912: 7. Type locality: Florissant [Teller County], Colorado (inferred from title of the paper), from the early Oligocene period. Holotype in UCM [# 8236].



*Amara danae* Scudder, 1900a: 27. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Syntype(s) [15 originally cited] in MCZ [# 1787, 1788, 1801, 1802, 1804-1806, 1808, 1809, 1811, 1812, 4167] and USNM. Etymology. The specific name honors the American geologist, mineralogist, and zoologist James Dwight Dana [1813-1895].

*Amara powellii* Scudder, 1900a: 26. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Syntype(s) [12 originally cited] in MCZ [# 1777, 1790-1794, 1796-1800] and USNM [# 59646]. Etymology. This species was named after the American geologist and explorer Major John Wesley Powell [1834-1902] who led a three-month expedition in 1867 down the Green and Colorado rivers that included the first passage through the Grand Canyon. Powell served as the second director of the United States Geological Survey from 1881 to 1894.

*Amara revocata* Scudder, 1900a: 25. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype [by monotypy] in MCZ [# 1785].

*Amara sterilis* Scudder, 1900a: 25. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Syntype(s) [4 originally cited] in MCZ [# 1782-1784] and USNM.

*Amara veterata* Scudder, 1900a: 26. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Syntype(s) [5 originally cited] in MCZ [# 1778-1781, 1813].

#### CHLAENIINI

*Chlaenius plicatipennis* Wickham, 1917b: 143. Type locality: «north bank of the Sangamon River near Mahomet, Champaign County, Illinois» (original citation), from the Pleistocene period. Holotype [by monotypy] in UICU.

*Chlaenius punctulatus* Horn, 1876b: 244 [homonym of *Chlaenius punctulatus* Chaudoir, 1876]. Type locality: «Port Kennedy, Penn[sylvani]a» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. This species is represented by one elytron “of the size and very similar to that of *C. laticollis*” (Horn 1876b: 244).

#### LICININI

*Badister antecursor* Scudder, 1900b: 75. Type locality: «Logan’s brickyard, Toronto [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Dicaelus alutaceus* Horn, 1876b: 244. Type locality: «Port Kennedy, Penn[sylvani]a» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Diplocheila* ? *henshawii* Scudder, 1890: 523. Type locality: «Florissant [Teller County, Colorado]» (original citation), from the early Oligocene period. Holotype [by monotypy] location unknown.

**HARPALINI**

- Cratacanthus florissantensis* Wickham, 1917a: 464. Type locality: Florissant [Teller County], Colorado (inferred from title of the paper), from the early Oligocene period. Holotype in USNM [# 63442]. NOTE. Based on the illustration provided by Wickham (1917a: plate 37, figure 2), the specimen is not necessarily a *Cratacanthus*, not even a carabid.
- Euryderus kingii* (Scudder, 1900a: 34) (as *Nothopus kingii*). Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype [by monotypy] in MCZ [# 1847]. Etymology. The species was named for the American geologist and mountaineer Clarence King [1842-1901] who served as first director of the United States Geological Survey from 1879 to 1881.
- Harpalus conditus* Scudder, 1900b: 77. Type locality: «Scarborough [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.
- Harpalus maceratus* Wickham, 1911a: 54. Type locality: «Florissant [Teller County, Colorado]» (original citation), from the early Oligocene period. Holotype in UCM [# 8246].
- Harpalus nuperus* Scudder, 1900a: 34. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype in MCZ [# 1846].
- Harpalus redivivus* Wickham, 1917a: 465. Type locality: Florissant [Teller County], Colorado (inferred from title of the paper), from the early Oligocene period. Holotype in USNM [# 63444].
- Harpalus ulomaeformis* Wickham, 1917a: 464. Type locality: Florissant [Teller County], Colorado (inferred from title of the paper), from the early Oligocene period. Holotype in USNM [# 63443].
- Harpalus veterum* Cockerell, 1920: 256. Type locality: «Roan Mountain, Colorado» (original citation), from the Eocene period. Holotype in USNM [# 66578].
- Harpalus whitfieldi* Scudder, 1900a: 35. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. One syntype [3 originally cited] in MCZ [# 1845] and two in USNM. Etymology. The species was named after the American palaeontologist, teacher, and curator Robert Parr Whitfield [1828-1910].
- Stenolophus religatus* Scudder, 1900a: 35. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype [by monotypy] in MCZ [# 1858].

**PLATYNINI**

- Platynus caesus* Scudder, 1890: 522. Type locality: «Green River, Wyoming» (original citation), from the Eocene period. Syntype(s) [2 originally cited] location unknown.
- Platynus calvini* Wickham, 1917b: 142. Type locality: «north bank of the Sangamon River near Mahomet, Champaign County, Illinois» (original citation), from the

Pleistocene period. Syntypes [2 originally cited] in UICU. Etymology. The specific name was proposed for Samuel Calvin [1840-1911], professor of geology at the State University of Iowa.

*Platynus casus* Scudder, 1890: 519. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. This species is represented by a single elytron. According to Scudder (1890: 519), it is best comparable to *Platynus rubripes* Zimmermann (= *Agonum rufipes* Dejean) among extant species.

*Platynus desuetus* Scudder, 1890: 521. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Syntype(s) [6 originally cited] location unknown. NOTE. According to Scudder (1890: 521), this species “is more nearly allied to *P. crenistriatus* LeC. than to any other living species.”

*Platynus dilapidatus* Scudder, 1895: 49. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown. NOTE. According to Scudder (1895: 49), this species, represented by a fragment of a single elytron, “belongs rather in the near vicinity of *P. maculicollis* Dej. [= *Tanystoma maculicolle* (Dejean)].”

*Platynus dissipatus* Scudder, 1890: 521. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Syntype(s) [2 originally cited] location unknown. NOTE. According to Scudder (1890: 521), this species agrees with *P. halli* “in its general features and in the minute texture of the surface.”

*Platynus exterminatus* Scudder, 1900b: 75. Type locality: «Scarborough [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Platynus florissantensis* Wickham, 1913: 7. Type locality: Florissant [Teller County], Colorado (inferred from title of the paper), from the early Oligocene period. Holotype in USNM [# 63441]. NOTE. Wickham (1913: 7) noted that this species “compared with recent species ... remind one of *P. placidus* by the fine striae and of *P. melanarius* by the size and form.”

*Platynus halli* Scudder, 1890: 520. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Syntype(s) [3 originally cited] location unknown. Etymology. The specific name honors the American geologist and palaeontologist James Hall [1811-1898]. NOTE. According to Scudder (1890: 520), this species is “allied to *P. crenistriatum* LeC. ... [but] more nearly related to *P. hindei*.”

*Platynus harttii* Scudder, 1890: 522. Type locality: «Scarboro[ugh], Ontario» (original citation), from the Pleistocene period. Syntype(s) [2 originally cited] location unknown. Etymology. The specific name was proposed in honor of the American geologist and teacher Charles Frederic Hartt [1840-1878] who led, in his last years, the Brazilian Geological Commission. NOTE. According to Scudder (1890: 522), this small species “is most nearly allied to the largest [= *P. desuetus* Scudder].”

*Platynus hindei* Scudder, 1890: 520. Type locality: «Scarboro[ugh], Ontario» (original citation), from the “clay beds of interglacial deposits” [Pleistocene period].

Syntype(s) [9 originally cited] location unknown. Etymology. This species was named for the geologist and palaeontologist George Jennings Hinde [1839-1918]. NOTE. The species is represented by “a number of fragments” and, according to Scudder (1890: 520), “seems to be allied to *P. rubripes* Zimm. [= *Agonum rufipes* Dejean].”

*Platynus interglacialis* Scudder, 1900b: 76. Type locality: «Scarborough [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Platynus interitus* Scudder, 1900b: 76. Type locality: «Reservoir Park, Toronto [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Platynus insculptipennis* Wickham, 1917a: 463. Type locality: Florissant [Teller County], Colorado (inferred from title of the paper), from the early Oligocene period. Holotype in USNM [# 63441].

*Platynus longaevus* Scudder, 1900b: 77. Type locality: «Scarborough [Ontario]» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Platynus pleistocenicus* Wickham, 1917b: 141. Type locality: «north bank of the Sangamon River near Mahomet, Champaign County, Illinois» (original citation), from the Pleistocene period. Holotype [by monotypy] in UICU.

*Platynus senex* Scudder, 1878: 759. Type locality: «immediate vicinity of Green River Station on the Union Pacific Railroad in Wyoming» (original citation), from Eocene period. Holotype [by monotypy] location unknown.

*Platynus subgelidus* Wickham, 1917b: 142. Type locality: «north bank of the Sangamon River near Mahomet, Champaign County, Illinois» (original citation), from the Pleistocene period. Holotype [by monotypy] in UICU.

*Platynus tartareus* Scudder, 1900a: 30. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Syntype(s) [4 originally cited] in MCZ [# 1838, 1840, 1841, 1857].

## LEBIINI

*Cymindis aurora* Horn, 1876b: 243. Type locality: «Port Kennedy, Penn[sylvani]a» (original citation), from the Pleistocene period. Syntype(s) location unknown. NOTE. According to Horn (1876b: 243), the species “is closely related to *C. americana*, but somewhat larger.”

*Cymindis extorpesens* Scudder, 1898: 743. Type locality: «Fort River in Hadley, Massachusetts, near its entrance into the Connecticut» (original citation), from the Pleistocene period. Holotype [by monotypy] location unknown.

*Lebia protospiloptera* Cockerell, 1921: 35. Type locality: «back of house at Smith’s ranch, shale of Green River formation, Colorado» (original citation), from the Eocene period. Holotype in USNM [# 66928].

*Plochionus lesquereuxi* Scudder, 1900a: 31. Type locality: «Florissant [Teller County], Colorado» (original citation), from the early Oligocene period. Holotype [by monotypy] in MCZ [# 1855]. Etymology. The species was named after the

bryologist and paleobotanist Leo Lesquereux [1806-1889]. Born in Switzerland, Lesquereux progressively lost his hearing, consequent to a near-fatal fall from the top of a cliff at the age of seven, which had considerable ramifications in his professional life. He moved with his wife and five children to the United States in 1847. NOTE. According to Scudder (1900a: 31), this species could rather belong to the genus *Cymindis* of the subgenus *Pinacodera*.

#### GALERITINI

*Galerita marshii* Scudder, 1900a: 31. Type locality: «Green River, Wyoming» (original citation), from the Eocene period. Holotype [by monotypy] location unknown. Etymology. The specific name was proposed for the American palaeontologist Othniel Charles Marsh [1831-1899] who uncovered the first pterosaur fossil in America. Marsh is also known for his heated rivalry with Edward Drinker Cope [1840-1897] which led the two palaeontologists to use underhanded methods to out-compete the other in the field, resorting to bribery, theft, and destruction of bones (the Bone Wars). They attack each other in scientific publications, attempting to ruin the other's credibility. Marsh is credited to have persuaded his uncle, George Peabody [1795-1869], to establish the Peabody Museum of Natural History at Yale.

#### INCERTAE SEDIS

- Carabites* (?) *arapahoensis* Cockerell, 1918: 307. Type locality: «one mile west of Spicer, Arapahoe Pass Road, North Park, Colorado, 2½ miles south of fork of road» (original citation), from the Eocene period. Holotype [by monotypy] in UCM [# 5822].
- Carabites eocenicus* Cockerell, 1920: 255. Type locality: «White River, Colorado» (original citation), from the Eocene period. Holotype in USNM [# 66577].
- Carabites exanimus* Scudder, 1892: 17. Type locality: «White River, Utah, about 5 miles from the Colorado line» (original citation), from the Eocene period. Holotype [by monotypy] location unknown. NOTE. Based on Scudder's description, this species, which is represented only by the elytra, is that of a large species with the elytral epipleura crossed. Scudder (1892: 17) stated that the species "seems to agree best with the Pterostichini."
- Carabites feildenianus* Heer, 1878: 38. Type locality: Grinnell-Landes [= central section of Ellesmere Island, Nunavut] (inferred from title of the paper), from the Miocene period. Syntype(s) location unknown. Etymology. The specific name was proposed for Henry Wemyss Feilden [1838-1921], naturalist of the British north-polar expedition of Captain George Nares in 1875-76.
- Carabites kincaidi* Cockerell, 1908: 51. Type locality: «Green River, Wyoming» (original citation), from the Eocene period. Holotype [by monotypy] in PMNH. NOTE. This species was described from a larva. Cockerell (1908: 52) noted that the larva may be that of "the genus *Neothanes* Scudder, described from the Green River beds; but as this cannot be demonstrated, I leave it in the blanket genus *Carabites*."
- Carabites russelli* Cockerell, 1928: 37. Type locality: Fox Hills, South Dakota (inferred from title of the paper), from the Cretaceous period. Holotype probably in PMNH.



## Appendix 2. List of North American Geadephaga larvae described or illustrated

Along with the reference, the following information is provided: pages where the character states of the species are indicated, the figures illustrating character states, the stage described, and the provenance of the material, either reared (RR) or field collected (FC). A question mark in front of a reference indicates that the identification of the taxon is uncertain according to the author(s). A dagger after the name of a species indicates that the taxon is adventive in North America. The abbreviations used are:

<b>FC</b>	field collected
<b>LIT</b>	Literature
<b>L<sub>1</sub></b>	first instar
<b>L<sub>2</sub></b>	second instar
<b>L<sub>3</sub></b>	third instar
<b>L<sub>1-3</sub></b>	instar not determined
<b>L<sub>2-3</sub></b>	second and/or third instar
<b>RR</b>	reared

### TRACHYPACHINI

*Trachypachus gibbsii* LeConte<sup>10</sup>: Lindroth (1960a: 33; Figs 2, 4a-h) [L<sub>2</sub>; RR]; Thompson (1979a: Figs 26a-e); Luff (1993: Figs 25-32); Luna de Carvalho (1989: Figs 27c-d).

*Trachypachus inermis* Motschulsky: Bousquet and Goulet (1984: Figs 25, 37, 42, 51, as *T. holmbergi*); Beutel (1993: Figs 2, 8, 13, 16, 21, 29, as *T. holmbergi*); Arndt and Beutel (1995: 442; Figs 4, 6, 12, as *T. holmbergi*) [L<sub>1</sub>; RR].

### CLINIDIINI

*Clinidium* (*Arctoclinidium*) *sculptile* (Newman): Böving and Craighead (1931: Pl. 3); Hürka (1978: Fig. H-10); Thompson (1979a: Figs 10a-c).

### PELOPHILINI

*Pelophila borealis* (Paykull): Johnson and Carpenter (1898: 136-139; Figs 1-12) [L<sub>3</sub>; RR]; Sharova (1958: 37; Figs 31, 81, 82) [L<sub>1-3</sub>; ?]; Sharova (1964: 143, 144; Figs 99-4, 128, 129-1) [L<sub>1-3</sub>; ?]; Haberman (1968: Fig. 57-1); Andersen (1970: 92, 93; Figs 2a-i, 3a-c) [L<sub>1-3</sub>; FC]; Luff (1972: 176, 177; Figs 51-62) [L<sub>1-3</sub>; RR+FC]; Thompson (1979a: Figs 34a-c); Luff (1993: 58, 59; Figs 160-163) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Makarov (1994: Fig. 84); Bousquet (2010a: Figs 373-376).

<sup>10</sup> The field-collected larva described as *Trachypachus* sp. by Garner (1954: 49, 50; Figs a-c [Pl. 1]) is misidentified.

**OPISTHIINI**

*Opisthius richardsoni* Kirby: Garner (1954: 160, 161; Figs a-c [Pl. 9]) [ $L_1$ ,  $L_{2-3}$ ; RR+FC]; Lindroth (1960a: 38, 40, 41; Figs 3, 6a-g) [ $L_1$ ,  $L_2$ ,  $L_3$ ; FC]; Thompson (1979a: Figs 37a-c); Bousquet and Smetana (1991: 110; Figs 3, 9a) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].

**NEBRIINI**

*Leistus (Leistus) ferrugineus* (Linnaeus)†: Larsson (1941: 280) [ $L_{1-3}$ ; ?]; Verhoeff (1921: Fig. 22); Larsson (1968: 324) [ $L_{1-3}$ ; ?]; Luff (1972: 162, 165; Fig. 12) [ $L_{1-3}$ ; FC]; Arndt (1991b: 72) [ $L_{1-3}$ ; LIT]; Luff (1993: 48; Figs 122, 123) [ $L_{1-3}$ ; ?]; Bousquet (2010a: Figs 378, 379).

*Nebria (Nebria) brevicollis* (Fabricius)†: Blisson (1848: 73-76; Figs 1-6 [Pl. 1]) [ $L_{2-3}$ ; FC]; Schiødte (1867: 461-465; Figs 1-7 [Pl. 14]) [ $L_{1-3}$ ; ?]; Znojko (1929: Fig. 4b); Raynaud (1935: 12, 13, 16) [ $L_3$ ; FC]; Larsson (1941: 278; Figs 5, 6, 17a, 18a) [ $L_{1-3}$ ; ?]; Jeannel (1941b: Figs 74a-h); Sharova (1958: 38; Figs 6, 18, 85a) [ $L_{1-3}$ ; ?]; Habu (1958: Figs 12, 14); Sharova (1964: 145; Figs 88, 93-2, 130-1) [ $L_{1-3}$ ; ?]; Larsson (1968: 321, 322; Figs 5, 6, 17a, 18a) [ $L_{1-3}$ ; ?]; Haberman (1968: Figs 57-2, 57-4, 58-2); Andersen (1970: 91) [ $L_3$ ; LIT]; Luff (1972: 171, 173; Figs 32-41) [ $L_1$ ,  $L_{2-3}$ ; FC]; Arndt (1991b: 71, 72; Figs 2, 62) [ $L_1$ ,  $L_{2-3}$ ; ?]; Luff (1993: 49, 54, 57; Figs 2, 3, 7, 8, 143-155) [ $L_1$ ,  $L_{2-3}$ ; ?]; Sustek (1993: 522) [ $L_3$ ; LIT].

*Nebria (Boreonebria) gyllenhali* Schönherr: Larsson and Gígja (1959: 15, as *N. gyllenhali munsteri*) [ $L_{1-3}$ ; FC]; Andersen (1970: 91-93; Figs 4a-i, 5a-c) [ $L_{1-3}$ ; FC]; Luff (1972: 171, 174, 176, as *N. rufescens*; Figs 45-49) [ $L_1$ ,  $L_{2-3}$ ; RR+FC]; Böcher (1988: Fig. 1, as *N. rufescens*); Arndt (1991b: 71, 72) [ $L_1$ ,  $L_{2-3}$ ; ?]; Luff (1993: 50-52, as *N. rufescens*; Figs 131-136) [ $L_1$ ,  $L_{2-3}$ ; ?]; Sustek (1993: 522) [ $L_3$ ; LIT]; Makarov (1994: Figs 85, 86).

*Nebria (Boreonebria) lacustris* Casey: Spence (1974: 13, 17; Fig. 4) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Spence *et al.* (1976: 81; Figs 2a-c, 3a) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Spence and Sutcliffe (1982: Figs 1, 2, 6-19).

*Nebria (Boreonebria) nivalis* (Paykull): Andersen (1970: 91-93; Figs 6a-d) [ $L_{1-3}$ ; FC]; Luff (1993: 50, 52; Figs 137-142) [ $L_{1-3}$ ; FC].

*Nebria (Reductonebria) pallipes* Say: Spence (1974: 13, 17; Fig. 4) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Spence *et al.* (1976: 81; Figs 1, 3b) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].

*Nebria* prob. *schwarzi* (Alberta): Garner (1954: 186, 202, 203) [ $L_{2-3}$ ; FC].

*Nebria* prob. *trifaria* (Oregon): Garner (1954: 189, 204, 205) [ $L_{2-3}$ ; FC].

*Nebria* sp. A (Washington, D.C.): Garner (1954: 189-191) [ $L_{2-3}$ ; FC].

*Nebria* sp. B (California): Garner (1954: 189, 191, 192) [ $L_{2-3}$ ; FC].

*Nebria* sp. C (Utah): Garner (1954: 189, 192-194) [ $L_{2-3}$ ; FC].

*Nebria* sp. D (Oregon): Garner (1954: 189, 194, 195) [ $L_{2-3}$ ; FC].

*Nebria* sp. E (Oregon): Garner (1954: 189, 196, 197) [ $L_{2-3}$ ; FC].

*Nebria* sp. F (Tennessee): Garner (1954: 189, 197-199) [ $L_{2-3}$ ; FC].

*Nebria* sp. G (Montana): Garner (1954: 189, 199, 200) [ $L_{2-3}$ ; FC].

*Nebria* sp. H (Illinois): Garner (1954: 189, 200-202) [ $L_{2-3}$ ; FC].

*Nebria* sp. (Colorado): Thompson (1979a: Figs 36a-c).

*Nebria* sp.: Bousquet and Goulet (1984: Figs 27, 48); Bousquet (1991a: Figs 34.77, 34.101); Bousquet (2010a: Figs 377, 380, 382–385).

### NOTIOPHILINI

*Notiophilus aquaticus* (Linnaeus): Schiødte (1867: 456; Fig. 19 [Pl. 13]) [ $L_{1-3}$ ; ?]; Larsson (1941: 283) [ $L_{1-3}$ ; ?]; Garner (1954: 174, 175) [ $L_{2-3}$ ; FC]; Sharova (1958: 38) [ $L_{1-3}$ ; ?]; Davies (1964: 208) [ $L_{1-3}$ ; LIT]; Sharova (1964: 145) [ $L_{1-3}$ ; ?]; Larsson (1968: 326–328) [ $L_{1-3}$ ; ?]; Haberman (1968: 135) [ $L_{2-3}$ ; ?]; Luff (1976: 52, 59; Figs 17–19) [ $L_1$ ,  $L_3$ ; FC]; Arndt (1991b: 74) [ $L_{1-3}$ ; ?]; Luff (1993: 61, 62; Figs 168–170) [ $L_1$ ,  $L_{2-3}$ ; ?].

*Notiophilus biguttatus* (Fabricius)†: Schiødte (1867: 456; Figs 12–17 [Pl. 13]) [ $L_{1-3}$ ; ?]; Saalas (1923: 667) [ $L_{1-3}$ ; ?]; Larsson (1941: 283, 284; Figs 20, 22a) [ $L_{1-3}$ ; ?]; Jeanne (1941b: Figs 75a–d); van Emden (1942: Fig. 4); Garner (1954: 176, 177) [ $L_{2-3}$ ; FC]; Sharova (1958: 39; Fig. 86a) [ $L_{1-3}$ ; ?]; Davies (1964: 207, 208; Fig. 1) [ $L_1$ ,  $L_{2-3}$ ; FC]; Sharova (1964: 146; Fig. 130–3) [ $L_{1-3}$ ; ?]; Larsson (1968: 327, 328; Figs 20, 22a) [ $L_{1-3}$ ; ?]; Haberman (1968: 135; Fig. 68–3) [ $L_{2-3}$ ; ?]; Luff (1976: 52, 53, 55; Figs 1–10) [ $L_1$ ,  $L_{2-3}$ ; FC]; Arndt (1991b: 74) [ $L_{1-3}$ ; ?]; Luff (1993: 61, 64; Figs 178–183) [ $L_1$ ,  $L_{2-3}$ ; ?].

*Notiophilus novemstriatus* LeConte: Thompson and Allen (1974: 186–189; Figs 1a–c) [ $L_{2-3}$ ; FC]; Thompson (1979a: Figs 38a–b).

*Notiophilus palustris* (Duftschmid)†: Larsson (1941: 283, 284) [ $L_{1-3}$ ; ?]; Sharova (1958: 39; Fig. 80) [ $L_{1-3}$ ; ?]; Davies (1964: 207, 208) [ $L_1$ ,  $L_{2-3}$ ; FC]; Sharova (1964: 146; Fig. 127) [ $L_{1-3}$ ; ?]; Larsson (1968: 327–329) [ $L_{1-3}$ ; ?]; Haberman (1968: 136) [ $L_{2-3}$ ; ?]; Luff (1976: 52, 56; Figs 12, 13) [ $L_2$ ; FC]; Arndt (1991b: 74; Fig. 64) [ $L_{1-3}$ ; ?]; Luff (1993: 61–63) [ $L_{1-3}$ ; ?].

*Notiophilus* sp. A (California): Garner (1954: 169, 170; Figs a–c [Pl. 10]) [ $L_{2-3}$ ; FC].

*Notiophilus* sp. B (Illinois): Garner (1954: 170–172) [ $L_{2-3}$ ; FC].

*Notiophilus* sp. C (Illinois): Garner (1954: 172–174) [ $L_1$ ,  $L_{2-3}$ ; FC].

*Notiophilus* sp. D (Oregon): Garner (1954: 177, 178) [ $L_{2-3}$ ; FC].

*Notiophilus* sp. E (Texas): Garner (1954: 179, 180) [ $L_{2-3}$ ; FC].

*Notiophilus* sp.: Bousquet (2010a: Fig. 381).

### CYCHRINI

*Scaphinotus* (*Nomareetus*) *bilobus* (Say): Bousquet (1977: 4.9; Figs 12, 13) [ $L_3$ ; FC]; Bousquet (2010a: 396; Fig. 396) [ $L_3$ ; FC].

*Scaphinotus* (*Scaphinotus*) *elevatus* (Fabricius): Wickham (1895b: 763; Fig. 1) [ $L_3$ ; FC].

*Scaphinotus* (*Maronetus*) *hubbardi* (Schwarz): Lapouge (1929a: 60) [ $L_{2-3}$ ; ?].

*Scaphinotus* (*Pseudonomareetus*) *mannii* Wickham: Greene (1975: Figs 2–3).

*Scaphinotus* (*Brennus*) *marginatus* (Fischer von Waldheim): Garner (1954: 58, 67, 68) [ $L_{2-3}$ ; FC].

*Scaphinotus* (*Irichroa*) *viduus* (Dejean): Bousquet (1977: 4.4–4.8; Figs 1–11) [ $L_{2-3}$ ; FC]; Bousquet (2010a: 396; Figs 390, 394) [ $L_{2-3}$ ; FC].

*Scaphinotus* (*Brennus*) sp. A (California): Garner (1954: 58, 59) [ $L_{2-3}$ ; FC].

- Scaphinotus (Brennus) sp. B* (California): Garner (1954: 55, 60, 61) [L<sub>2-3</sub>; FC].
- Scaphinotus (Brennus) sp. C* (California): Garner (1954: 58, 61, 62; Figs a-c [Pl. 2]) [L<sub>2-3</sub>; FC].
- Scaphinotus (Brennus) sp. D* (California): Garner (1954: 55, 63, 64) [L<sub>2-3</sub>; FC].
- Scaphinotus (Nomaretus?) sp. E* (Pennsylvania, North Carolina): Garner (1954: 55, 64, 65) [L<sub>2-3</sub>; FC].
- Scaphinotus sp. F* (Massachusetts): Garner (1954: 58, 66, 67) [L<sub>2-3</sub>; FC].
- Scaphinotus (Nomaretus?) sp.* (Pennsylvania): van Emden (1942: 56) [L<sub>2-3</sub>; FC].
- Scaphinotus sp.* (Arkansas): Thompson (1979a: Figs 32a-b, as *Sphaeroderus sp.*).
- Sphaeroderus canadensis* Chaudoir: Bousquet (1977: 1.9; Figs 2, 3, 8, 16) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC]; Bousquet (2010a: 398) [L<sub>2-3</sub>; RR+FC].
- Sphaeroderus nitidicollis* Guérin-Ménéville: Lindroth (1955a: Fig. 7d); Bousquet (1977: 1.9, 1.10; Figs 5, 7, 17, as *S. nitidicollis brevoorti*) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC]; Bousquet (2010a: 398) [L<sub>2-3</sub>; RR+FC].
- Sphaeroderus stenostomus lecontei* Dejean: Lindroth (1955a: Fig. 7c); Bousquet (1977: 1.9, 1.10; Figs 4, 6, 9-15, 18-20) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC]; Bousquet (1991a: Figs 34.75, 34.79, 34.87, 34.93, 34.96, 34.99, 34.102); Bousquet (2010a: 398; Figs 391-393, 395, 397) [L<sub>2-3</sub>; RR+FC].

#### CARABINI

- Calosoma (Chrysostigma) affine* Chaudoir: Garner (1954: 91, 108, 109) [L<sub>2-3</sub>; FC].
- Calosoma (Chrysostigma) calidum* (Fabricius): Schaupp (1882d: 33-34) [L<sub>3</sub>; FC]; Burgess (1897: 426-428; Figs 10 [Pl. 3], 3, 5-6 [Pl. 4]) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Lapouge (1905: 172) [L<sub>3</sub>; ?RR]; Lapouge (1908b: 164) [L<sub>1-3</sub>; LIT]; Burgess and Collins (1917: 19, 101; Figs a-d [Pl. 18], a-b [Pl. 19]) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Garner (1954: 91, 100-102) [L<sub>2-3</sub>; FC]; Kirk (1972: 1355; Figs 7 [Pl. 1], 3-7) [L<sub>1-3</sub>; FC]; Bousquet (2010a: 399; Fig. 403) [L<sub>2-3</sub>; RR+FC].
- Calosoma (Chrysostigma) cancellatum* Eschscholtz: Burgess and Collins (1917: 19, 112, 113; Fig. g [Pl. 17]) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Garner (1954: 91, 99, 100) [L<sub>2-3</sub>; FC].
- Calosoma (Callitropa) externum* (Say): Burgess and Collins (1917: 20, 23, 24) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Lapouge (1927: 438) [L<sub>2-3</sub>; ?]; Lapouge (1929a: 56) [L<sub>2-3</sub>; ?]; Garner (1954: 90, 113, 114) [L<sub>2-3</sub>; FC].
- Calosoma (Calosoma) frigidum* Kirby: Burgess (1897: 420-425; Figs 3-9 [Pl. 3], 1, 4, 7 [Pl. 4]) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Lapouge (1905: 172) [L<sub>3</sub>; ?RR]; Lapouge (1908b: 163) [L<sub>1-3</sub>; LIT]; Burgess and Collins (1917: 19, 48-50) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Lapouge (1927: 439) [L<sub>2-3</sub>; ?]; Lapouge (1929a: 57) [L<sub>2-3</sub>; ?]; Garner (1954: 90, 93, 94) [L<sub>2-3</sub>; FC]; Bousquet and Goulet (1984: Figs 40, 45, 47); Bousquet (1991a: Fig. 34.86); Bousquet (2010a: 399; Figs 398-402, 404, 405) [L<sub>2-3</sub>; RR+FC].
- Calosoma (Blaptosoma) haydeni* Horn: Burgess and Collins (1917: 20, 96; Fig. e [Pl. 17]) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Garner (1954: 91, 106, 107) [L<sub>2-3</sub>; FC].
- Calosoma (Chrysostigma) lepidum* LeConte: Lapouge (1927: 439) [L<sub>2-3</sub>; ?]; Lapouge (1929a: 58) [L<sub>2-3</sub>; ?].



- Calosoma (Camegonia) marginale* Casey: Burgess and Collins (1917: 20, 83, as *C. lugubre*) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Lapouge (1927: 439, as *C. lugubris*) [ $L_{2-3}$ ; ?]; Lapouge (1929a: 57, as *C. lugubris*) [ $L_{2-3}$ ; ?]; Garner (1954: 90, 109–111, as *C. lugubre*) [ $L_{2-3}$ ; FC].
- Calosoma (Chrysostigma) obsoletum* Say: Burgess and Collins (1917: 19, 89; Fig. d [Pl. 17]) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Garner (1954: 91, 104–106) [ $L_{2-3}$ ; FC].
- Calosoma (Carabosoma) peregrinator* Guérin-Méneville: Burgess and Collins (1917: 20, 77) [ $L_1$ ,  $L_3$ ; RR]; Lapouge (1927: 438) [ $L_{2-3}$ ; ?]; Lapouge (1929a: 56) [ $L_{2-3}$ ; ?]; Garner (1954: 90, 111, 112) [ $L_{2-3}$ ; FC].
- Calosoma (Castrida) sayi* Dejean: Lapouge (1927: 437, 438) [ $L_{2-3}$ ; ?]; Lapouge (1929a: 56) [ $L_{2-3}$ ; ?]; Thompson (1979a: Figs a–d).
- Calosoma (Calodrepa) scrutator* (Fabricius): Chapuis and Candèze (1853: 372, 373; Fig. 4 [Pl. 1]) [ $L_{1-3}$ ; FC]; Schaupp (1879: 14) [ $L_{2-3}$ ; LIT]; Burgess and Collins (1917: 19, 31; Figs a–d [Pl. 8], a,b [Pl. 9]) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Lapouge (1927: 440) [ $L_{2-3}$ ; ?]; Lapouge (1929a: 59) [ $L_{2-3}$ ; ?]; Garner (1954: 90, 95, 96; Figs a–c [Pl. 4]) [ $L_{2-3}$ ; FC].
- Calosoma (Chrysostigma) semilaeve* LeConte: Burgess and Collins (1917: 19, 92; Fig. f [Pl. 17]) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Garner (1954: 91, 102–104) [ $L_{2-3}$ ; FC].
- Calosoma (Calosoma) sycophanta* (Linnaeus)†: Burmeister (1837: 235, 236; Figs 1–5 [Pl. 13]) [ $L_{1-3}$ ; FC]; Lapouge (1905: 172) [ $L_3$ ; ?RR]; Lapouge (1908b: 159, 160) [ $L_{1-3}$ ; FC]; Burgess (1911: 26, 27) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Burgess and Collins (1915: 7, 8) [ $L_{1-3}$ ; RR]; Burgess and Collins (1917: 18, 19, 64, 65; Figs a–d [Pl. 10], Figs a,b [Pl. 11]) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Lapouge (1927: 440) [ $L_{2-3}$ ; ?]; Lapouge (1929a: 59) [ $L_{2-3}$ ; ?]; Larsson (1941: 263–265; Figs 9b, 10b) [ $L_{1-3}$ ; ?]; Jeannel (1941b: Fig. 61k); Garner (1954: 90, 97, 98) [ $L_{2-3}$ ; FC]; Sharova (1957: 882; Figs 1a, 2a, 3a) [ $L_{1-3}$ ; LIT]; Sharova (1958: 28; Figs 69a, 71a) [ $L_{1-3}$ ; ?]; Sturani (1962: Fig. 38); Sharova (1964: 135; Figs 118–1, 120–1) [ $L_{1-3}$ ; ?]; Larsson (1968: 306, 308; Figs 9b, 10b) [ $L_{1-3}$ ; ?]; Haberman (1968: 114, 115; Figs 55–1, 55–6) [ $L_{2-3}$ ; ?]; Thompson (1979a: Figs 13a–c); Casale *et al.* (1982: 82–83; Fig. 26b) [ $L_{1-3}$ ; ?]; Arndt (1991b: 62; Fig. 29) [ $L_{1-3}$ ; LIT]; Luff (1993: 33, 34; Figs 58–62) [ $L_1$ ,  $L_{2-3}$ ; ?].
- Calosoma (Calodrepa) wilcoxi* LeConte: Burgess and Collins (1917: 19, 41, 42) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Lapouge (1927: 439, 440) [ $L_{2-3}$ ; ?]; Lapouge (1929a: 58) [ $L_{2-3}$ ; ?]; Garner (1954: 90–93) [ $L_{2-3}$ ; FC].
- Carabus (Tachypus) auratus* Linnaeus†: Laboulbène (1862: 562, 563, as *Calathus gallicus*, see Raynaud 1940a; Figs 8–15 [Pl. 13]) [ $L_3$ ; FC]; Lapouge (1905: 172) [ $L_3$ ; ?RR]; Lapouge (1907: 52, 53) [ $L_1$ ; RR]; Lengerken (1921: 82–111; Figs 1–3, 7–21, 23–31, 33–51, 57–70) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Verhoeff (1921: 185, 188) [ $L_{2-3}$ ; ?]; van Emden (1925; Fig. 1); Bengtsson (1927: 37, 43–46; Figs 14, 15, 22–26) [ $L_1$ ,  $L_3$ ; ?FC]; Lapouge (1927: 447) [ $L_{2-3}$ ; ?]; Lapouge (1929a: 53) [ $L_{2-3}$ ; ?]; Sturani (1962: Figs 37, 38); Hürka (1971: 23, 24, 44, 46, 47; Figs 13a–o) [ $L_1$ ,  $L_2$ ,  $L_3$ ; FC]; Raynaud (1976a: 38; Pl. 71) [ $L_{1-3}$ ; ?]; Arndt (1985: 50; Figs 13, 64, 66, 70, 104) [ $L_{1-3}$ ; ?]; Arndt (1991b: 64) [ $L_{1-3}$ ; LIT]; Luff (1993: 38) [ $L_{1-3}$ ; ?].



- Carabus* (*Diocarabus*) *chamissonis* Fischer von Waldheim: ?Garner (1954: 75, 81, 82) [L<sub>2-3</sub>; FC]; Lindroth (1955a: Figs 8b,e); Bousquet (2010a: 401; Figs 406, 413) [L<sub>2-3</sub>; FC].
- Carabus* (*Carabus*) *goryi* Dejean: Garner (1954: 75, 79, 80, as *C. limbatus*) [L<sub>2-3</sub>; FC].
- Carabus* (*Carabus*) *granulatus* Linnaeus†: Schiødte (1867: 493-494; Figs 13-15 [Pl. 17]) [L<sub>1-3</sub>; ?]; Lapouge (1905: 172) [L<sub>3</sub>; ?RR]; Lapouge (1908b: 152, 153) [L<sub>1-3</sub>; RR]; Verhoeff (1917: 42) [L<sub>1-3</sub>; ?]; Verhoeff (1921: 175, 176, 184, 187; Fig. 7) [L<sub>2</sub>, L<sub>3</sub>; RR]; Oertel (1924: 326-356; Figs h, j-z, a<sup>1</sup>-h<sup>1</sup>, j<sup>1</sup>) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bengtsson (1927: 38, 57-59; Figs 46-50) [L<sub>1</sub>, L<sub>2-3</sub>; FC]; Lapouge (1927: 448) [L<sub>2-3</sub>; ?]; Lapouge (1929a: 54) [L<sub>2-3</sub>; ?]; Larsson (1941: 267, 269, 270; Fig. 12a) [L<sub>1-3</sub>; ?]; Garner (1954: 75, 85, 86) [L<sub>2-3</sub>; FC]; Sharova (1958: 32; Figs 7, 72h, 73d, 76g, 79e) [L<sub>1-3</sub>; ?]; Sturani (1962: Fig. 37); Sharova (1964: 139; Figs 89-1, 121-8, 122-4, 124-7, 126-5) [L<sub>1-3</sub>; ?]; Larsson (1968: 310, 313; Fig. 12a) [L<sub>1-3</sub>; ?]; Haberman (1968: 95; Figs 35-5, 37-a, 38-1, 41-4) [L<sub>2-3</sub>; ?]; Luff (1969: 251, 255; Figs 40-46) [L<sub>1-3</sub>; FC]; Hürka (1971: 23, 24, 54-56; Figs 16a-u) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; FC]; Raynaud (1976a: 107; Pls 90, 91, 107) [L<sub>1-3</sub>; ?]; Casale *et al.* (1982: 285; Fig. 103) [L<sub>1-3</sub>; ?]; Arndt (1985: 52; Figs 14, 68b, 105) [L<sub>1-3</sub>; ?]; Arndt (1991b: 66) [L<sub>1-3</sub>; LIT]; Luff (1993: 38, 42, 43; Figs 101-103) [L<sub>1-3</sub>; ?]; Turin *et al.* (1993; Figs 4a,c,e); Huk and Kühne (2000: Fig. 1); Bousquet (2010a: 401; Fig. 407) [L<sub>2-3</sub>; FC].
- Carabus* (*Homoeocarabus*) *maeander* Fischer von Waldheim: Lindroth (1955a: Figs 8a,d); Raynaud (1976a: 107) [L<sub>1-3</sub>; ?]; Bousquet (2010a: 401; Figs 408-410) [L<sub>2-3</sub>; FC].
- Carabus* (*Archicarabus*) *nemoralis* Müller†: Schiødte (1867: 490-491; Figs 9-11 [Pl. 16]) [L<sub>1-3</sub>; ?]; Zang (1901: 274-275; Figs 2-5) [L<sub>1</sub>; RR]; Lapouge (1905: 172) [L<sub>3</sub>; ?RR]; Lapouge (1908b: 150, 151) [L<sub>1-3</sub>; RR]; Verhoeff (1917: 42, 43) [L<sub>1-3</sub>; ?]; Verhoeff (1921: 186-188; Figs j-1, q [Pl. 9]) [L<sub>2-3</sub>; ?]; van Emden (1925; Fig. 2); Bengtsson (1927: 38, 51-54; Figs 1, 2, 37-41) [L<sub>1</sub>, L<sub>2-3</sub>; RR]; Lapouge (1927: 448) [L<sub>2-3</sub>; ?]; Lapouge (1929a: 53) [L<sub>2-3</sub>; ?]; Delkeskamp (1930: 30-54; Figs 12-40) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Larsson (1941: 267, 269; Figs 7, 11c) [L<sub>1-3</sub>; ?]; Garner (1954: 75-77) [L<sub>2-3</sub>; FC]; Sharova (1958: 31; Figs 72a, 74a, 76a, 79a) [L<sub>1-3</sub>; ?]; Sturani (1962: Fig. 44b); Sharova (1964: 137, 138; Figs 121-1, 123-1, 124-1, 126-1) [L<sub>1-3</sub>; ?]; Larsson (1968: 310, 312; Figs 7, 11c) [L<sub>1-3</sub>; ?]; Haberman (1968: 93, 95; Figs 35-1, 38-7, 39-1, 41-1) [L<sub>2-3</sub>; ?]; Luff (1969: 251, 255, 257; Figs 47-52) [L<sub>1-3</sub>; FC]; Raynaud (1969: 24) [L<sub>3</sub>; ?]; Sturani (1971: Fig. 2); Hürka (1971: 22, 25, 62, 64, 65; Figs 19a-o) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; FC]; Raynaud (1976a: 66; Pl. 76) [L<sub>1-3</sub>; ?]; Hürka (1978: Fig. H-2); Casale *et al.* (1982: 177; Fig. 71b) [L<sub>1</sub>; FC]; Arndt (1985: 52; Figs 1, 18, 68a, 107, 110) [L<sub>1-3</sub>; ?]; Arndt (1991b: 66; Figs 26, 39, 51) [L<sub>1-3</sub>; LIT]; Makarov (1992: Fig. 9e); Luff (1993: 38, 42; Figs 6, 98-100) [L<sub>1-3</sub>; ?]; Deuve (1994a: Fig. 36); Bousquet (2010a: 401) [L<sub>2-3</sub>; FC].
- Carabus* (*Hemicarabus*) *serratus* Say: Lapouge (1927: 446) [L<sub>2-3</sub>; FC]; Lapouge (1929a: 50) [L<sub>2-3</sub>; FC]; Lindroth (1955a: Figs 8c,f); Raynaud (1975: 308) [L<sub>1-3</sub>; ?]; Bousquet (2010a: 401; Fig. 411) [L<sub>2-3</sub>; FC].

*Carabus (Tanaocarabus) sylvosus* Say: Lapouge (1927: 446) [L<sub>2-3</sub>; FC]; Lapouge (1929a: 50) [L<sub>2-3</sub>; FC]; Garner (1954: 75, 77-79; Figs a-c [Pl. 3]) [L<sub>2-3</sub>; FC]; Raynaud (1975: 264; Pl. 14) [L<sub>1-3</sub>; ?]; Thompson (1979a: Figs 29a-b); Bousquet (2010a: 402; Fig. 412) [L<sub>2-3</sub>; FC].

*Carabus (Tanaocarabus) taedatus* Fabricius: ?Lapouge (1927: 446) [L<sub>2-3</sub>; FC]; Lapouge (1929a: 50) [L<sub>2-3</sub>; FC]; ?Garner (1954: 75, 83, 84) [L<sub>2-3</sub>; FC]; Sturani (1971: Fig. 3t); Raynaud (1975: 222; Pl. 5) [L<sub>1-3</sub>; ?].

*Carabus (Aulonocarabus) truncaticollis* Eschscholtz: Kincaid (1900: 368, 369; Figs 1-6 [Pl. 22]) [L<sub>2-3</sub>; FC]; Lapouge (1907: 34) [L<sub>3</sub>; LIT]; Lapouge (1927: 445) [L<sub>2-3</sub>; ?]; Lapouge (1929a: 50) [L<sub>2-3</sub>; ?]; Garner (1954: 75) [L<sub>2-3</sub>; LIT]; Raynaud (1975: 260; Pl. 12) [L<sub>1-3</sub>; ?]; Makarov (1992: Figs 10b,g).

*Carabus (Megodontus) vietinghoffii* Adams: Lapouge (1927: 443) [L<sub>2-3</sub>; ?]; Raynaud (1976a: 14; Pl. 57) [L<sub>1-3</sub>; ?].

*Carabus* sp. N° 19 (Alabama): Lapouge (1908b: 164) [L<sub>1</sub>; FC].

### AMBLYCHEILINI

*Amblycheila baroni* Rivers: Knisley and Pearson (1984: 502; Figs 25-31) (L<sub>3</sub>; FC).

*Amblycheila cylindriformis* (Say): Horn (1878a: 29-31; Figs 1a-g [Pl. II]) [L<sub>2-3</sub>; FC]; Riley *et al.* (1878: Figs 53a-h); Schaupp (1879: 3) [L<sub>2-3</sub>; LIT]; Hamilton (1925: 70; Figs 4, 19, 11, 16, 20, 26, 31, 36, 41, 81, 123, 148) [L<sub>2-3</sub>; RR]; Böving and Craighead (1931: Figs b,d [Pl. 4]).

*Amblycheila schwarzi* Horn?: Horn (1908a: 285, 286; Figs 1-5) [L<sub>2-3</sub>; FC]; Putschkov and Arndt (1994: Figs 6, 13, 23, 44, 46, 50).

*Omus audouini* Reiche: Hamilton (1925: 66-68, as *O. ambiguus* [see Leffler 1986b: 54]); Figs 47, 86, 121) [L<sub>2-3</sub>; RR]; Leffler (1979a: 70-71; Fig. 7a) [L<sub>3</sub>; FC]; Leffler (1986b: 55, 62; Fig. 2) [L<sub>3</sub>; FC].

*Omus californicus* Eschscholtz: Hamilton (1925: 66-67; Figs 3, 12, 13, 19, 25, 30, 35, 44, 46, 82-84, 118, 119) [L<sub>2-3</sub>; RR]; Hamilton (1925: 69, as *O. edwardsii* [see Leffler 1986b: 54]) [L<sub>2-3</sub>; FC]; Hamilton (1925: 66, 68, 69, as *O. sequoiarum* [see Leffler 1986b: 54]; Figs 45, 85, 120) [L<sub>2-3</sub>; RR]; Böving and Craighead (1931: Fig. e [Pl. 4]); van Emden (1935: Fig. 1); Leffler (1986b: 55-56, 62) [L<sub>3</sub>; FC]; Leffler (1979a: Fig. 4a).

*Omus dejeanii* Reiche: Horn (1878a: 31-33; Figs 2a-e [Pl. II]) [L<sub>2-3</sub>; FC]; Schaupp (1879: 3) [L<sub>2-3</sub>; LIT]; Leffler (1979a: 68-69) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; FC]; Leffler (1986b: 56-57, 62; Fig. 1) [L<sub>3</sub>; FC].

*Omus submetallicus* Horn: Leffler (1986b: 57-58, 62) [L<sub>3</sub>; FC].

*Omus* sp.: Putschkov and Arndt (1994: Fig. 24).

### MEGACEPHALINI

*Tetracha (Tetracha) carolina* (Linnaeus): Horn (1878a: 34-35; Figs 3a-e [Pl. II]) [L<sub>2-3</sub>; FC]; Schaupp (1879: 3) [L<sub>2-3</sub>; LIT]; Hamilton (1925: 59-60; Figs 2, 9, 15, 18, 24, 29, 34, 43, 80, 116) [L<sub>2-3</sub>; RR]; Putschkov and Arndt (1997: 61) [L<sub>3</sub>; LIT]; Leonard and Bell (1999: 27, 153; Figs 35-37, 148, 149) [L<sub>3</sub>; LIT].

*Tetracha* (*Tetracha*) *virginica* (Linnaeus): Hamilton (1925: 60-61; Figs 79, 117) [L<sub>2-3</sub>; RR]; Putchkov and Arndt (1997: 61) [L<sub>3</sub>; LIT].

#### CICINDELINI

*Cicindela* (*Cicindelidia*) *abdominalis* Fabricius: Hamilton (1925: 19, 44-45; Figs 72, 109, 139) [L<sub>2-3</sub>; FC]; Spangler (1956: 84) [L<sub>2-3</sub>; LIT]; Willis (1967: 173) [L<sub>2-3</sub>; LIT].

*Cicindela* (*Cicindelidia*) *amargosae* Dahl: Leffler (1979a: 86-87) [L<sub>2-3</sub>; FC].

*Cicindela* (*Cicindela*) *ancocisconensis* Harris: Leonard and Bell (1999: 33, 63; Figs 76-78) [L<sub>3</sub>; FC]; Bousquet (2010a: 405) [L<sub>2-3</sub>; LIT].

*Cicindela* (*Cicindela*) *arenicola* Rumpff: Rumpff (1967: 133; Figs 1[a-b]) [L<sub>3</sub>; FC]; Shook and Clark (1988: Fig. 2).

*Cicindela* (*Cicindela*) *bellissima* Leng: Leffler (1979a: 76-77; Fig. 5e) [L<sub>1-2</sub>, L<sub>3</sub>; FC].

*Cicindela* (*Cicindela*) *decemnotata* Say: Leffler (1979a: 80-81) [L<sub>3</sub>; FC].

*Cicindela* (*Cicindela*) *denikei* Brown: Kaulbars and Freitag (1993b: 45, 46, 48; Figs 1-7) [L<sub>3</sub>; FC].

*Cicindela* (*Cicindela*) *depressula* Casey: Leffler (1979a: 73-74) [L<sub>1-2</sub>, L<sub>3</sub>; FC].

*Cicindela* (*Cicindela*) *duodecimguttata* Dejean: Shelford (1908: 170, 172, 173; Figs 37-39) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 19, 39-40; Figs 68, 105, 135) [L<sub>2-3</sub>; RR]; Leonard and Bell (1999: 33, 97; Figs 51, 104, 105) [L<sub>3</sub>; LIT]; Bousquet (2010a: 405) [L<sub>2-3</sub>; LIT].

*Cicindela* (*Cicindela*) *formosa* Say: Shelford (1908: 170, 172, 173; Figs 40-42) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 19, 46-48; Figs 49-51, 74, 88-90, 111, 141, 142) [L<sub>2-3</sub>; FC]; Gaumer<sup>11</sup> (1977: 182, 190-193, 205, 206, 211-213, 217-219, 223-225, 230, 231; Figs 45d, 46d, 47d, 48d, 49d, 50c) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; FC]; Leonard and Bell (1999: 34, 58; Figs 41, 53, 72, 73) [L<sub>3</sub>; LIT]; Bousquet (2010a: 404) [L<sub>2-3</sub>; LIT].

*Cicindela* (*Cicindela*) *fulgida* Say: Willis (1967: 165-168, 173; Figs 41-46) [L<sub>3</sub>; FC].

*Cicindela* (*Cicindelidia*) *hemorrhagica* LeConte: Leffler (1979a: 88-89) [L<sub>3</sub>; FC]; Knisley and Pearson (1984: 497-499, 533-534; Figs 86-91) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].

*Cicindela* (*Cicindela*) *hirticollis* Say: Shelford (1908: 172, 173) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 20, 55; Figs 55-57, 92, 93, 146) [L<sub>2-3</sub>; RR]; Leffler (1979a: 75; Fig. 5f) [L<sub>2</sub>, L<sub>3</sub>; FC]; Thompson (1979a: Figs 12a-e); Leonard and Bell (1999: 36, 80, 81; Figs 57, 92, 93) [L<sub>3</sub>; LIT]; Bousquet (2010a: 404; Fig. 418) [L<sub>2-3</sub>; LIT].

*Cicindela* (*Cicindelidia*) *hornii* Schaupp: Knisley and Pearson (1984: 496-498, 511-514; Figs 44-49) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].

*Cicindela* (*Cicindela*) *latesignata* LeConte: Hamilton (1925: 18, 29; Figs 61, 98, 128) [L<sub>2-3</sub>; FC].

*Cicindela* (*Cicindela*) *lengi* Horn: Leffler (1979a: 89-90) [L<sub>3</sub>; FC].

*Cicindela* (*Cicindela*) *limbalis* Klug: Shelford (1908: 172, 173; Figs 49-51) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 18, 25-26; Figs 1, 5-8, 14, 17, 21-23, 27, 28, 32, 33, 37-40, 42, 52-54, 96, 126) [L<sub>2-3</sub>; RR]; Böving and Craighead (1931: Fig. c [Pl. 4]);

<sup>11</sup> Gaumer (1977) described larvae of five subspecies of *Cicindela formosa*.

- ?Bousquet and Goulet (1984: Fig. 28); Leonard and Bell (1999: 30, 119; Figs 44, 122-124) [L<sub>3</sub>; LIT]; Bousquet (2010a: 405; Figs 421, 423) [L<sub>2-3</sub>; LIT].
- Cicindela (Cicindela) limbata* Say: Hamilton (1925: 20, 56-57; Figs 77, 114, 145) [L<sub>2-3</sub>; FC]; Leonard and Bell (1999: 36, 89; Figs 101, 102) [L<sub>3</sub>; LIT].
- Cicindela (Cicindela) longilabris* Say: Leffler (1979a: 81-82) [L<sub>2</sub>; FC]; Spanton (1988: 99; Figs 28-32) [L<sub>1-3</sub>; RR]; Leonard and Bell (1999: 32, 107, 108; Figs 113, 114) [L<sub>2</sub>, L<sub>3</sub>; LIT]; Bousquet (2010a: 405) [L<sub>2-3</sub>; LIT].
- Cicindela (Cicindela) nebraskana* Casey: Leffler (1979a: 83-84) [L<sub>3</sub>; FC]; Brust and Hoback (2010: 345; Figs 3-8) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].
- Cicindela (Cicindelidia) nigrocoerulea* LeConte: Knisley and Pearson (1984: 497-499, 528-530; Figs 11, 74-79) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].
- Cicindela (Cicindelidia) obsoleta* Say: Hamilton (1925: 18, 34-35, as *Cicindela* species D [see Knisley and Pearson (1984: 507)]; Figs 152, 164, 178) [L<sub>2-3</sub>; FC]; Knisley and Pearson (1984: 496-498, 505, 507; Figs 32-37) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].
- Cicindela (Cicindelidia) ocellata* Klug: Hamilton (1925: 19, 42-43, as *C. flavopunctata rectilatera*; Figs 70, 107, 137) [L<sub>2-3</sub>; RR]; Knisley and Pearson (1984: 497, 499, 536-537; Figs 18, 21, 92-97) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].
- Cicindela (Cicindela) oregona* LeConte: Hamilton (1925: 18, 38; Figs 67, 104, 134) [L<sub>2-3</sub>; FC]; Leffler (1979a: 72; Figs 5b, 7b-c) [L<sub>2</sub>, L<sub>3</sub>; FC].
- Cicindela (Cicindela) parowana* Wickham: Leffler (1979a: 84-85) [L<sub>3</sub>; FC].
- Cicindela (Cicindela) patruela* Dejean: Willis (1982: 49, 56; Figs 1-6) [L<sub>3</sub>; RR]; Leonard and Bell (1999: 33, 46, 47; Figs 63-65) [L<sub>3</sub>; LIT].
- Cicindela (Cicindela) pimeriana* LeConte: Knisley and Pearson (1984: 496, 498, 519-520; Figs 13, 56-61) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].
- Cicindela (Cicindela) pugetana* Casey: Leffler (1979a: 78-79) [L<sub>3</sub>; FC].
- Cicindela (Cicindela) pulchra* Say: Hamilton (1925: 19, 51; Figs 76, 113, 144) [L<sub>2-3</sub>; FC]; Hamilton (1925: 19, 51-52, as *C. obsoleta* [see Knisley and Pearson (1984: 507)]; Figs 158, 169, 179) [L<sub>2-3</sub>; FC]; Knisley and Pearson (1984: 496-498, 508-509; Figs 1-9, 22-24, 38-43) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].
- Cicindela (Cicindelidia) punctulata* Olivier: Shelford (1908: 172, 173) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 19, 41; Figs 69, 106, 136) [L<sub>2-3</sub>; RR]; Knisley and Pearson (1984: 497-499, 525-526; Figs 68-73) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Leonard and Bell (1999: 34, 112; Figs 52, 117, 118) [L<sub>3</sub>; LIT]; Bousquet (2010a: 405) [L<sub>2-3</sub>; LIT].
- Cicindela (Cicindela) purpurea* Olivier: Shelford (1908: 170, 172-173; Figs 7-11, 25-27) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 18, 27; Figs 60, 97, 127) [L<sub>2-3</sub>; RR]; Leffler (1979a: 77-78; Fig. 5c) [L<sub>3</sub>; FC]; Leonard and Bell (1999: 31, 124; Figs 47, 128, 129) [L<sub>3</sub>; LIT]; Bousquet (2010a: 405) [L<sub>2-3</sub>; LIT].
- Cicindela (Cicindela) repanda* Dejean: Horn (1878a: 35-37; Figs a-d [Pl. II]) [L<sub>2-3</sub>; FC]; Schaupp (1879: 13) [L<sub>2-3</sub>; LIT]; Schaupp (1884b: 123; Fig. 124) [L<sub>2-3</sub>; FC]; Shelford (1908: 170, 172, 173; Figs 34-36) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 18, 31; Figs 63, 100, 130) [L<sub>2-3</sub>; RR]; Leffler (1979a: 71; Fig. 5a) [L<sub>2</sub>, L<sub>3</sub>; FC]; Leonard and Bell (1999: 32, 53, 54; Figs 49, 68, 69) [L<sub>3</sub>; LIT]; Bousquet (2010a: 405; Figs 420, 422) [L<sub>2-3</sub>; LIT].

- Cicindela* (*Cicindelidia*) *rufiventris* Dejean: Beatty and Knisley (1984: 4-8; Figs 1-11) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Leonard and Bell (1999: 32, 103, 104; Figs 46, 48, 109, 110) [L<sub>3</sub>; LIT].
- Cicindela* (*Cicindela*) *scutellaris* Say: Shelford (1908: 170-173; Figs 46-48) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 19, 48-49; Figs 75, 112, 143) [L<sub>2-3</sub>; RR]; Leonard and Bell (1999: 35, 131, 132; Figs 55, 133, 134) [L<sub>3</sub>; LIT]; Bousquet (2010a: 404; Fig. 417) [L<sub>2-3</sub>; LIT].
- Cicindela* (*Cicindelidia*) *sedecimpunctata* Klug: Knisley and Pearson (1984: 497, 539; Figs 116-119) [L<sub>3</sub>; RR].
- Cicindela* (*Cicindela*) *sexguttata* Fabricius: Shelford (1908: 170, 172, 173; Figs 28-30) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 17, 23-24; Figs 58, 94, 124) [L<sub>2-3</sub>; RR]; Willis (1967: 172) [L<sub>2-3</sub>; LIT]; Kaulbars and Freitag (1993b: 48) [L<sub>3</sub>; LIT]; Leonard and Bell (1999: 29, 41, 42; Figs 59, 60) [L<sub>3</sub>; LIT]; Bousquet (2010a: 405) [L<sub>2-3</sub>; LIT].
- Cicindela* (*Cicindelidia*) *tenuisignata* LeConte: Knisley and Pearson (1984: 497-499, 530-531; Figs 80-85) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].
- Cicindela* (*Cicindela*) *theatina* Rotger: Pineda and Kondratieff (2002: 166, 170, 171; Figs 1-8) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].
- Cicindela* (*Cicindela*) *tranquebarica* Herbst: Shelford (1908: 172-173; Figs 43-45) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hamilton (1925: 18, 36; Figs 66, 103, 133) [L<sub>2-3</sub>; RR]; Leffler (1979a: 91) [L<sub>3</sub>; FC]; Leonard and Bell (1999: 33, 69; Figs 82, 83) [L<sub>3</sub>; LIT]; Bousquet (2010a: 405; Fig. 424) [L<sub>2-3</sub>; LIT].
- Cicindela* (*Cicindelidia*) *willistoni* LeConte: Willis (1967: 172, 173; Figs 59-64) [L<sub>3</sub>; FC]; Leffler (1979a: 87) [L<sub>3</sub>; FC]; Knisley and Pearson (1984: 497, 498, 514, 515; Figs 120-121) [L<sub>1</sub>, L<sub>2</sub>; FC].
- Cicindela* sp. A (California; probably *C. trifasciatus sigmoidea*): Hamilton (1925: 17, 22-23; Figs 59, 95, 125) [L<sub>2-3</sub>; FC].
- Cicindela* sp. B (Colorado; possibly *C. cimarrona* or *C. obsoleta*): Hamilton (1925: 18, 28; Figs 62, 99, 129; according to Leffler (1979a: 78) and Knisley and Pearson (1984: 507) Hamilton's species is neither *C. cimarrona* or *C. obsoleta* respectively) [L<sub>2-3</sub>; FC].
- Cicindela* sp. C (Indiana): Hamilton (1925: 18, 30; Figs 151, 163, 175) [L<sub>2-3</sub>; FC].
- Cicindela* sp. D (Colorado): Hamilton (1925: 18, 34-35; Figs 152, 164, 178) [L<sub>2-3</sub>; FC].
- Cicindela* sp.: Bousquet (1991a: Figs 34.76, 34.78, 34.92); Bousquet (2010a: Figs 414-416, 425).
- Cylindera* (*Cylindera*) *cursitans* (LeConte): Brust *et al.* (2005: 383-385; Figs 2-7) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].
- Cylindera* (*Cylindera*) *debilis* (Bates): Knisley and Pearson (1984: 540, 542; Figs 16-17, 98-103) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].
- Cylindera* (*Cylindera*) *lemniscata* (LeConte): Knisley and Pearson (1984: 496, 498, 499, 542-545; Figs 104-109) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].
- Cylindera* (*Cylindera*) *terricola* Say: Leffler (1979a: 91-92, as *C. cinctipennis*) [L<sub>3</sub>; FC].



- Cylindera* (*Cylindera*) *unipunctata* (Fabricius): Hamilton (1925: 19, 43-44; Figs 71, 108, 138) [ $L_{2-3}$ ; FC].
- Cylindera* (*Cylindera*) *viridisticta* (Bates): Knisley and Pearson (1984: 496, 498, 499, 545-546; Figs 110-115) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR+FC].
- Dromochorus pruininus* Casey: Spomer *et al.* (2008b: 38-40; Figs 1-6) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Ellipsoptera gratiosa* (Guérin-Ménéville): Hamilton (1925: 18, 34; Figs 65, 102, 132) [ $L_{2-3}$ ; RR].
- Ellipsoptera lepida* (Dejean): Shelford (1908: 171-173; Figs 49-51) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Hamilton (1925: 18, 32-33; Figs 64, 101, 131) [ $L_{2-3}$ ; RR]; Leonard and Bell (1999: 32, 146, 147; Figs 50, 144, 145) [ $L_3$ ; LIT]; Bousquet (2010a: 405; Fig. 419) [ $L_{2-3}$ ; LIT].
- Ellipsoptera macra* (LeConte): Shelford (1908: 171-173, as *E. cuprascens*; Figs 55, 56) [ $L_1$ ,  $L_2$ ; RR]; Hamilton (1925: 19, 49-50; Figs 153, 165, 172) [ $L_{2-3}$ ; RR+FC].
- Ellipsoptera marginata* (Fabricius): Hamilton (1925: 19, 45-46; Figs 73, 110, 140) [ $L_{2-3}$ ; RR]; Spangler (1956: 84) [ $L_{2-3}$ ; LIT]; Willis (1967: 173) [ $L_{2-3}$ ; LIT]; Leonard and Bell (1999: 29, 86; Figs 40, 98, 99) [ $L_3$ ; LIT]; Bousquet (2010a: 404) [ $L_{2-3}$ ; LIT].
- Ellipsoptera nevadica* (LeConte): Willis (1967: 168, 173; Figs 47-52) [ $L_3$ ; RR].
- Ellipsoptera puritana* (Horn): Leonard and Bell (1999: 33, 74, 75; Figs 87-90) [ $L_3$ ; LIT (unpublished)]; Bousquet (2010a: 405) [ $L_{2-3}$ ; LIT].
- Ellipsoptera rubicunda* (Harris): Knisley and Pearson (1984: 496-498, 516-517, as *E. marutha*; Figs 12, 50-55) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR+FC].
- Eunota togata* (LaFerté-Sénectère): Willis (1967: 170, 173; Figs 53-58) [ $L_3$ ; RR].
- Habroscelimorpha circumpicta* (LaFerté-Sénectère): Spangler (1956: 82, 84; 14 figs) [ $L_{2-3}$ ; FC]; Willis (1967: 163-165, 173; Figs 35-40) [ $L_3$ ; RR].
- Habroscelimorpha dorsalis* (Say): Hamilton (1925: 17, 20-21; Figs 78, 115, 147) [ $L_{2-3}$ ; RR]; Leonard and Bell (1999: 29, 142; Figs 141, 142) [ $L_3$ ; LIT].
- Habroscelimorpha fulgoris* (Casey): Knisley and Pearson (1984: 496-498, 522-523; Figs 14-15, 19-20, 62-67) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR+FC].

#### LORICERINI

- Loricera* (*Loricera*) *decempunctata* Eschscholtz: Ball and Erwin (1969: 897; Fig. 49) [ $L_3$ ; FC].
- Loricera* (*Loricera*) *pilicornis* (Fabricius): Schiødte (1867: 465-469; Figs 8-16 [Pl. 14]) [ $L_{1-3}$ ; ?]; Gernet (1867: 10-12; Figs 2a-f [Pl. 1]) [ $L_{1-3}$ ; FC]; Larsson (1941: 290, as *L. coerulescens*; Figs 27, 28a-c) [ $L_{1-3}$ ; ?]; Jeannel (1941b: Figs 92a-f); van Emden (1942: Fig. 48); Garner (1954: 149, 150) [ $L_{2-3}$ ; FC]; Sharova (1958: 40; Figs 25a-e) [ $L_{1-3}$ ; ?]; Sharova (1964: 146; Figs 97-1,2,3,4,5,6) [ $L_{1-3}$ ; ?]; Larsson (1968: 335; Figs 27, 28a-c) [ $L_{1-3}$ ; ?]; Haberman (1968: 155, 156; Figs 85.1-6) [ $L_{2-3}$ ; ?]; Ball and Erwin (1969: 894, 896; Figs 50, 53, 56, 57) [ $L_1$ ,  $L_3$ ; RR+FC]; Raynaud (1976d: 167, 168; Figs 1-7 [Pl. 16B]) [ $L_3$ ; FC]; Luff (1978: 269, 270; Figs 9-17) [ $L_1$ ,  $L_{2-3}$ ; FC]; Thompson (1979a: Figs 39a-c, as *Loricera* sp.); Bousquet and Goulet (1984: Figs 30, 49); Bousquet (1991a: Figs 34.85, 34.91); Arndt (1991b: Figs 67, 68);

Luff (1993: 69, 70; Figs 1, 206-213) [ $L_1$ ,  $L_{2-3}$ ; ?]; Makarov (1994: Fig. 102); Makarov (1996; Fig. 39); Bousquet (2010a: Figs 426-430).

*Loricera* sp. A (California): Garner (1954: 149, 151, 152; Figs a-c [Pl. 8]) [ $L_{2-3}$ ; FC].

*Loricera* sp. B (California): Garner (1954: 149, 153, 154) [ $L_{2-3}$ ; FC].

## ELAPHRINI

*Blethisa julii* LeConte: Lindroth (1954a: 23, 24; Figs 9b, 10b, 11b, 12b, 13c, 15b) [ $L_{2-3}$ ; FC]; Sharova (1958: Fig. 90b); Sharova (1964: Figs 133-1); Thompson (1979a: Figs 41a-e).

*Blethisa multipunctata* (Linnaeus): Bøving (1910: 357-363; Figs 8, 12, 15) [ $L_{2-3}$ ; FC]; Znojko (1929: Fig. 4e); Larsson (1941: 287; Fig. 25) [ $L_{1-3}$ ; ?]; Jeannel (1941b: Figs 87a-e); van Emden (1942: Fig. 74); Lindroth (1954a: 24, Figs 11c, 13b, 14b, 15a) [ $L_{2-3}$ ; FC]; Garner (1954: 121, 122; Figs a-c [Pl. 6]) [ $L_{2-3}$ ; FC]; Sharova (1958: Figs 89a-e); Sharova (1964: Figs 132-1, 2, 3, 4, 5); Larsson (1968: 332; Fig. 25) [ $L_{1-3}$ ; ?]; Haberman (1968: Figs 83.1-5); Luff (1976: 60, 65, 67; Figs 39-47) [ $L_3$ ; FC]; Goulet (1983: Figs 96a-b); Arndt (1991b: 75; Fig. 66) [ $L_{1-3}$ ; ?]; Luff (1993: 65; Figs 184-189) [ $L_{2-3}$ ; ?]; Makarov (1994: Fig. 51); Makarov (1996: Fig. 26); Bousquet (2010a: 411; Figs 432, 435) [ $L_{2-3}$ ; RR+FC].

*Blethisa quadricollis* Haldeman: Lindroth (1954a: 23; Figs 9c, 11d, 13d, 14c) [ $L_{2-3}$ ; FC]; Goulet (1983: Figs 88a-b, 95); Bousquet (2010a: 411; Fig. 436) [ $L_{2-3}$ ; FC].

*Diacheila arctica* (Gyllenhal): Lindroth (1954a: Figs 9a, 10a, 11a, 12a, 13a, 14a); Sharova (1958: 41; Figs 27b, 90a, 92a) [ $L_{1-3}$ ; ?]; Sharova (1964: 149; Figs 98-2, 3, 133-1, 135-1) [ $L_{1-3}$ ; ?]; Goulet (1983: Figs 78, 84, 94); Luff (1993: 66; Figs 190-192) [ $L_{1-3}$ ; ?]; Makarov (1994: Fig. 50).

*Diacheila polita* (Faldermann): Sharova (1958: 41; Figs 26, 27a, 88, 92b) [ $L_{1-3}$ ; ?]; Sharova (1964: 149; Figs 98-1, 131-2, 135-2) [ $L_{1-3}$ ; ?]; Goulet (1983: Figs 79, 83a-c, 87a-b, 93a-b); Luff (1993: 66) [ $L_{1-3}$ ; LIT]; Bousquet (2010a: Figs 431, 434).

*Elaphrus* (*Elaphrus*) *americanus americanus* Dejean: Goulet (1983: 287, 288, 309; Figs 100a-b) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 413; Figs 433, 437) [ $L_{2-3}$ ; RR].

*Elaphrus* (*Elaphrus*) *americanus sylvanus* Goulet: Goulet (1983: 311) [ $L_1$ ,  $L_3$ ; FC].

*Elaphrus* (*Elaphroterus*) *angusticollis* Sahlberg: Goulet (1983: 325, 326, 335-336; Figs 151, 152, 156) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].

*Elaphrus* (*Elaphrus*) *californicus* Mannerheim: Goulet (1983: 286-288, 302; Figs 154, 155) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 413) [ $L_{2-3}$ ; RR].

*Elaphrus* (*Neoelaphrus*) *cicatricosus* LeConte: Goulet (1983: 250, 251, 253, 263-264; Figs 99a-b) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 412; Fig. 439) [ $L_{2-3}$ ; RR].

*Elaphrus* (*Neoelaphrus*) *clairvillei* Kirby: Lindroth (1954a: 26; Figs 12c, 14d, 16c, 17c) [ $L_{2-3}$ ; FC]; Thompson (1979a: Fig. 40b); Goulet (1983: 251-253, 275; Figs 76a-g, 80, 82a-b, 85a-c, 90a-b, 98a-c) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Beutel (1993: Figs 17, 25); Bousquet (2010a: 412; Fig. 438) [ $L_{2-3}$ ; RR].

*Elaphrus* (*Elaphrus*) *finitimus* Casey: Goulet (1983: 288, 305-306) [ $L_3$ ; FC].

*Elaphrus* (*Neoelaphrus*) *fuliginosus* Say: Goulet (1983: 250, 251, 253, 261-262) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 412) [ $L_{2-3}$ ; RR].

- Elaphrus* (*Neoelaphrus*) *laevigatus* LeConte: Goulet (1983: 251-253, 281-282) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Elaphrus* (*Arctelaphrus*) *lapponicus* Gyllenhal: Lindroth (1954a: 25; Figs 13e, 16a, 17a) [ $L_{2-3}$ ; FC]; Sharova (1958: Fig. 91); Sharova (1964: Fig. 134); Luff (1976: 62, 63, 65; Figs 34-38) [ $L_1$ ,  $L_{2-3}$ ; FC]; Thompson (1979a: Fig. 40a); Luff (1993: 67, 68; Figs 193-194) [ $L_1$ ,  $L_{2-3}$ ; ?]; Goulet (1983: 243; Figs 89a-b, 97) [ $L_3$ ; FC]; Bousquet (2010a: 412) [ $L_{2-3}$ ; FC].
- Elaphrus* (*Elaphrus*) *lecontei* Crotch: Garner (1954: 127, 128) [ $L_3$ ; FC]; Goulet (1983: 286-288, 297-298; Figs 81, 91a-b) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Elaphrus* (*Neoelaphrus*) *lindrothi* Goulet: Goulet (1983: 250-252, 265-266) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Elaphrus* (*Neoelaphrus*) *olivaceus* LeConte: Lindroth (1954a: 25; Figs 16b, 17b) [ $L_{2-3}$ ; FC]; Goulet (1983: 251-253, 279-280) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 413) [ $L_{2-3}$ ; RR].
- Elaphrus* (*Elaphroterus*) *purpurans* Hausen: Goulet (1983: 324-326, 332-333; Figs 86, 92a-b, 102a-b) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Elaphrus* (*Elaphrus*) *ruscarius* Say: Goulet (1983: 287, 288, 295) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Elaphrus* (*Elaphrus*) *tuberculatus* Mäklin: Goulet (1983: 287, 288, 318) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Elaphrus* (*Elaphrus*) *viridis* Horn: Goulet and Smetana (1997: 215) [ $L_3$ ; FC].

### OMOPHRONINI

- Omophron* (*Omophron*) *americanum* Dejean: Silvey (1936: 691-692; Figs 17-19) [ $L_3$ ; FC].
- Omophron* (*Omophron*) *nitidum* LeConte: ?Böving and Craighead (1931: Figs a-e [Pl. 5]).
- Omophron* (*Omophron*) *tessellatum* Say: Silvey (1936: 688-690; Figs 13, 15, 16) [ $L_3$ ; FC]; Landry and Bousquet (1984: Figs 1-21); Bousquet and Goulet (1984: Figs 29, 50, 52, 56); Bousquet (1991a: Figs 34.73, 34.88, 34.94, 34.97); Bousquet (2010a: Figs 440-447).
- Omophron* sp. A (California): Garner (1954: 134-136) [ $L_{2-3}$ ; FC].
- Omophron* sp. B (California): Garner (1954: 134, 136, 137) [ $L_{2-3}$ ; FC].
- Omophron* sp. C (Nebraska): Garner (1954: 134, 138, 139) [ $L_{2-3}$ ; FC].
- Omophron* sp. D (Nebraska): Garner (1954: 134, 140, 141; Pl. 7, Figs a-c) [ $L_{2-3}$ ; FC].
- Omophron* sp. (Ontario): Thompson (1979a: Figs 33a-e).

### PASIMACHINI

- Pasimachus* (*Pasimachus*) *elongatus* LeConte: Garner (1954: 234, 237, 238) [ $L_{2-3}$ ; FC]; Kirk (1972: 1355; Figs 22 [Pl. 2], 3-22) [ $L_{1-3}$ ; FC]; Thompson and Allen (1974: 189-192; Figs 2a-c) [ $L_3$ ; FC]; Thompson (1979a: Figs 45a-d).
- Pasimachus* sp. A (North Carolina): Garner (1954: 234, 238, 239; Pl. 16, Figs a-c) [ $L_{2-3}$ ; FC].
- Pasimachus* sp. B (Texas): Garner (1954: 234, 240, 241) [ $L_{2-3}$ ; FC].

*Pasimachus* sp. C (Florida): Garner (1954: 234, 241, 242) [L<sub>2-3</sub>; FC].

*Pasimachus* sp. D (Montana): Garner (1954: 234, 242, 243) [L<sub>2-3</sub>; FC].

### SCARITINI

*Scarites* (*Scarites*) *quadriceps* Chaudoir: van Emden (1942: Fig. 51); Garner (1954: 227, 231, 232, as *S. prob. substriatus*) [L<sub>2-3</sub>; FC]; Kirk (1972: 1355; Figs 23 [Pl. 2], 3-23, as *S. substriatus*) [L<sub>2-3</sub>; FC]; Thompson (1979a: Figs 46a-c, as *S. substriatus*).

*Scarites* (*Scarites*) *subterraneus* Fabricius: Wickham (1893b: 332, 333; Figs 3-4 [Pl. 9]) [L<sub>3</sub>; FC]; Garner (1954: 227, 230; Pl. 15, Figs a-c) [L<sub>2-3</sub>; FC]; Bousquet (2010a: Figs 448-450).

### CLIVININI

*Clivina* (*Clivina*) *collaris* (Herbst)†: Luff (1978: 272, 281; Fig. 57) [L<sub>1</sub>, L<sub>2</sub>; RR+FC]; Vaněk (1984: 100-103, 111; Figs 1-47) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Arndt (1991b: 78, Figs 78, 80) [L<sub>1-3</sub>; LIT]; Luff (1993: 71, 72; Fig. 222) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Makarov (1994: Fig. 24).

*Clivina* (*Semiclivina*) *dentipes* Dejean: Thompson (1979a: Figs 47a-c).

*Clivina* (*Clivina*) *fossor* (Linnaeus)†: Bøving (1911: 148-153, 172-178; Pl. 6; Figs 4, 10, 15, 20, 23) [L<sub>2-3</sub>; FC]; Larsson (1941: 296) [L<sub>1-3</sub>; ?]; Jeannel (1941b: Figs 100a-g); van Emden (1942: Fig. 76); Garner (1954: 258, 262, 263) [L<sub>2-3</sub>; FC]; Sharova (1958: 44; Figs 32, 34, 97, 99a) [L<sub>1-3</sub>; ?]; Sharova (1964: 153; Figs 100-1, 101-1, 138, 139-2) [L<sub>1-3</sub>; ?]; Larsson (1968: 342; Fig. 32) [L<sub>1-3</sub>; ?]; Haberman (1968: Figs 87.1, 88.1, 3, 4); Luff (1978: 272, 280, 281; Figs 49-56) [L<sub>1</sub>, L<sub>2-3</sub>; RR+FC]; Vaněk (1984: 108, 109, 111; Figs 48-53) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Arndt (1991b: 78) [L<sub>1-3</sub>; LIT]; Luff (1993: 71, 72; Figs 214-221) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Bousquet (2010a: Figs 451, 458).

*Clivina* (*Clivina*) *impressefrons* LeConte: Phillips (1909: 14-16; Figs 8b,e,f) [L<sub>3</sub>; FC]; Kirk (1972: 1355; Figs 16 [Pl. 2], 3-16) [L<sub>1-3</sub>; FC].

*Clivina* sp. A (Nebraska): Garner (1954: 258, 261, 262; Pl. 18, Figs a-c) [L<sub>2-3</sub>; FC].

*Clivina* sp. B (Louisiana): Garner (1954: 258, 264, 265) [L<sub>2-3</sub>; FC].

*Clivina* sp. C (Illinois): Garner (1954: 258, 265, 266) [L<sub>2-3</sub>; FC].

*Schizogenius* (*Schizogenius*) *lineolatus* (Say): Bousquet (1996b: 348-351; Figs 1-11) [L<sub>1</sub>, L<sub>2-3</sub>; RR+FC]; Bousquet (2010a: Figs 452, 454, 456, 459, 461).

*Semiardistomis viridis* (Say): Bousquet (2006c: 5; Figs 36-39) [L<sub>1</sub>; RR].

Genus A sp. A (Florida): Garner (1954: 270, 271; Pl. 19, Figs a-c) [L<sub>2-3</sub>; FC].

### DYSCHIRIINI

*Akephorus marinus* LeConte: Garner (1954: 248, 251; Pl. 17, Figs a-c) [L<sub>2-3</sub>; FC].

*Dyschirius dejeanii* Putzeys: Kirk (1972: 1355; Figs 18 [Pl. 2], 3-18, as *D. integer*) [L<sub>1-3</sub>; FC].

*Dyschirius globosus* (Herbst)†: Larsson (1941: 292, 295) [L<sub>1-3</sub>; ?]; Sharova (1958: 44) [L<sub>1-3</sub>; ?]; Sharova (1964: 154) [L<sub>1-3</sub>; ?]; Larsson (1968: 338, 341) [L<sub>1-3</sub>; ?]; Haberman (1968: 167) [L<sub>1-3</sub>; ?]; Raynaud (1976e: 276, 277; Figs 4-8) [F<sub>3</sub>; FC]; Luff

(1978: 271, 277; Figs 41-47) [ $L_3$ ; FC]; Arndt (1991*b*: 78) [ $L_{1-3}$ ; ?]; Luff (1993: 73, 76; Figs 243-245) [ $L_{1-3}$ ; ?].

*Dyschirius globulosus* (Say): Garner (1954: 248, 254) [ $L_3$ ; FC].

*Dyschirius politus* (Dejean): Larsson (1941: 293, 294; Figs 30d, 31e) [ $L_{1-3}$ ; ?]; Sharova (1958: 45; Fig. 101e) [ $L_{1-3}$ ; ?]; Sharova (1964: 154; Fig. 139-7) [ $L_{1-3}$ ; ?]; Larsson (1968: 338-340; Figs 30d, 31e) [ $L_{1-3}$ ; ?]; Haberman (1968: 168; Fig. 95.7) [ $L_{1-3}$ ; ?]; Luff (1978: 271, 277; Figs 38-40) [ $L_3$ ; FC]; Arndt (1991*b*: 78) [ $L_{1-3}$ ; ?]; Luff (1993: 73, 75, 76; Figs 231, 232) [ $L_{1-3}$ ; ?].

*Dyschirius sphaericollis* (Say): Silvey (1936: 685-687; Figs 9, 11, 12) [ $L_3$ ; FC].

*Dyschirius* sp. A (Louisiana): Garner (1954: 248, 252, 253) [ $L_{2-3}$ ; FC].

*Dyschirius* sp. (Quebec): Bousquet (1988*a*: Figs 31-34); Bousquet (2010*a*: Figs 453, 455, 457, 460).

### PROMECOGNATHINI

*Promecognathus laevissimus* (Dejean)<sup>12</sup>: Bousquet and Smetana (1986: 27-30; Figs 1-12) [ $L_1$ ; RR]; Bousquet (1991*a*: Fig. 34.80).

### BROSCINI

*Broscus cephalotes* (Linnaeus)†: Schiødte (1867: 504-507; Figs 1-8 [Pl. 19]) [ $L_{1-3}$ ; ?]; Znojko (1929: Fig. 8a); Larsson (1941: 297; Figs 32a-b) [ $L_{1-3}$ ; ?]; Jeannel (1941*b*: Figs 110a-e); van Emden (1942: Fig. 39); Sharova (1958: 45; Figs 36, 37) [ $L_{1-3}$ ; ?]; Sharova (1964: 154, 155; Figs 102-1,2) [ $L_{1-3}$ ; ?]; Larsson (1968: 343; Figs 33a-b) [ $L_{1-3}$ ; ?]; Andersen (1968: 74) [ $L_3$ ; ?]; Haberman (1968: Figs 112d1-d2); Luff (1978: 282-285; Figs 58-65) [ $L_1$ ,  $L_{2-3}$ ; FC]; Sharova and Makarov (1984: 742, 744, 746; Figs 1-2) [ $L_1$ ,  $L_2$ ,  $L_3$ ; FC]; Arndt (1991*b*: Figs 69-71); Luff (1993: 77, 78; Figs 246-251) [ $L_1$ ,  $L_{2-3}$ ; ?]; Beutel (1993: Figs 4, 10, 18); Makarov (1994: Fig. 26); Bousquet (2010*a*: Figs 464, 468).

*Miscodera arctica* (Paykull): Andersen (1968: 71-74; Fig. 1, 2a-c, 3a-b) [ $L_3$ ; FC]; Larsson (1968: 343) [ $L_{1-3}$ ; ?]; Luff (1978: 282, 285, 286; Figs 66-75) [ $L_1$ ,  $L_{2-3}$ ; FC]; Thompson (1979*a*: Figs 43a-f); Luff (1993: 79; Figs 252, 253) [ $L_1$ ,  $L_{2-3}$ ; FC]; Makarov (1994: Fig. 25); Bousquet (2010*a*: Figs 462, 463, 465-467).

### GEHRINGIINI

*Gehringia olympica* Darlington: Lindroth (1960*a*: 37; Figs 5a-f) [ $L_1$ ; RR]; Thompson (1979*a*: Figs 27a-f); Luna de Carvalho (1989: 55; Fig. 27b) [ $L_{1-3}$ ; LIT].

### TRECHINI

*Blemus discus* (Fabricius)†: ?Bousquet (2010*a*: Figs 469-473).

<sup>12</sup> The field-collected and reared larvae described by Garner (1954: 220, 221; Pl. 14, Figs a-c) as *Promecognathus laevissimus* are misidentified.



- Neaphaenops tellkampfi* (Erichson): Packard (1874: 563, as *Pseudanophthalmus* sp.) [L<sub>3</sub>; FC]; Hubbard (1888: 77-78; Figs 18a-b, as *Pseudanophthalmus* sp.) [L<sub>3</sub>; FC]; Jeannel (1920a: 538, 539; Fig. 62) [L<sub>3</sub>; FC]; Jeannel (1926: 396) [L<sub>3</sub>; FC].
- Pseudanophthalmus* sp. A (Higginbotham's Cave, West Virginia): Boldori (1951: 143, 144; Figs 39, 42) [L<sub>2-3</sub>; FC].
- Pseudanophthalmus* sp. B (Higginbotham's Cave, West Virginia): Boldori (1951: 145) [L<sub>2-3</sub>; FC].
- Pseudanophthalmus* sp. C (Coffman's Cave, West Virginia): Boldori (1951: 145; Fig. 40) [L<sub>2-3</sub>; FC].
- Pseudanophthalmus* sp. D (Shelta Cave, Alabama): Boldori (1951: 145; Fig. 41) [L<sub>2-3</sub>; FC].
- Pseudanophthalmus* sp. E (Johnson's Cave, Tennessee): Boldori (1951: 145) [L<sub>2-3</sub>; FC].
- Trechus* (*Trechus*) *apicalis* Motschulsky: Thompson (1979a: Figs a-d); ?Bousquet (2010a: Fig. 474).
- Trechus* (*Trechus*) *obtusus* Erichson†<sup>13</sup>: Boldori (1931a: 6) [L<sub>3</sub>; FC]; Boldori (1931b: 157; Figs 1-3, 2-3) [L<sub>3</sub>; FC]; Larsson (1941: 303, 304; Fig. 34c) [L<sub>1-3</sub>; ?]; Boldori (1951: Fig. 3); Sharova (1958: 47; Fig. 105c) [L<sub>1-3</sub>; ?]; Sharova (1964: 157; Fig. 143-3) [L<sub>1-3</sub>; ?]; Larsson (1968: 352, 353; Fig. 36c) [L<sub>1-3</sub>; ?]; Haberman (1968: 274; Fig. 122.3) [L<sub>1-3</sub>; ?]; Luff (1985: 302, 304; Fig. 11) [L<sub>2-3</sub>; FC]; Arndt (1991b: 82) [L<sub>1-3</sub>; ?]; Luff (1993: 85, 86; Figs 284-286) [L<sub>1-3</sub>; ?].
- Trechus* (*Trechus*) *quadristriatus* (Schrank)†: Bøving (1911: 141-147, 172-178; Figs 3, 9, 14, 19, 22 [Pl. 5]) [L<sub>2-3</sub>; FC]; Jeannel (1920a: 523, 539; Figs 13-17) [L<sub>1-3</sub>; FC]; Jeannel (1926: 387) [L<sub>2-3</sub>; FC]; Beier and Strouhal (1928: 1-4; Figs 1a-b, 2a-e, 3 [Pl. 1]) [L<sub>3</sub>; FC]; Boldori (1931a: 6) [L<sub>3</sub>; FC]; Boldori (1931b: 158; Figs 1-2, 2-2) [L<sub>3</sub>; FC]; Larsson (1941: 303; Fig. 34b) [L<sub>1-3</sub>; ?]; Jeannel (1941b: Figs 113a-f); Boldori (1951: Fig. 2); Sharova (1958: 47; Fig. 105d) [L<sub>1-3</sub>; ?]; Sharova (1964: 157; Fig. 143-4) [L<sub>1-3</sub>; ?]; Larsson (1968: 352, 353; Fig. 36b) [L<sub>1-3</sub>; ?]; Haberman (1968: 273; Fig. 122.3) [L<sub>1-3</sub>; ?]; Luff (1985: 302, 304; Figs 1-10) [L<sub>1</sub>, L<sub>2-3</sub>; FC]; Arndt (1991b: 82; Figs 72, 73) [L<sub>1-3</sub>; ?]; Luff (1993: 84-86; Figs 281-283) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Makarov (1994: Fig. 32).
- Trechus* (*Trechus*) *rubens* (Fabricius)†: Larsson (1941: 303, 304; Fig. 34a) [L<sub>1-3</sub>; ?]; Sharova (1958: 47; Fig. 105b) [L<sub>1-3</sub>; ?]; Larsson and Gíjja (1959: 27) [L<sub>1-3</sub>; FC]; Sharova (1964: 157; Fig. 143-2) [L<sub>1-3</sub>; ?]; Larsson (1968: 352, 353; Fig. 36a) [L<sub>1-3</sub>; ?]; Haberman (1968: 273; Fig. 122.2) [L<sub>2-3</sub>; ?]; Luff (1985: 302, 304, 306; Figs 12-16) [L<sub>3</sub>; FC]; Bousquet (1991a: Figs 34.95, 34.98); Arndt (1991b: 82) [L<sub>1-3</sub>; ?]; Luff (1993: 85; Figs 278-280) [L<sub>1-3</sub>; ?].

## BEMBIDIINI

- Asaphidion alaskanum* Wickham: Maddison (1993: 153, 271; Figs 195, 225) [L<sub>1</sub>; RR].
- Asaphidion yukonense* Wickham: Thompson (1979a: Figs a-c).

<sup>13</sup> As pointed out by Jeannel (1920a: 510), the field-collected larva described by Xambeu (1901: 58, 59) as *Trechus obtusus* has been incorrectly associated.

- Bembidion (Odontium) aenulum* Hayward: Maddison (1993: 172; Fig. 223) [L<sub>1</sub>; RR].
- Bembidion (Bracteon) alaskense* Lindroth: Maddison (1993: 172, 178; Figs 212, 227, 233, 236) [L<sub>1</sub>, L<sub>2</sub>; RR].
- Bembidion (Pseudoperyphus) antiquum* Dejean: Maddison (1993: Figs 222, 247).
- Bembidion (Bracteon) balli* Lindroth: Maddison (1993: 173–174; Figs 191, 196, 210, 240, 242, 245, 248, 252, 255, 257, 258) [L<sub>1</sub>, L<sub>2</sub>; RR].
- Bembidion (Odontium) bowditchii* LeConte: Maddison (1993: 173) [L<sub>1</sub>; RR].
- Bembidion (Peryphus) bruxellense* Wesmael†: Larsson (1941: 299, 300, as *B. rupestre*; Fig. 33g) [L<sub>1-3</sub>; ?]; Sharova (1958: 49, as *B. rupestre*; Fig. 108f) [L<sub>1-3</sub>; ?]; Sharova (1964: 159, as *B. rupestre*; Fig. 143–10) [L<sub>1-3</sub>; ?]; Larsson (1968: 347, 349; Fig. 35g) [L<sub>1-3</sub>; ?]; Luff (1993: 91, 98, 99; Figs 327, 328) [L<sub>1-3</sub>; ?].
- Bembidion (Bracteon) carinula* Chaudoir: Maddison (1993: 172, 181; Figs 197, 198, 213, 228, 234, 243, 246, 250, 253, 256, 260) [L<sub>1</sub>, L<sub>2</sub>; RR].
- Bembidion (Pseudoperyphus) chalceum* Dejean: Maddison (1993: Fig. 221).
- Bembidion (Ochthedromus) cheyennense* Casey: Maddison (1993: 172; Fig. 220) [L<sub>1</sub>; RR].
- Bembidion (Odontium) confusum* Hayward: Silvey (1936: 682–684; Figs 5, 7, 8) [L<sub>3</sub>; FC]; Maddison (1993: 173) [L<sub>1</sub>; RR].
- Bembidion (Notaphus) contractum* Say: Lindroth (1955a: Fig. 15b).
- Bembidion (Odontium) coxendix* Say: Maddison (1993: 173; Figs 192, 200, 219) [L<sub>1</sub>; RR].
- Bembidion (Peryphus) femoratum* Sturm†: Netolitzky (1926: 118; Fig. 3) [L<sub>1</sub>; RR]; Arndt (1991b: Fig. 75).
- Bembidion (Bracteon) foveum* Motschulsky: Maddison (1993: 173, 175; Figs 199, 201–203, 205, 211, 226, 232, 238, 249) [L<sub>1</sub>, RR].
- Bembidion (Peryphanes) grapii* Gyllenhal: Larsson and Gígia (1959: 23) [L<sub>1-3</sub>; FC]; Böcher (1988: Fig. 4); Luff (1993: 92, 99; Figs 329, 330) [L<sub>1-3</sub>; ?].
- Bembidion (Bracteon) hesperium* Fall: Maddison (1993: 173, 186) [L<sub>1</sub>, L<sub>2</sub>; RR].
- Bembidion (Bracteon) inaequale* Say: Maddison (1993: 192; Fig. 193) [L<sub>1</sub>, L<sub>2</sub>; RR].
- Bembidion (Pseudoperyphus) integrum* Casey: Maddison (1993: Fig. 244).
- Bembidion (Leja) lampros* (Herbst)†: Larsson (1941: 299; Fig. 33b) [L<sub>1-3</sub>; ?]; Larsson (1968: 346, 348; Fig. 35b) [L<sub>1-3</sub>; ?]; Desender and Crappé (1983: 39, 46; Figs 4a–i, 5a–h, 6a–h) [L<sub>1-3</sub>; RR+FC]; Luff (1993: 91, 93; Figs 304, 305) [L<sub>1</sub>, L<sub>2-3</sub>; ?].
- Bembidion (Bracteon) lapponicum* Zetterstedt: Andersen (1966: 446, 448, 449; Figs 1, 17–26) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC]; Maddison (1993: 172, 184; Figs 206–209, 214, 229, 235, 259) [L<sub>1</sub>, L<sub>2</sub>; RR]; Luff (1993: 91–93; Figs 299–301) [L<sub>1</sub>, L<sub>2-3</sub>; LIT].
- Bembidion (Bracteon) levettei* Casey: Maddison (1993: 190; Figs 218, 231) [L<sub>1</sub>, L<sub>2</sub>; RR].
- Bembidion (Bracteon) lorquinii* Chaudoir: Maddison (1993: 173, 187–188; Fig. 216) [L<sub>1</sub>, L<sub>2</sub>; RR].
- Bembidion (Eurytrachelus) nitidum* (Kirby): Kirk (1972: 1355; Figs 26 [Pl. 3], 3–26) [L<sub>2-3</sub>; FC].
- Bembidion (Phyla) obtusum* Audinet-Serville†: Maddison (1993: Fig. 224).

- Bembidion* (*Peryphus*) *petrosus* Gebler: Andersen (1966: Fig. 43); Luff (1993: 91, 98; Figs 325, 326) [ $L_{1-3}$ ; ?].
- Bembidion* (*Leja*) *properans* (Stephens)†: Desender and Crappé (1983: 39, 46; Figs 1a-h, 2a-h, 3a-h) [ $L_{1-3}$ ; RR+FC].
- Bembidion* (*Bracteon*) *punctatostriatum* Say: Maddison (1993: 172, 185; Figs 194, 204, 215, 230, 237, 239, 241, 251, 254) [ $L_1$ ,  $L_2$ ; RR].
- Bembidion* (*Bembidion*) *quadrinaculatum* (Linnaeus): Kirk (1972: 1355; Figs 25 [Pl. 3], 3-25, as *B. quadrinaculatum*) [ $L_{1-3}$ ; FC].
- Bembidion* (*Notaphus*) *semipunctatum* (Donovan): Makarov (1994: Fig. 37).
- Bembidion* (*Plataphus*) *sulcipenne prasinoides* Lindroth: Lindroth (1955a: Fig. 15a, as *B. lenense*).
- Bembidion* (*Peryphus*) *tetracolum* Say†; Larsson (1941: 299, 300, as *B. ustulatum*; Fig. 33f) [ $L_{1-3}$ ; ?]; Sharova (1958: 49, as *B. ustulatum*; Fig. 108e) [ $L_{1-3}$ ; ?]; Sharova (1964: 159, as *B. ustulatum*; Fig. 143-9) [ $L_{1-3}$ ; ?]; Larsson (1968: 347, 349; Fig. 35f) [ $L_{1-3}$ ; ?]; Kirk (1972: 1355; Figs 27 [Pl. 3], 3-27) [ $L_{1-3}$ ; FC]; Smrž (1979: 247, 249; Figs 1, 4, 6, 7, 10, 12, 14, 15, 17, 19, 21, 24, 26, 27, 29, 31, 33, 35, 38, 39, 42, 44, 46, 47, 50, 52, 54, 56) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Luff (1993: 91, 97; Figs 320-324) [ $L_1$ ,  $L_{2-3}$ ; ?].
- Bembidion* (*Bracteon*) *zephyrum* Fall: Maddison (1993: 189; Fig. 217) [ $L_1$ ,  $L_2$ ; RR].
- Bembidion* sp. (Arkansas): Thompson (1979a: Figs a-b).
- Bembidion* sp.: Bousquet (2010a: Figs 475, 478, 480, 482).
- Elaphropus* (*Barytachys*) *anceps* (LeConte): Kirk (1972: 1355; Figs 24 [Pl. 2], 3-24) [ $L_{1-3}$ ; FC].
- Elaphropus* (*Tachyura*) *parvulus* (Dejean)†: Cerruti (1939: 121-123; Figs 1-3) [ $L_1$ ; RR]; van Emden (1942 : 31) [ $L_1$ ; LIT]; Luff (1993: 102; Figs 337-339) [ $L_1$ ; FC].
- Elaphropus* (*Barytachys*) *tripunctatus* (Say): Grebennikov and Maddison (2000: 237; Figs 8, 33) [ $L_1$ ,  $L_2$ ; RR].
- Elaphropus* (*Barytachys*) sp.: Bousquet (2010a: Figs 477, 484).
- Mioptachys flavicauda* (Say): Thompson (1979a: Figs 48); Grebennikov and Maddison (2000: 230; Figs 3, 12, 22, 40) [ $L_1$ ; RR]; Bousquet (2010a: Figs 476, 479, 481, 483).
- Phrypeus rickseckeri* (Hayward): Grebennikov and Maddison (2005: 43, 44; Figs 5-10) [ $L_1$ ; RR].
- Polyderis laeva* (Say): Grebennikov and Maddison (2000: 236; Figs 20, 30, 52) [ $L_2$ ; RR].
- Polyderis rufotestacea* (Hayward): ?Grebennikov and Maddison (2000: 236; Figs 6, 29) [ $L_1$ ; RR].
- Porotachys bisulcatus* (Nicolai)†: Grebennikov and Maddison (2000: 238; Figs 11, 17, 38, 39, 48, 56, 60) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Tachys* (*Tachys*) *halophilus* Lindroth: Grebennikov and Maddison (2000: 235; Fig. 19) [ $L_1$ ; RR].
- Tachyta* (*Tachyta*) *inornata* (Say): Erwin (1975: Figs 158, 160, 162, 164, 169, 171-173); Thompson (1979a: Figs 49a-d).

**POGONINI**

*Thalassotrechus barbarae* (Horn): Moore (1956: 215; Figs 1-7) [L<sub>2-3</sub>; FC]; Thompson (1979a: Figs a-g); Grebennikov and Bousquet (1999: 438; Figs 6, 13, 16, 20) [L<sub>1</sub>; RR].

**PATROBINI**

*Diplous (Platidius) aterrimus* (Dejean): Thompson (1979a: Figs a-c).

*Diplous (Platidius) rugicollis* (Randall): Bousquet (2010a: Figs 487, 490, 492).

*Patrobis foveocollis* (Eschscholtz): Bousquet and Goulet (1984: Figs 31, 53, 57).

*Patrobis longicornis* (Say): Schaupp (1882a: 56) [L<sub>2-3</sub>; FC]; Thompson (1979a: Figs 55a-d); Bousquet (2010a: Figs 485, 488, 489).

*Patrobis septentrionis* Dejean: Larsson (1941: 305, 306; Fig. 35b) [L<sub>1-3</sub>; ?]; Larsson and Gíjja (1959: 30) [L<sub>1-3</sub>; FC]; Larsson (1968: 356, 357; Fig. 38b) [L<sub>1-3</sub>; ?]; Houston and Luff (1975: 60, 64; Fig. 16) [L<sub>1</sub>, L<sub>2-3</sub>; FC]; Böcher (1988: Fig. 2); Arndt (1991b: 84, 85) [L<sub>1</sub>, L<sub>2-3</sub>; LIT]; Luff (1993: 79, 80; Figs 254-257) [L<sub>1</sub>, L<sub>2-3</sub>; ?].

*Platypatrobis lacustris* Darlington: Bousquet and Grebennikov (1999: 6, 8, 10; Figs 7-15) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].

**PSYDRINI**

*Nomius pygmaeus* (Dejean): Jeannel (1948b: 74, 75; Figs 1a-c) [L<sub>3</sub>; FC]; Hürka (1978: 54) [L<sub>1-3</sub>; LIT].

*Psydrus piceus* LeConte: Dajoz (1997b: 133-134; Figs 1-11) [L<sub>3</sub>; FC].

**METRIINI**

*Metrius contractus* Eschscholtz<sup>14</sup>: Bousquet and Goulet (1984: Figs 39, 44); Bousquet (1986: 375, 376; Figs 1-20) [L<sub>1</sub>; RR]; Luna de Carvalho (1989: 993; Figs 597a-j) [L<sub>1</sub>; LIT]; Luna de Carvalho (1992: 287, 288; Figs 1-9 [Pl. 1]) [L<sub>1</sub>; LIT]; Moore and Di Giulio (2006: 15) [L<sub>1-3</sub>; ?].

**OZAENINI**

*Goniotropis kuntzeni* Bänninger: Moore and Di Giulio (2006: 10-14, 16; Figs 9-36) [L<sub>1</sub>, L<sub>2</sub>; RR].

**BRACHININI**

*Brachinus (Neobrachinus) americanus* (LeConte): Thompson (1979a: Figs 86a-b).

*Brachinus (Neobrachinus) cyanipennis* Say: Clausen (1940: Figs 226a-c).

*Brachinus (Neobrachinus) janthinipennis* (Dejean): Wickham (1893b: 330-332; Figs 1-2 [Pl. 9]) [L<sub>1-3</sub>; FC]; Dimmock and Knab (1904: 31-34; Fig. 4; Figs 1-2 [Pl. 3]) [L<sub>1</sub>, L<sub>2-5</sub>; FC].

<sup>14</sup> The field-collected larvae described by Garner (1954: 211, 212; Pl. 13, Figs a-c) as *Metrius contractus* are obviously misidentified.

*Brachinus* (*Neobrachinus*) *pallidus* Erwin: Erwin (1967: 44-47; Figs 1-3 [Pl. 1]; Figs 1-6 [Pl. 2]; Figs 1-6 [Pl. 3]) [ $L_1$ ,  $L_2$ ,  $L_3$ ;  $L_{4-5}$ ; FC]; Thompson (1979a: Figs 85a-b).  
*Brachinus* (*Neobrachinus*) *sp.*: Bousquet and Goulet (1984: Figs 26, 38, 43, 55); Bousquet (1991a: Figs 34.90, 34.100); Bousquet (2010a: Figs 493-497).

#### MORIONINI

*Morion monilicornis* (Latreille): van Emden (1953a: 51, as *M. georgiae*) [ $L_{2-3}$ ; FC]; Thompson (1979b: 85, 86; Figs 48a-g) [ $L_{2-3}$ ; FC].

#### ABACETINI

*Loxandrus velocipes* Casey: Thompson (1979a: Figs a-d); Thompson (1979b: 53, 54; Figs 28a-d) [ $L_1$ ,  $L_{2-3}$ ; RR]; Bousquet (1985c: 200, 203, 207-208; Figs 14, 26) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 30, 33) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].

#### PTEROSTICHINI

*Abax* (*Abax*) *parallelepipedus* (Piller and Mitterpacher)†: Schiødte (1872: 179-180, as *Pterostichus striola*; Figs 3-8 [Pl. 1]) [ $L_{1-3}$ ; ?]; Larsson (1941: 330, as *A. ater*; Fig. 49g) [ $L_{1-3}$ ; ?]; van Emden (1942: Fig. 99, as *A. ater*); Jeannel (1942: Figs 251a-f); Sharova (1958: Figs 50a-e, *A. ater*); Sharova (1964: 168, as *A. ater*; Figs 108-1,2,3,4,5) [ $L_{1-3}$ ; ?]; Larsson (1968: 390, *A. ater*; Fig. 53g) [ $L_{1-3}$ ; ?]; Raynaud (1976d: 171, 172, 174, as *A. ater*; Figs 1-7 [Pl. 17B]) [ $L_3$ ; FC]; Bousquet (1985c: 200, 203, 221; Figs 17, 58, 65, 73, 84, 96) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 30, 33; Figs 33, 38) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Arndt (1989: 264-268; Figs 16-21) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR+FC]; Bousquet (1991a: Fig. 34.89); Arndt (1991b: 94; Fig. 14) [ $L_1$ ,  $L_{2-3}$ ; LIT]; Luff (1993: 104, 115; Figs 379-384) [ $L_1$ ,  $L_{2-3}$ ; ?]; Makarov (1994: Fig. 72); Bousquet (1999: Fig. 126); Bousquet (2010a: Figs 500, 526, 531).

*Cyclotrachelus* (*Evarthrus*) *alternans* (Casey): Kirk (1972: 1355; Figs 20 [Pl. 2], 3-20) [ $L_{1-3}$ ; FC]; Bousquet (2010a: Fig. 499).

*Cyclotrachelus* (*Evarthrus*) *parasodalis* (Freitag): Thompson (1979a: Figs 62a-c); Thompson (1979b: 52; Figs 26a-h) [ $L_3$ ; FC].

*Cyclotrachelus* (*Evarthrus*) *seximpressus* (LeConte): Thompson (1979b: 52; Figs 27a-g) [ $L_1$ ,  $L_{2-3}$ ; RR]; Bousquet (1985c: 200, 202, 222; Figs 18, 32, 66, 69, 74) [ $L_1$ ,  $L_2$ ; RR]; Bousquet (1989: 30, 33) [ $L_1$ ,  $L_2$ ; RR]; Bousquet (1999: Fig. 122).

*Cyclotrachelus* (*Evarthrus*) *torvus* (LeConte): Kirk (1972: 1355; Figs 21 [Pl. 2], 3-21) [ $L_1$ ; FC].

*Cyclotrachelus sp.*: Bousquet (2010a: Figs 509, 542, 546).

*Gastrellarius blanchardi* (Horn): Bousquet (1989: 29, 32, 33; Figs 5-7) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].

*Gastrellarius honestus* (Say): Bousquet (1985c: 200, 203, 224-225; Figs 19, 33, 34, 59, 75, 97) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 30, 33; Figs 15, 34) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: Figs 510, 533, 549).

*Lophoglossus haldemanni* (LeConte): Thompson (1979b: 57, 68, 69; Figs 37a-e) [ $L_1$ ,  $L_2$ ; RR].



- Lophoglossus scrutator* (LeConte): Bousquet (1985c: 200, 204, 211; Figs 15, 27, 28, 63, 71, 88) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 30, 34; Figs 8, 13, 32) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1999: Fig. 120); Bousquet (2010a: Figs 505, 506, 539).
- Myas* (*Trigonognatha*) *cyanescens* Dejean: Thompson (1979a: Figs a-b); Thompson (1979b: 54, 55; Figs 29a-g) [L<sub>3</sub>; FC]; Bousquet (1985c: 203, 219-220; Figs 31, 77, 95) [L<sub>3</sub>; FC]; Bousquet (1989: 33; Figs 14, 36) [L<sub>3</sub>; FC]; Makarov (1994: Figs 73, 76); Bousquet (1999: Fig. 125); Bousquet (2010a: Figs 501, 508, 550).
- Piesmus submarginatus* (Say): Bousquet (1999: 47, 48, 71, 72) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].
- Poecilus* (*Poecilus*) *chalcites* (Say): Kirk (1972: 1355; Figs 29 [Pl. 3], 3-29) [L<sub>1-3</sub>; FC]; Thompson (1979b: 55, 62, 63; Figs 33a-f) [L<sub>1</sub>, L<sub>2-3</sub>; RR]; Bousquet (1985c: 201, 204, 213-214; Figs 16, 57, 76, 93, 100) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 31, 34; Figs 9-10, 30) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1999: Figs 119, 123); Bousquet (2010a: 441; Figs 532, 547) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Poecilus* (*Poecilus*) *corvus* (LeConte): Thompson (1979b: 55, 65, 66; Figs 35a-h) [L<sub>1</sub>, L<sub>2</sub>; RR].
- Poecilus* (*Poecilus*) *lucublandus* (Say): Schaupp (1881a: 88, 89; Figs Di-v) [L<sub>3</sub>; FC]; van Emden (1942: Fig. 23); Larsson (1968: Fig. 54c); Kirk (1972: 1355; Figs 28 [Pl. 3], 3-28) [L<sub>1-3</sub>; FC]; Thompson (1979b: 55, 74, 75; Figs 41a-g) [L<sub>1</sub>, L<sub>2-3</sub>; RR]; Bousquet (1985c: 201, 204, 212-213; Fig. 29) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 31, 34) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 441; Fig. 498) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Poecilus* (*Derus*) *nearcticus* (Lindroth): Bousquet (1999: 65) [L<sub>2</sub>, L<sub>3</sub>; FC].
- Poecilus* (*Poecilus*) *sp.*: Dogger and Olson (1966: 93, 94, as *Micromaseus femoralis*; Figs 1-2) [L<sub>3</sub>; FC].
- Pterostichus* (*Hypherpes*) *adoxus* (Say): Bousquet (1985c: 200, 203, 246; Figs 55, 99) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 30, 34) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 444; Fig. 523) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus* (*Bothriopterus*) *adstrictus* Eschscholtz: Larsson and Gígja (1959: 37) [L<sub>1-3</sub>; FC]; Goulet (1974a: 21, 22) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Thompson (1979b: 56, 59; Figs 30a-c) [L<sub>1</sub>, L<sub>2-3</sub>; RR]; Bousquet (1985c: 202, 205, 234) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 32, 35) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1991a: Fig. 34.103); Luff (1993: 107, 109) [L<sub>1-3</sub>; ?]; Bousquet (2010a: 445) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus* (*Hypherpes*) *algidus* LeConte: Thompson (1979b: 56, 59, 60; Figs 31a-h) [L<sub>1</sub>, L<sub>2-3</sub>; RR].
- Pterostichus* (*Hypherpes*) *amethystinus* Mannerheim: Thompson (1979b: 57, 61, 62; Figs 32a-e) [L<sub>1</sub>, L<sub>2-3</sub>; RR].
- Pterostichus* (*Cryobius*) *arcticola* (Chaudoir): Bousquet (1985c: 202, 206, 249) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 32, 37) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 447) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus* (*Cryobius*) *brevicornis* (Kirby): Bousquet (1985c: 202, 203, 248; Fig. 98) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 32, 33) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 444; Fig. 553) [L<sub>2</sub>, L<sub>3</sub>; RR].

- Pterostichus (Melanius) castor* Goulet and Bousquet: Bousquet (1985c: 202, 206, 237) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 33, 36) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 446) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus (Lamenius) caudicalis* (Say): Bousquet (1985c: 201, 206, 235; Figs 24, 42, 91) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 31, 36; Fig. 12) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 446; Figs 515, 529) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus (Argutor) commutabilis* (Motschulsky): Bousquet (1985c: 202, 206, 225-226, as *P. leconteianus*; Fig. 35) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 32, 36, as *P. leconteianus*; Fig. 16) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 446, 447; Fig. 511) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus (Euferonia) coracinus* (Newman): Bousquet (1985c: 201, 205, 242-243; Figs 62, 81) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 31, 35; Fig. 20) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 446; Fig. 534) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus (Melanius) corvinus* (Dejean): Thompson (1979b: 56, 65; Figs 34a-g) [L<sub>1</sub>, L<sub>2-3</sub>; RR+FC]; Bousquet (1985c: 202, 206, 236; Figs 43, 44, 86, 92) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 33, 36; Fig. 28) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 446; Figs 516, 530, 538) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus (Monoferonia) diligendus* (Chaudoir): Bousquet (1985c: 202, 206, 239; Figs 1-13, 48, 70, 82, 87) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 32, 36; Figs 21, 29, 31) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1991a: Figs 34.74, 34.81); Bousquet (2010a: 446; Figs 502, 503, 537, 545, 551) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus (Phonias) femoralis* (Kirby): Bousquet (1985c: 201, 204, 227-228) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 31, 34) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 444, 445) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus (Euferonia) lachrymosus* (Newman): Thompson (1979b: 56, 71; Figs 38a-g) [L<sub>1</sub>, L<sub>3</sub>; RR]; Bousquet (1985c: 201, 205, 241-242; Figs 51, 61) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 31, 35; Fig. 19) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 446; Figs 520, 535) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus (Hypherpes) lama* (Ménétriés): Thompson (1979b: 56, 71, 72; Figs 39a-f) [L<sub>3</sub>; FC].
- Pterostichus (Pseudomaseus) luctuosus* (Dejean): Thompson (1979b: 56, 74; Figs 40a-g) [L<sub>1</sub>, L<sub>2-3</sub>; RR]; Bousquet (1985c: 201, 204, 238; Figs 45-47, 68) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 31, 34; Fig. 27) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (2010a: 444; Figs 517, 518, 544) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Pterostichus (Morphnosoma) melanarius* (Illiger)†: Schiødte (1867: 511) [L<sub>1-3</sub>; ?]; Rupertsberger (1872: 573-575) [L<sub>3</sub>; FC]; van Emden (1936b: Fig. 1, as *P. vulgaris*); Larsson (1941: 326-328, as *P. vulgaris*; Fig. 49d) [L<sub>1-3</sub>; ?]; Sharova (1958: 64, as *P. vulgaris*; Figs 120aa, 123f) [L<sub>1-3</sub>; ?]; Sharova (1964: 175, as *P. vulgaris*; Figs 150-24, 154-6) [L<sub>1-3</sub>; ?]; Larsson (1968: 384, 387, as *P. vulgaris*; Fig. 53d) [L<sub>1-3</sub>; ?]; Haberman (1968: 461; Fig. 275.11, 276.9) [L<sub>2-3</sub>; ?]; Thompson (1979b: 56, 77; Figs 42a-f) [L<sub>2-3</sub>; FC]; Bousquet (1985c: 201, 205, 241; Figs 50, 80, 85) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Bousquet (1989: 31, 35) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Arndt (1991b: 89, 93) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Arndt and Hürka (1992a: 106; Figs 7, 10) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Luff (1993: 108, 111;

- Figs 364–366) [ $L_1$ ,  $L_{2-3}$ ; ?]; Arndt and Hürka (1993: 45, 48) [ $L_1$ ,  $L_{2-3}$ ; ?]; Bousquet (2010a: 445; Figs 519, 525) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Eosteropus) moestus* (Say): Bousquet (1984b: 1616; Figs 7–12) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 31, 35, 36; Figs 22, 35) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Bothriopterus) mutus* (Say): Schaupp (1881a: 89; Figs Ei–v) [ $L_3$ ; FC]; Bousquet (1985c: 201, 204, 232; Figs 22, 40, 78) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 32, 35) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 445) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Phonias) patruelis* (Dejean): Thompson (1979b: 56, 77, 78; Figs 43a–f) [ $L_1$ ,  $L_{2-3}$ ; RR]; Bousquet (1985c: 201, 204, 227; Figs 21, 38, 39, 67, 89) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 31, 34; Figs 11, 25–26) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1999: Fig. 121); Bousquet (2010a: 444, 445; Figs 513, 514, 528, 543) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Bothriopterus) pensylvanicus* LeConte: Goulet (1974a: 19) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Thompson (1979b: 55, 80; Figs 44a–d) [ $L_1$ ,  $L_{2-3}$ ; RR+FC]; Bousquet (1985c: 202, 205, 233; Figs 23, 41, 79, 90) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 32, 35; Fig. 24) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 445; Fig. 527) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Abacidus) permundus* (Say): Kirk (1972: 1355; Figs 17 [Pl. 2], 3–17) [ $L_1$ ; FC]; Thompson (1979a: Fig. 61); Thompson (1979b: 49, 50; Figs 25a–g) [ $L_1$ ,  $L_3$ ; RR]; Bousquet (1985c: 200, 240; Figs 25, 49, 60) [ $L_1$ ; RR]; Bousquet (1989: 30; Fig. 18) [ $L_1$ ; RR]; Bousquet (2010a: Fig. 524).
- Pterostichus (Cryobius) pinguedineus* (Eschscholtz): Bousquet (1985c: 202, 205, 206, 248–249; Figs 56, 83) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 32, 37) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 446, 447; Fig. 504) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Lenapterus) punctatissimus* (Randall): Thompson (1979b: 56, 80, 81; Figs 45a–i) [ $L_1$ ,  $L_{2-3}$ ; RR]; Bousquet (1985c: 202, 205, 244; Figs 52, 53) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 33, 35) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 445; Fig. 521) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Cylindrocharis) rostratus* (Newman): Bousquet (1985c: 202, 206, 245; Fig. 54) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 32, 36) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 446; Fig. 522) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Leptoferonia) sphodrinus* LeConte: Thompson (1979b: 57, 83, 84; Figs 47a–h) [ $L_1$ ,  $L_{2-3}$ ; RR].
- Pterostichus (Phonias) strenuus* (Panzer)†: Larsson (1941: 325, 329; Fig. 48b) [ $L_{1-3}$ ; ?]; Sharova (1958: 62; Fig. 120s) [ $L_{1-3}$ ; ?]; Sharova (1964: 173; Fig. 150–16) [ $L_{1-3}$ ; ?]; Larsson (1968: 383, 388, 389) [ $L_{1-3}$ ; ?]; Haberman (1968: 460; Fig. 276.2) [ $L_{2-3}$ ; ?]; Desender and Panné (1983: 139, 141–143; Figs 1, 2a–g, 3a–g, 4a–h) [ $L_1$ ,  $L_{2-3}$ ; RR]; Bousquet (1985c: 202, 206, 226–227; Figs 20, 36, 37) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 32, 36; Fig. 17) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Arndt (1991b: 90, 92; Fig. 85) [ $L_1$ ,  $L_{2-3}$ ; ?]; Arndt and Hürka (1992b: 264; Figs 26, 27) [ $L_1$ ,  $L_{2-3}$ ; RR]; Luff (1993: 108, 113; Figs 373, 374) [ $L_{1-3}$ ; ?]; Arndt and Hürka (1993: 46, 48) [ $L_1$ ,  $L_{2-3}$ ; RR]; Makarov (1996: Figs 27, 53); Bousquet (2010a: 446, 447; Fig. 512) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Euferonia) stygicus* (Say): Dimmock and Knab (1904: 41–43; Fig. 3; Figs 1, 4 [Pl. 4]); Thompson (1979a: Fig. 60); Bousquet (1985c: 201, 205, 243) [ $L_1$ ,

- $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 31, 35) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 446) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Eosteropus) superciliosus* (Say): Bousquet (1984b: 1616) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR+FC]; Bousquet (1989: 31, 36; Fig. 23) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR+FC].
- Pterostichus (Pseudomaseus) tenuis* (Casey): Bousquet (1985c: 201, 204, 238) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 31, 34) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 444) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Bothriopterus) trinarius* (Casey, 1918): Bousquet (1989: 27-28, 32, 35, as *P. ohionis*; Figs 1-4) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Hypherpes) tristis* (Dejean): Dimmock and Knab (1904: 46-47, as *P. adoxus*; Fig. 6 [Pl.4]); Bousquet (1985c: 200, 203, 246-247) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 30, 34) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (2010a: 444) [ $L_2$ ,  $L_3$ ; RR].
- Pterostichus (Argutor) vernalis* (Panzer)†: Larsson (1941: 326, 327; Figs 48d, 49c) [ $L_{1-3}$ ; ?]; Sharova (1958: 64; Fig. 120ab) [ $L_{1-3}$ ; ?]; Sharova (1964: 175; Fig. 150-25) [ $L_{1-3}$ ; ?]; Larsson (1968: 383, 386; Figs 52b, 53c) [ $L_{1-3}$ ; ?]; Haberman (1968: 460; Fig. 276.10) [ $L_{2-3}$ ; ?]; Desender and Panné (1983: 139, 141-143; Figs 5a-g, 6a-g, 7a-h, 8) [ $L_1$ ,  $L_{2-3}$ ; RR]; Arndt (1991b: 90, 93) [ $L_1$ ,  $L_{2-3}$ ; ?]; Arndt and Hürka (1992b: 263) [ $L_1$ ,  $L_{2-3}$ ; RR]; Luff (1993: 108, 109; Figs 357, 358) [ $L_1$ ,  $L_{2-3}$ ; ?]; Arndt and Hürka (1993: 46, 48) [ $L_1$ ,  $L_{2-3}$ ; RR].
- Stereocerus haematopus* (Dejean): Thompson (1979b: 56, 68; Figs 36a-h) [ $L_1$ ,  $L_{2-3}$ ; RR+FC]; Bousquet and Goulet (1984: Fig. 58); Bousquet (1985c: 201, 203, 214-219; Figs 30, 64, 72, 94) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1989: 31, 33; Fig. 37) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bousquet (1999: Fig. 124); Bousquet (2010a: Figs 507, 540, 548).
- Stomis (Stomis) pumicatus* (Panzer)†: Luff (1993: 106; Figs 350-352) [ $L_{2-3}$ ; RR+FC]; Zetto Brandmayr and Marano (1994: 30-32; Figs 1-6 [Pl. 4], Figs 1-10 [Pl. 5]) [ $L_1$ ,  $L_2$ ,  $L_3$ ; FC].

## ZABRINI

- Amara (Amara) aenea* (DeGeer)†: Boldori (1935: 150-151; Figs 1, 6) [ $L_1$ ; RR]; Scatizzi Branchini (1938: 216-220; Fig. 1) [ $L_1$ ; RR]; Larsson (1941: 333, 335) [ $L_{1-3}$ ; ?]; Sharova (1958: 68) [ $L_{1-3}$ ; ?]; Sharova (1964: 180) [ $L_{1-3}$ ; ?]; Larsson (1968: 395, 397) [ $L_{1-3}$ ; ?]; Haberman (1968: 394) [ $L_{2-3}$ ; ?]; Raynaud (1976b: 24; Figs 17-20 [Pl. 8]) [ $L_3$ ; FC]; Desender (1988: 154, 158; Figs 1-7 [Pl. 1], 1-7 [Pl. 2], 1-7 [Pl. 3]) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR+FC]; Arndt (1991b: 109) [ $L_1$ ,  $L_{2-3}$ ; ?]; Luff (1993: 133, 134, 136; Fig. 440) [ $L_1$ ,  $L_{2-3}$ ; ?]; Saska (2004: 198, 200, 232, 233; Figs 1, 11, 12, 15, 16, 26, 33, 39, 40, 42, 44, 46, 49-51, 57-61, 71, 73, 78, 83-84, 89, 93, 102, 111, 113, 115-117, 124-126, 128) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Amara (Curtonotus) alpina* (Paykull): Forsskåhl (1966: 29, 31; Figs 1-7) [ $L_{2-3}$ ; FC]; Luff (1993: 133, 143) [ $L_{1-3}$ ; LIT].
- Amara (Amara) anthobia* Villa and Villa†: Saska (2004: 200, 202, 232, 233; Figs 18, 27, 52, 62, 91) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Amara (Bradytus) apricaria* (Paykull)†: Schiødte (1867: 530) [ $L_{1-3}$ ; ?]; Xambeu (1892: 13, 14) [ $L_{1-3}$ ; FC]; Larsson (1941: 333, 336; Fig. 52i) [ $L_{1-3}$ ; ?]; Sharova (1958: 69;

- Figs 54, 58, 126b) [ $L_{2-3}$ ; ?]; Sharova (1964: 181; Figs 110-2, 112, 158-9) [ $L_{1-3}$ ; ?]; Larsson (1968: 393, 400; Fig. 57i) [ $L_{1-3}$ ; ?]; Haberman (1968: 426; Figs 114.4, 114.6, 240.2, 240.10, 240.16) [ $L_{2-3}$ ; ?]; Hůrka and Ducháč (1980a: 167, 169, 181; Figs 1-19) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Arndt (1991b: 106, 107; Fig. 103) [ $L_1$ ,  $L_{2-3}$ ; LIT]; Luff (1993: 132, 141; Figs 448-451) [ $L_1$ ,  $L_{2-3}$ ; ?].
- Amara (Curtonotus) aulica* (Panzer)†: Larsson (1941: 333, 334; Fig. 52a) [ $L_{1-3}$ ; ?]; Sharova (1958: 66; Figs 125, 127c) [ $L_{1-3}$ ; ?]; Sharova (1964: 178; Figs 157, 158-3) [ $L_{1-3}$ ; ?]; Larsson (1968: 394, 395; Fig. 57a) [ $L_{1-3}$ ; ?]; Haberman (1968: 432; Figs 240.1, 240.6) [ $L_{2-3}$ ; ?]; Bílý (1975: Fig. 12-4); Hůrka and Ducháč (1980b: 259-261, 263, 269, 352; Figs 1-18, 29) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Arndt (1991b: 108, 109) [ $L_1$ ,  $L_{2-3}$ ; LIT]; Luff (1993: 133, 142, 143; Figs 456-461) [ $L_1$ ,  $L_{2-3}$ ; ?]; Zetto Brandmayr *et al.* (1995: 196) [ $L_{1-3}$ ; ?]; Makarov and Brinev (2001: Fig. 75).
- Amara (Bradytus) avida* (Say): Bousquet (2010a: Figs 555, 558, 561, 563).
- Amara (Celia) bifrons* (Gyllenhal)†: Schiødte (1867: 530, as *A. livida*) [ $L_{1-3}$ ; ?]; Larsson (1941: 333, 336; Fig. 52h) [ $L_{1-3}$ ; ?]; Sharova (1958: 67; Figs 127e, 129b) [ $L_{1-3}$ ; ?]; Sharova (1964: 179; Figs 158-5, 159-2) [ $L_{1-3}$ ; ?]; Larsson (1968: 393, 399; Fig. 57h) [ $L_{1-3}$ ; ?]; Haberman (1968: 414; Figs 240.8, 240.11) [ $L_{2-3}$ ; ?]; Bílý (1975: 35-36, 62; Fig. 5) [ $L_2$ ,  $L_3$ ; RR]; Raynaud (1976b: 23, 24; Figs 14-16 [Pl. 8]) [ $L_3$ ; FC]; Thompson (1979b: 87-89; Figs 49a-f) [ $L_2$ ; FC]; Arndt (1991b: 107, 108) [ $L_1$ ,  $L_{2-3}$ ; LIT]; Luff (1993: 133, 140; Fig. 445) [ $L_1$ ,  $L_{2-3}$ ; ?]; Makarov (1994: Fig. 54).
- Amara (Celia) brunnea* (Gyllenhal): Larsson (1941: 332, 336) [ $L_{1-3}$ ; ?]; Sharova (1958: 67) [ $L_{1-3}$ ; ?]; Sharova (1964: 179) [ $L_{1-3}$ ; ?]; Larsson (1968: 394, 399) [ $L_{1-3}$ ; ?]; Bílý (1975: Fig. 12-3); Arndt (1991b: 106) [ $L_{1-3}$ ; ?]; Luff (1993: 132, 141; Figs 446, 447) [ $L_{1-3}$ ; ?]; Makarov (1996: Fig. 30); Makarov and Brinev (2001: Fig. 68).
- Amara (Curtonotus) carinata* (LeConte): Kirk (1972: 1355; Figs 14 [Pl. 2], 3-14) [ $L_{1-3}$ ; FC]; Thompson (1979b: 87, 89; Figs 50a-h) [ $L_1$ ,  $L_{2-3}$ ; RR].
- Amara (Amara) communis* (Panzer)†: Larsson (1941: 333, 335; Fig. 52c) [ $L_{1-3}$ ; ?]; Sharova (1958: 68) [ $L_{1-3}$ ; ?]; Sharova (1964: 180) [ $L_{1-3}$ ; ?]; Larsson (1968: 394, 396; Fig. 57c) [ $L_{1-3}$ ; ?]; Haberman (1968: 394) [ $L_{2-3}$ ; ?]; Arndt (1991b: 109, 110) [ $L_1$ ,  $L_{2-3}$ ; ?]; Luff (1993: 134, 135; Figs 435, 436) [ $L_1$ ,  $L_{2-3}$ ; ?]; Hůrka and Růžicková (1999: 452, 457, 461; Figs 9-19) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Amara (Amara) cupreolata* Putzeys: Dogger and Olson (1966: 94, 95; Figs 3-4) [ $L_3$ ; FC].
- Amara (Amarocelia) erratica* (Duftschmid): Xambeu (1903: 8-9) [ $L_{1-3}$ ; FC]; Sharova (1958: 68) [ $L_{1-3}$ ; ?]; Sharova (1964: 180) [ $L_{1-3}$ ; ?]; Haberman (1968: 414) [ $L_{2-3}$ ; ?]; Bílý (1971: 89-93; Figs 1-15) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Bílý (1975: 48-49, 60, 62; Figs 11, 12-1) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Arndt (1991b: 107, 108, 110) [ $L_1$ ,  $L_{2-3}$ ; LIT]; Luff (1993: 134, 140) [ $L_{1-3}$ ; LIT]; Zetto Brandmayr *et al.* (1995: 196) [ $L_{1-3}$ ; ?].
- Amara (Amara) eurynota* (Panzer)†: Larsson (1941: 334; Fig. 52b) [ $L_{1-3}$ ; ?]; Sharova (1958: 68; Fig. 129d) [ $L_{1-3}$ ; ?]; Sharova (1964: 179; Fig. 159-4) [ $L_{1-3}$ ; ?]; Larsson (1968: 393, 394, 396; Fig. 57b) [ $L_{1-3}$ ; ?]; Haberman (1968: 394; Fig. 240.12) [ $L_{2-3}$ ; ?]; Bílý (1972: 324-328; Figs 1-19) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Raynaud (1976b: 22, 23; Figs



- 7-13 [Pl. 8]) [ $L_3$ ; FC]; Arndt (1991*b*: 109, 110; Figs 102, 144) [ $L_1$ ,  $L_{2-3}$ ; ?]; Luff (1993: 133, 136) [ $L_1$ ,  $L_{2-3}$ ; LIT].
- Amara (Bradytus) exarata* Dejean: Kirk (1972: 1355; Figs 12 [Pl. 1], 3-12) [ $L_{1-3}$ ; FC]; Thompson (1979*b*: 87, 91; Figs 51a-f) [ $L_1$ ,  $L_{2-3}$ ; RR+FC].
- Amara (Amara) familiaris* (Duftschmid)†: Schiødte (1867: 531) [ $L_{1-3}$ ; ?]; Beling (1877: 45-47) [ $L_{1-3}$ ; ?]; Larsson (1941: 333, 335; Fig. 52e) [ $L_{1-3}$ ; ?]; Sharova (1958: 67; Fig. 129a) [ $L_{1-3}$ ; ?]; Sharova (1964: 178; Fig. 159-1) [ $L_{1-3}$ ; ?]; Larsson (1968: 393, 397; Fig. 57e) [ $L_{1-3}$ ; ?]; Haberman (1968: 394; Fig. 240.14) [ $L_{2-3}$ ; ?]; Desender (1988: 159; Figs 1-7 [Pl. 4], 1-7 [Pl. 5], 1-7 [Pl. 6]) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR+FC]; Arndt (1991*b*: 109; Fig. 104) [ $L_1$ ,  $L_{2-3}$ ; ?]; Luff (1993: 132, 137; Fig. 441) [ $L_1$ ,  $L_{2-3}$ ; ?]; Saska (2004: 202, 204, 232, 233; Figs 5, 17, 35, 63, 72, 90, 103, 122, 129, 137) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Amara (Amarocelia) farcta* LeConte: Kirk (1972: 1355; Figs 13 [Pl. 2], 3-13) [ $L_{2-3}$ ; FC]; Thompson (1979*b*: 87, 91, 92; Figs 52a-f) [ $L_1$ ,  $L_{2-3}$ ; RR].
- Amara (Bradytus) fulva* (Müller)†: Boldori (1935: 151; Figs 3, 5) [ $L_1$ ; RR]; Larsson (1941: 333, 336) [ $L_{1-3}$ ; ?]; van Emden (1942: Fig. 10); Sharova (1958: 70; Fig. 130) [ $L_{1-3}$ ; ?]; Sharova (1964: 180; Fig. 160) [ $L_{2-3}$ ; ?]; Larsson (1968: 393, 400, 401) [ $L_{2-3}$ ; ?]; Haberman (1968: 426; Fig. 240.3) [ $L_{2-3}$ ; ?]; Raynaud (1976*b*: 20, 22; Figs 1-6 [Pl. 8]) [ $L_3$ ; FC]; Hůrka and Ducháč (1980*a*: 173, 174, 176, 181; Figs 20-33, 670) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Arndt (1991*b*: 106, 107) [ $L_1$ ,  $L_{2-3}$ ; LIT]; Luff (1993: 132, 141, 142; Figs 452, 453) [ $L_1$ ,  $L_{2-3}$ ; ?].
- Amara (Amara) impuncticollis* (Say): Thompson (1979*a*: Figs 66a-c); Thompson (1979*b*: 87, 93, 94; Figs 53a-c) [ $L_3$ ; RR].
- Amara (Amara) littoralis* Dejean: Thompson (1979*b*: 87, 94; Figs 54a-f) [ $L_1$ ,  $L_2$ ; RR].
- Amara (Amara) lunicollis* Schiødte: Larsson (1941: 333, 335; Figs 52d, 53) [ $L_{1-3}$ ; ?]; Sharova (1958: 66; Fig. 128) [ $L_{1-3}$ ; ?]; Sharova (1964: 178; Fig. 158-7) [ $L_{1-3}$ ; ?]; Larsson (1968: 394, 396, 397; Figs 57d, 58) [ $L_{1-3}$ ; ?]; Haberman (1968: 394; Fig. 240.9) [ $L_{2-3}$ ; ?]; Luff (1993: 132, 135; Figs 437-439) [ $L_{1-3}$ ; ?]; Saska (2004: 206, 208, 232, 233; Figs 2, 19, 32, 34, 48, 55, 64, 76, 79, 104, 114, 119, 130, 135) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR].
- Amara (Celia) musculus* (Say): Bousquet (2010*a*: Figs 557, 560, 565).
- Amara (Percosia) obesa* (Say): Riley *et al.* (1878: 291, 292; Figs 25a,d-g) [ $L_{2-3}$ ; FC]; Lugger (1899: Figs 20a,d-g); Kirk (1972: 1355; Figs 11 [Pl. 1], 3-11) [ $L_{1-3}$ ; FC]; Bousquet (2010*a*: Figs 556, 559, 564).
- Amara (Amara) ovata* (Fabricius)†: Arndt (1991*b*: 110) [ $L_{2-3}$ ; ?]; Makarov and Brinev (2001: Fig. 74).
- Amara (Paracelia) quenseli* (Schönherr): Sharova (1958: 67; Fig. 127d) [ $L_{1-3}$ ; ?]; Larsson and Gígja (1959: 42, 43) [ $L_{1-3}$ ; FC]; Sharova (1964: 179; Fig. 158-4) [ $L_{1-3}$ ; ?]; Larsson (1968: 393, 399) [ $L_{1-3}$ ; ?]; Haberman (1968: 414; Fig. 240.7) [ $L_{2-3}$ ; ?]; Bílý (1975: 51-54, 60, 61; Figs 8-10) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Arndt (1991*b*: 106) [ $L_{1-3}$ ; ?]; Luff (1993: 132, 139; Figs 46, 443, 444) [ $L_1$ ,  $L_{2-3}$ ; ?]; Zetto Brandmayr *et al.* (1995: 193) [ $L_{1-3}$ ; ?].
- Amara (Curtonotus) sp.*: Bousquet (2010*a*: Figs 554, 562).

**OODINI**

*Lachnocrepis parallela* (Say): Bousquet (2010a: Figs 566, 569).

*Oodes americanus* Dejean: Thompson (1979a: Figs 75a-c).

*Oodes fluvialis* LeConte: Bousquet (2010a: Figs 567, 568).

*Oodes* sp.: Chu (1945: 29, 30; Figs 6, 75, 79) [L<sub>2-3</sub>; FC].

**CHLAENIINI**

*Chlaenius* (*Lithochlaenius*) *cordicollis* Kirby: Schaupp (1880b: 26; Figs Bi-viii, as *C. leucoscelis*) [L<sub>3</sub>; FC]; Bousquet and Goulet (1984: Figs 34, 41); Bousquet (2010a: Fig. 574).

*Chlaenius* (*Chlaeniellus*) *impunctifrons* Say: Claassen (1919: 97-99, Figs 3, 4, 7 [Pl. 6]) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].

*Chlaenius* (*Chlaenius*) *laticollis* Say: Schaupp (1880a: 17-18) [L<sub>2-3</sub>; FC].

*Chlaenius* (*Agostenus*) *niger* Randall: Makarova (2001: 302-305) [L<sub>2</sub>; RR].

*Chlaenius* (*Chlaeniellus*) *pennsylvanicus* Say: Chu (1945: 21, 24, 25; Figs 5, 8, 14, 17, 18) [L<sub>3</sub>; FC].

*Chlaenius* (*Chlaenius*) *platyderus* Chaudoir: Kirk (1972: 1355; Figs 8 [Pl. 1], 3-8) [L<sub>2-3</sub>; FC].

*Chlaenius* (*Lithochlaenius*) *prasinus* Dejean: Thompson and Allen (1974: 196-199; Figs 4a-c) [L<sub>3</sub>; FC]; Thompson (1979a: Fig. 74).

*Chlaenius* (*Chlaenius*) *sericeus* (Forster): Wickham (1895b: 763, 764) [L<sub>3</sub>; FC]; Boldori (1940: 285) [L<sub>1-3</sub>; LIT]; ?van Emden (1942: Figs 62, 79); Chu (1945: 22, 28, 29; Figs 2, 15, 16, 47) [L<sub>2-3</sub>; FC]; Kirk (1972: 1355; Figs 9 [Pl. 1], 3-9) [L<sub>2-3</sub>; FC]; Bousquet (2010a: Fig. 571).

*Chlaenius* (*Eurydactylus*) *tomentosus* (Say): Kirk (1972: 1355; Figs 10 [Pl. 1], 3-10) [L<sub>1-3</sub>; FC]; Thompson (1979a: Figs 73a-d); Bousquet (2010a: Figs 570, 575).

*Chlaenius* (*Chlaeniellus*) *tricolor* Dejean: Chu (1945: 21, 25, 26; Figs 4, 11, 13) [L<sub>3</sub>; FC]; Bousquet (2010a: Figs 572, 573, 576).

**LICININI**

*Badister* sp.: Bousquet (2010a: Figs 579-581, 583, 585).

*Dicaelus* (*Paradicaelus*) *dilatatus* Say: Schaupp (1878a: 3; Fig. 1) [L<sub>3</sub>; FC]; Schaupp (1879: 14) [L<sub>3</sub>; LIT].

*Dicaelus* (*Paradicaelus*) *elongatus* Bonelli: Schaupp (1878b: 43) [L<sub>3</sub>; FC]; Schaupp (1879: 14) [L<sub>3</sub>; LIT].

*Dicaelus* (*Paradicaelus*) *politus* Dejean: Schaupp (1878c: 44) [L<sub>3</sub>; FC]; Bousquet (2010a: Figs 577, 582, 584).

*Dicaelus* (*Dicaelus*) *purpuratus* Bonelli: Dimmock and Knab (1904: 21-26; Figs 1-2 [Pl. 1], Figs 1-10 [Pl. 2]) [L<sub>3</sub>; FC].

*Dicaelus* (*Dicaelus*) *purpuratus splendidus* Say: Wickham (1893a: 195-197; Figs 1, 1c-e) [L<sub>3</sub>; FC].

*Dicaelus* (*Paradicaelus*) *sculptilis* Say: Kirk (1972: 1355; Figs 19 [Pl. 2], 3-19) [L<sub>2-3</sub>; FC]; Thompson (1979a: Figs a-c).

- Dicaelus* sp.: Horn (1878a: 37-39; Figs 5a-e [Pl. II]) [L<sub>2-3</sub>; FC]; Schaupp (1879: 14) [L<sub>3</sub>; LIT]; Beutel (1992c: Figs 9, 10).
- Diplocheila* (*Isorembus*) *impressicollis* (Dejean): van Emden (1942: Fig. 15, as *Rembus laticollis*); ?Bousquet (2010a: 465) [L<sub>2</sub>, L<sub>3</sub>; FC].
- Diplocheila* (*Isorembus*) *obtusa* (LeConte): Bousquet (2010a: 465; Figs 578, 586) [L<sub>3</sub>; FC].
- Diplocheila* (*Isorembus*) *striatopunctata* (LeConte): Bousquet and Goulet (1984: Fig. 33); Bousquet (1991a: Fig. 34.83); Makarov (1994: Fig. 62); Bousquet (2010a: 465) [L<sub>2</sub>, L<sub>3</sub>; FC].

## HARPALINI

- Acupalpus* (*Acupalpus*) *meridianus* (Linnaeus)†: Larsson (1941: 350; Figs 60d, 62c) [L<sub>1-3</sub>; ?]; Sharova (1958: Figs 133f, 134b); Sharova (1964: Figs 161-6, 162-1); Larsson (1968: 420; Figs 66d, 68c) [L<sub>1-3</sub>; ?]; Haberman (1968: Figs 206.15, 207.2); Arndt (1991a: 50; Fig. 5.9) [L<sub>2</sub>; RR]; Arndt (1991b: 121; Fig. 120) [L<sub>1-3</sub>; ?]; Luff (1993: 159; Fig. 510) [L<sub>1-3</sub>; RR].
- Agonoleptus conjunctus* (Say): Chu (1945: 22, 49, 50; Figs 54, 63, 64) [L<sub>3</sub>; FC]; Bousquet (2010a: Figs 596, 621).
- Amphasia* (*Amphasia*) *interstitialis* (Say): van Emden (1942: Fig. 12); Chu (1945: 46-47; Figs 36, 67, 68) [L<sub>2-3</sub>; FC]; Bousquet and Tchang (1992: Figs 4, 13, 21); Bousquet (2010a: Fig. 599).
- Anisodactylus* (*Anisodactylus*) *binotatus* (Fabricius)†: Rupertsberger (1872: 576) [L<sub>3</sub>; FC]; Xambeu (1911: 70, 71) [L<sub>1-3</sub>; FC]; Bøving (1911: 163-169, 172-178; Figs 6, 12, 17, 21 [Pl. 6]) [L<sub>2-3</sub>; FC]; Larsson (1941: 342; Fig. 57a) [L<sub>1-3</sub>; ?]; Jeannel (1942: Figs 217a-h); Sharova (1958: 76; Fig. 133n) [L<sub>1-3</sub>; ?]; Sharova (1964: 187; Fig. 161-12) [L<sub>1-3</sub>; ?]; Larsson (1968: 414, 415; Fig. 65a) [L<sub>1-3</sub>; ?]; Haberman (1968: Fig. 206.19); Arndt (1991b: 112) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Luff (1993: 152, 153; Figs 493-496) [L<sub>1</sub>, L<sub>2-3</sub>; ?].
- Anisodactylus* (*Anisodactylus*) *californicus* Dejean: Chu (1945: 22, 44; Figs 39, 65, 66) [L<sub>2-3</sub>; FC].
- Anadaptus* (*Anadaptus*) *discoideus* Dejean: Dogger and Olson (1966: 95, 96; Figs 5-6) [L<sub>3</sub>; FC].
- Anisodactylus* (*Anisodactylus*) *harrisii* LeConte: Bousquet and Tchang (1992: Figs 23, 30).
- Anisodactylus* (*Anisodactylus*) *kirbyi* Lindroth: Bousquet and Tchang (1992: Figs 16, 40); Bousquet (2010a: Figs 602, 619).
- Anisodactylus* (*Gynandrotarsus*) *merula* (Germar): Bousquet and Tchang (1992: Figs 9, 24); Bousquet (2010a: Figs 592, 612, 618).
- Anisodactylus* (*Anisodactylus*) *nigrita* Dejean: Bousquet and Goulet (1984: Fig. 32); Bousquet (1991a: Fig. 34.82); Bousquet and Tchang (1992: Fig. 7).
- Anisodactylus* (*Gynandrotarsus*) *rusticus* (Say): Bousquet and Tchang (1992: Figs 18, 27, 39); Bousquet (2010a: Figs 604, 606).

- Anisodactylus* (*Anadaptus*) *sanctaecrucis* (Fabricius): Kirk (1976: 354; Fig. 1) [L<sub>1-3</sub>; RR]; Thompson (1979a: Figs 69a-c); Bousquet and Tchang (1992: Figs 8, 17, 33, 35); Bousquet (2010a: Figs 593, 603, 622).
- Anisodactylus* (*Spongopus*) *verticalis* (LeConte): Bousquet and Tchang (1992: Figs 6, 15, 34); Bousquet (2010a: Figs 601, 624).
- Anisodactylus* (or close) *sp.*: Chu (1945: 22, 45, 46; Figs 40, 69, 70) [L<sub>2-3</sub>; FC].
- Bradycellus* (*Bradycellus*) *harpalinus* (Audinet-Serville)†: van Emden (1945: 27) [L<sub>1-3</sub>; ?]; ?Larsson (1968: 418) [L<sub>1-3</sub>; ?]; Luff (1993: 156, 157; Figs 507, 508) [L<sub>1</sub>, L<sub>2-3</sub>; FC].
- Bradycellus* (*Stenocellus*) *rupestris* (Say): Chu (1945: 48, 49; Figs 56, 58, 60) [L<sub>3</sub>; FC]; Matalin (1996: 290) [L<sub>1-3</sub>; LIT]; Hürka (1997: 197) [L<sub>1-3</sub>; LIT]; Matalin (2001: 317) [L<sub>1-3</sub>; LIT].
- Cratacanthus* *dubius* (Palisot de Beauvois): van Emden (1942: Fig. 77); Chu (1945: 22, 32, 33; Figs 37, 48, 50) [L<sub>3</sub>; FC]; Chu (1945: 22, 33, 34, as *Cratacanthus* *sp.*; Figs 38, 43, 45, 46) [L<sub>2-3</sub>; FC]; Thompson (1979a: Figs a-f).
- Dicheirotrichus* (*Trichocellus*) *cognatus* (Gyllenhal): Larsson (1941: 347, 348; Fig. 61b) [L<sub>1-3</sub>; ?]; Larsson and Gígja (1959: 46) [L<sub>1-3</sub>; FC]; Larsson (1968: 417; Fig. 67b) [L<sub>1-3</sub>; ?]; Böcher (1988: Fig. 5); Luff (1993: 154, 155; Figs 503, 504) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Matalin (2001: 314, 320; Figs 15, 22, 30, 31, 51, 59, 60) [L<sub>2</sub>; RR].
- Euryderus* *grossus* (Say): van Emden (1942: 73, as *E. zabroides*) [L<sub>3</sub>; FC]; Chu (1945: 30, 31, as *Nothopus zabroides*; Figs 35, 41, 42) [L<sub>3</sub>; FC].
- Geopinus* *incrassatus* (Dejean): Kirk (1972: 1354, 1355; Figs 6 [Pl. 1], 3-6) [L<sub>1-3</sub>; FC]; Bousquet and Tchang (1992: Figs 10, 11, 19, 26, 36, 41); Bousquet (2010a: Figs 594, 605, 610, 620, 623).
- Harpalus* (*Harpalus*) *affinis* (Schrank)†: Schiødte (1867: 531-535, as *H. aeneus*; Figs 1-3 [Pl. 22]) [L<sub>1-3</sub>; ?]; Larsson (1941: 344, 345, as *H. aeneus*; Figs 58b, 59b) [L<sub>1-3</sub>; ?]; Chu (1945: 23, 36, 37, as *H. viridiaeneus*; Figs 25, 80, 83) [L<sub>3</sub>; FC]; Sharova (1958: Figs 133q, 134a, as *H. aeneus*); Sharova (1964: 187, as *H. aeneus*; Figs 163-1, 164-1) [L<sub>1-3</sub>; ?]; Sharova (1967: Figs 8.6, as *H. aeneus*); Larsson (1968: 408, 410, 411, as *H. aeneus*; Figs 63b, 64b) [L<sub>1-3</sub>; ?]; Haberman (1968: Fig. 206.4, 207.5, as *H. aeneus*); Arndt (1991b: 115, as *H. aeneus*; Figs 107, 145) [L<sub>1-3</sub>; ?]; Putschkov (1992: 73) [L<sub>1</sub>; ?]; Luff (1993: 145, 149; Figs 481-483) [L<sub>1</sub>, L<sub>2-3</sub>; ?].
- Harpalus* (*Megapangus*) *caliginosus* (Fabricius): ?Chu (1945: 23, 34, 35; Figs 26, 89, 90) [L<sub>2-3</sub>; FC]; Kirk (1972: 1354; Figs 1 [Pl. 1], 3-1) [L<sub>2-3</sub>; FC]; Thompson (1979a: Figs 71a-e).
- Harpalus* (*Pseudoophonus*) *compar* LeConte: Chu (1945: 24, 40, 41; Figs 22, 73, 74) [F<sub>3</sub>; FC].
- Harpalus* (*Plectralidus*) *erraticus* Say: Kirk (1972: 1354; Figs 4 [Pl. 1], 1, 3-4) [L<sub>1-3</sub>; FC].
- Harpalus* (*Pseudoophonus*) *erythropus* Dejean: Chu (1945: 23, 39, 40; Figs 23, 27, 77, 78) [L<sub>3</sub>; FC].
- Harpalus* (*Harpalus*) *herbivagus* Say: Lugger (1899: Figs 21a-c); Kirk (1972: 1354; Figs 2 [Pl. 1], 2, 3-2) [L<sub>1-3</sub>; FC].

- Harpalus* (*Opadius*) *laevipes* Zetterstedt: Sharova (1958: Fig. 51, as *H. quadripunctatus*); Sharova (1964: 188, 189, as *H. quadripunctatus*; Figs 109, 163-7, 164-7) [L<sub>1-3</sub>; ?]; Sharova (1967: Fig. 8.3, as *H. quadripunctatus*); Larsson (1968: 407, 412, as *H. quadripunctatus*) [L<sub>1-3</sub>; ?]; Haberman (1968: Figs 203, 206.8, 207.10, as *H. quadripunctatus*); Arndt (1991*b*: 116, as *H. quadripunctatus*) [L<sub>1-3</sub>; ?]; Luff (1993: 145, 150, 151, as *H. quadripunctatus*) [L<sub>1-3</sub>; ?].
- Harpalus* (*Pseudoophonus*) *pensylvanicus* (DeGeer): Quaintance and Jenne (1912: Figs 32b-d); Chu (1945: 23, 41, 42; Figs 21, 29-31, 33, 84) [L<sub>3</sub>; FC]; Kirk (1972: 1354; Figs 3 [Pl. 1], 3-3) [L<sub>1-3</sub>; FC]; Bousquet (2010*a*: Figs 588, 611).
- Harpalus* (*Harpalus*) *rubripes* (Duftschmid)†: Xambeu (1894: 119-121) [L<sub>1-3</sub>; FC]; Larsson (1941: 344-346; Figs 58d, 59d) [L<sub>1-3</sub>; ?]; Sharova (1958: Figs 133s, 134g); Sharova (1964: 189; Figs 163-8, 164-8) [L<sub>1-3</sub>; ?]; Sharova (1967: Figs 1.4, 2.4); Larsson (1968: 407, 412; Fig. 64d) [L<sub>1-3</sub>; ?]; Haberman (1968: Figs 206.9, 207.11); Arndt (1991*b*: 116; Figs 108, 113) [L<sub>1-3</sub>; ?]; Luff (1993: 145, 151; Figs 490, 491) [L<sub>1</sub>, L<sub>2-3</sub>; ?].
- Harpalus* (*Pseudoophonus*) *rufipes* (DeGeer)†: Schiødte (1867: 535, as *H. ruficornis*; Figs 4-11 [Pl. 22]) [L<sub>1-3</sub>; ?]; Znojko (1929: 351, 352, as *H. pubescens*; Figs 19, 20a-b, 21a-e, 22, 23, 24) [L<sub>1-3</sub>; ?]; Larsson (1941: 343, as *Pseudophonus pubescens*; Figs 58a, 59a) [L<sub>1-3</sub>; ?]; van Emden (1942: Fig. 78); van Emden (1945: 27; Figs 19, 26) [L<sub>1-3</sub>; ?]; Sharova (1958: 74; Figs 52, 133p) [L<sub>1-3</sub>; ?]; Sharova (1964: 186; Figs 110-1, 161-14) [L<sub>1-3</sub>; ?]; Sharova (1967: 892; Figs 1.2, 2.3, 8.1) [L<sub>1-3</sub>; ?]; Larsson (1968: 406, 409, 410, as *H. pubescens*; Figs 60, 63a, 64a) [L<sub>1-3</sub>; ?]; Brandmayr *et al.* (1980; Fig. 1d); Brandmayr and Zetto Brandmayr (1982: Fig. 2); Arndt (1991*b*: Figs 115, 116); Luff (1993: 145, 147; Figs 476-480) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Makarov (1994: Fig. 97).
- Harpalus* (*Harpalus*) *solitarius* Dejean: Hůrka and Papoušek (2002: 112; Figs 54-61) [L<sub>3</sub>; RR].
- Harpalus* (*Pseudoophonus*) *vagans* LeConte: Chu (1945: 24, 37, 38; Figs 20, 49, 85, 86) [L<sub>3</sub>; FC].
- Harpalus* sp. [probably *H. herbivagus*]: Riley *et al.* (1878: 290; Figs 24a-c) [L<sub>2-3</sub>; FC].
- Harpalus* sp. [might be a young instar of *Harpalus caliginosus*]: Chu (1945: 23, 35, 36; Figs 19, 28, 76) [L<sub>1-3</sub>; FC].
- Notiobia* (*Anisotarsus*) *nitidipennis* (LeConte): Bousquet and Tchang (1992: 756; Figs 2, 12, 20, 25, 29, 31) [L<sub>1</sub>, L<sub>2-3</sub>; RR]; Bousquet (2010*a*: 469; Figs 590, 598, 608, 613) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Notiobia* (*Anisotarsus*) *sayi* (Blatchley): van Emden (1942: Fig. 11); Chu (1945: 47-48; Figs 32, 44, 51, 71, 72) [L<sub>2-3</sub>; FC].
- Notiobia* (*Anisotarsus*) *terminata* (Say): Thompson (1979*a*: 68a-b); Bousquet and Tchang (1992: 756; Figs 1, 3, 28) [L<sub>1</sub>, L<sub>2-3</sub>; RR]; Bousquet (2010*a*: 469; Fig. 607) [L<sub>2</sub>, L<sub>3</sub>; RR].
- Ophonus* (*Metaphonus*) *puncticeps* Stephens†: Larsson (1941: 340, 341, as *O. angusticollis*; Figs 55c, 56c) [L<sub>1-3</sub>; ?]; Larsson (1968: 406, 409, as *Harpalus angusticollis*; Figs 61c, 62c) [L<sub>1-3</sub>; ?]; Brandmayr and Zetto Brandmayr (1982: 87, 89, 98; Figs



- 69-75, 102, 103, 115) [ $L_1$ ,  $L_3$ ; RR]; Arndt (1991b: 117) [ $L_{1-3}$ ; LIT]; Luff (1993: 145, 146; Figs 472, 473) [ $L_1$ ,  $L_{2-3}$ ; ?]; Bousquet (2010a: Figs 587, 597, 609, 616).  
*Ophonus* (*Metaphonus*) *rufibarbis* (Fabricius)†: Larsson (1941: 340, 341, as *O. seladon*; Figs 55d, 56d) [ $L_{1-3}$ ; ?]; Larsson (1968: 406, 409, as *Harpalus seladon*; Figs 61d, 62d) [ $L_{1-3}$ ; ?]; ?Brandmayr and Zetto Brandmayr (1982: 95, 98; Figs 91-95, 106) [ $L_3$ ; FC]; Arndt (1991b: 118) [ $L_{1-3}$ ; LIT].  
*Polpochila* (*Phymatocephalus*) *capitata* (Chaudoir): Chu (1945: 53, 54; Figs 34, 57, 59) [ $L_{2-3}$ ; FC].  
*Stenolophus* (*Agonoderus*) *comma* (Fabricius): ?Chu (1945: 24, 52, 53, as *Agonoderus pallipes*; Figs 53, 87, 88) [ $L_{2-3}$ ; FC]; Kirk (1972: 1354; Figs 5 [Pl. 1], 3-5) [ $L_{1-3}$ ; FC]; Bousquet (2010a: Figs 595, 615).  
*Stenolophus* (*Stenolophus*) *dissimilis* Dejean: Thompson (1979a: a-b).  
*Stenolophus* (*Agonoderus*) *lecontei* (Chaudoir): Bryson and Dillon (1941: 50; Fig. 2, as *Agonoderus pallipes* Fabricius) [ $L_3$ ; FC].  
*Stenolophus* (*Agonoderus*) *lineola* (Fabricius): van Emden (1942: Fig. 61); Chu (1945: 24, 51, 52; Figs 52, 91, 92) [ $L_{2-3}$ ; FC].  
*Stenolophus* (*Stenolophus*) sp.: Chu (1945: 22, 50, 51) [ $L_{2-3}$ ; FC]; Sharova (1958: Fig. 133e); Sharova (1964; Fig. 161-5).  
*Trichotichnus* (*Trichotichnus*) *dichrous* (Dejean): Chu (1945: 21, 43; Figs 24, 81, 82) [ $L_3$ ; FC].  
*Trichotichnus* (*Trichotichnus*) *vulpeculus* (Say): Bousquet (2010a: Figs 589, 614).  
*Xestonotus lugubris* (Dejean): Bousquet and Tchang (1992: Figs 5, 14, 22, 32, 37, 38); Bousquet (2010a: Figs 591, 600, 617).

### SPHODRINI

- Calathus* (*Acalathus*) *advena* (LeConte): Lindroth (1956b: Fig. 35d, 36-Id, 36-IIId, 36-IIId, 36-Ivd). Bousquet (2010a: Figs 627, 639).  
*Calathus* (*Calathus*) *fuscipes* (Goeze)†: Bøving (1910: 335-341; Figs 5, 9, 13) [ $L_{2-3}$ ; FC]; Raynaud (1940b: 83, 84, 86, 87) [ $L_1$ ,  $L_2$ ,  $L_3$ ; FC]; Larsson (1941: 317; Fig. 41b) [ $L_{1-3}$ ; ?]; van Emden (1942: Fig. 47); Raynaud (1944: 89) [ $L_3$ ; FC]; van Emden (1945: Fig. 24); Sharova (1958: 59, 60; Fig. 120b) [ $L_{1-3}$ ; ?]; Sharova (1964: 171; Fig. 152-1) [ $L_{1-3}$ ; ?]; Larsson (1968: 370; Fig. 44b) [ $L_{1-3}$ ; ?]; Haberman (1968: 481; Fig. 297.1) [ $L_{2-3}$ ; ?]; Kůrka (1971: 247, 248, 260, 261; Figs 1-4, 6-7, 8a, 9, 11a-e, 13a-c, 14a) [ $L_1$ ,  $L_2$ ,  $L_3$ ; RR]; Arndt (1991b: 104; Fig. 97) [ $L_1$ ,  $L_{2-3}$ ; LIT]; Hovorka (1991: Fig. 18); Luff (1993: 117, 118; Figs 385-388) [ $L_1$ ,  $L_{2-3}$ ; ?].  
*Calathus* (*Neocalathus*) *gregarius* (Say): Thompson (1979b: 35-37; Figs 17a-d) [ $L_1$ ,  $L_{2-3}$ ; RR+FC]; Bousquet (2010a: 482) [ $L_2$ ; RR].  
*Calathus* (*Neocalathus*) *ingratus* Dejean: Thompson (1979a: Figs 65a-b); Thompson (1979b: 35, 39; Figs 18a-i) [ $L_1$ ,  $L_{2-3}$ ; RR+FC]; Bousquet (2010a: 482) [ $L_2$ ; RR].  
*Calathus* (*Neocalathus*) *opaculus* LeConte: Thompson (1979b: 35, 40, 41; Figs 19a-c) [ $L_3$ ; FC]; Bousquet (2010a: 482) [ $L_3$ ; LIT].  
*Laemostenus* (*Laemostenus*) *complanatus* (Dejean)†: van Emden (1945: 24) [ $L_{1-3}$ ; ?]; Thompson (1979b: 46, 47) [ $L_{2-3}$ ; FC]; Vereshchagina and Makarov (1986: 372)

[L<sub>1-3</sub>; ?]; Casale (1988: 90) [L<sub>1-3</sub>; ?]; Arndt (1991*b*: 103) [L<sub>1-3</sub>; ?]; Luff (1993: 121) [L<sub>1-3</sub>; ?].

*Laemostenus (Pristonychus) terricola terricola* (Herbst)†: Chapuis and Candèze (1853: 376-378; Fig. 3 [Pl. 1]) [L<sub>1-3</sub>; FC]; Böving and Craighead (1931; Figs f-h [Pl. 4]); Larsson (1941: 315; Fig. 41a) [L<sub>1-3</sub>; ?]; van Emden (1945: 24; Figs 17, 18) [L<sub>1-3</sub>; ?]; Sharova (1958: 57; Fig. 120a) [L<sub>1-3</sub>; ?]; Sharova (1964: 167; Fig. 150-1) [L<sub>1-3</sub>; ?]; Larsson (1968: 368; Fig. 44a) [L<sub>1-3</sub>; ?]; Haberman (1968: 445; Fig. 306.1) [L<sub>2-3</sub>; ?]; Raynaud (1976*c*: 256, 257, as *Pristonichus terricola subcyanescens*; Figs 1-4) [L<sub>3</sub>; RR]; Vereshchagina and Makarov (1986: 372) [L<sub>1-3</sub>; ?]; Casale (1988: 90; Fig. 114) [L<sub>1-3</sub>; ?]; Arndt (1991*b*: 103) [L<sub>1-3</sub>; ?]; Hovorka (1991: 102, 103; Figs 8-12) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Luff (1993: 120; Figs 399-401) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Bousquet (2010*a*: Figs 629, 638).

*Synuchus impunctatus* (Say): Lindroth (1956*b*: 564; Figs 35b, 36-Ib, 36-IIbg, 36-IIIb, 36-IVb) [L<sub>1</sub>; RR]; Thompson (1979*a*: Figs 64a-d); Thompson (1979*b*: 48; Figs 24a-f) [L<sub>1</sub>, L<sub>2-3</sub>; RR+FC]; Bousquet (2010*a*: Figs 626, 637).

#### PLATYNINI

*Agonum (Europhilus) anchomenoides* Randall: Thompson (1979*b*: 7, 10; Figs 1a-e) [L<sub>3</sub>; FC].

*Agonum (Europhilus) consimile* Gyllenhal: Lindroth (1955*c*: Fig. 1b).

*Agonum (Olisares) cupripenne* (Say): Bousquet (2010*a*: Fig. 634).

*Agonum (Olisares) errans* (Say): Bousquet (2010*a*: Figs 635, 640).

*Agonum (Europhilus) exaratum* (Mannerheim): Makarov (1996: Fig. 29).

*Agonum (Olisares) extensicolle* (Say): Schaupp (1881*b*: 91-92; Figs Ai-v) [L<sub>3</sub>; FC]; Thompson (1979*b*: 9, 11, 12; Figs 2a-e) [L<sub>3</sub>; RR].

*Agonum (Europhilus) gratiosum* (Mannerheim): Thompson (1979*b*: 7, 16; Figs 4a-g) [L<sub>1</sub>, L<sub>3</sub>; RR+FC]; Bousquet (2010*a*: Fig. 631).

*Agonum (Olisares) melanarium* Dejean: Thompson (1979*b*: 8, 18; Figs 5a-d) [L<sub>3</sub>; FC]; Bousquet (2010*a*: Fig. 633).

*Agonum (Agonum) muelleri* (Herbst)†: Raynaud (1940*b*: 77-79) [L<sub>3</sub>; FC]; Larsson (1941: 321; Figs 43b, 44a) [L<sub>1-3</sub>; ?]; van Emden (1942: Fig. 52); Sharova (1958: 61; Fig. 120k) [L<sub>1-3</sub>; ?]; Sharova (1964: 172; Fig. 150-8) [L<sub>1-3</sub>; ?]; Larsson (1968: 376, 378, 379; Figs 47f, 48a-b) [L<sub>1-3</sub>; ?]; Haberman (1968: 501; Fig. 306.8) [L<sub>2-3</sub>; ?]; Arndt (1991*b*: 98, 100; Figs 1, 6-11, 16, 92, 96) [L<sub>1</sub>; ?]; Luff (1993: 124, 128, 130; Figs 417-419) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Makarov (1996: Fig. 23).

*Agonum (Platynomicrus) nigriceps* LeConte: Bousquet (2010*a*: Fig. 630).

*Agonum (Olisares) octopunctatum* (Fabricius): Thompson (1979*b*: 8, 21; Figs 7a-e) [L<sub>2-3</sub>; RR].

*Agonum (Olisares) pallipes* (Fabricius): Thompson (1979*b*: 8, 21, 22; Figs 8a-b) [L<sub>3</sub>; FC].

*Agonum (Agonum) placidum* (Say): Kirk (1972: 1355; Figs 15 [Pl. 2], 3-15) [L<sub>1-3</sub>; FC].

*Agonum (Olisares) propinquum* (Gemminger and Harold): Thompson (1979*b*: 8, 24, 25; Figs 10a-g) [L<sub>1</sub>, L<sub>2-3</sub>; RR+FC].

- Agonum (Olisares) punctiforme* (Say): Thompson and Allen (1974: 192-195; Figs 3a-d) [L<sub>3</sub>; FC]; Thompson (1979a: Figs a-b); Thompson (1979b: 8, 26, 27; Figs 11a-e) [L<sub>3</sub>; FC].
- Agonum (Europhilus) retractum* LeConte: Thompson (1979b: 7, 29; Figs 12a-f) [L<sub>1</sub>, L<sub>2-3</sub>; RR+FC].
- Agonum (Olisares) striatopunctatum* Dejean: Thompson (1979a: Figs a-d); Thompson (1979b: 8, 31; Figs 13a-e) [L<sub>2</sub>; RR].
- Agonum (Olisares) sulcipenne* (Horn): Thompson (1979b: 8, 31, 32; Figs 14a-f) [L<sub>2-3</sub>; FC].
- Agonum (Olisares) tenue* (LeConte): Thompson (1979b: 8, 34; Figs 15a-h) [L<sub>1</sub>, L<sub>2-3</sub>; RR].
- Agonum (Europhilus) thoreyi* Dejean: Larsson (1941: 323; Figs 45c, 46d-e) [L<sub>1-3</sub>; ?]; Lindroth (1955c: Fig. 1a); Sharova (1958: 60; Fig. 120g) [L<sub>1-3</sub>; ?]; Sharova (1964: 172; Fig. 150-4) [L<sub>1-3</sub>; ?]; Larsson (1968: 376, 380; Figs 49c, 50d-e) [L<sub>1-3</sub>; ?]; Haberman (1968: 525; Fig. 306.4) [L<sub>2-3</sub>; ?]; Thompson (1979b: 7, 34, 35; Figs 16a-f) [L<sub>1</sub>, L<sub>2</sub>; RR+FC]; Arndt (1991b: 100; Fig. 94) [L<sub>2-3</sub>; ?]; Luff (1993: 123, 126; Figs 411, 412) [L<sub>1</sub>, L<sub>2-3</sub>; ?].
- Anchomenus (Anchomenus) funebris* (LeConte): Thompson (1979b: 9, 13, 14; Figs 3a-f) [L<sub>1</sub>, L<sub>2</sub>; RR]; Liebherr (1991b: 128-130; Figs 317-327) [L<sub>1</sub>; RR].
- Metacolpodes buchanani* (Hope): Liebherr (2000: Fig. 3g).
- Olisthopus parmatius* (Say): Bousquet (2010a: 483; Fig. 625) [L<sub>1</sub>; RR].
- Oxypselaphus pusillus* (LeConte): Bousquet (2010a: Fig. 628).
- Paranchus albipes* (Fabricius)†: Xambeu (1898: 55-57, as *Anchomenus pallipes*) [L<sub>1-3</sub>; ?FC]; Kemner (1913: 21, 22, as *Platynus ruficornis*; Figs 12, 3-4 [Pl. 2]) [L<sub>3</sub>; FC]; Raynaud (1940b: 76-78, as *Platynus ruficornis*) [L<sub>3</sub>; FC]; Larsson (1941: 319, 320, as *Platynus ruficornis*; Fig. 42b) [L<sub>1-3</sub>; ?]; Sharova (1958: 61, as *Agonum ruficorne*; Fig. 120o) [L<sub>1-3</sub>; ?]; Sharova (1964: 172, 173, as *Agonum ruficorne*; Fig. 150-12) [L<sub>1-3</sub>; ?]; Larsson (1968: 376, 377, as *Agonum ruficorne*; Fig. 47b) [L<sub>1-3</sub>; ?]; Haberman (1968: 517, as *Agonum ruficorne*; Fig. 306.12) [L<sub>2-3</sub>; ?]; Arndt (1991b: 98, 99, as *Platynus ruficornis*) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Luff (1993: 125, 130, 131; Figs 422-424) [L<sub>1</sub>, L<sub>2-3</sub>; ?].
- Platynus (Platynus) decentis* (Say): Thompson (1979a: Figs a-d); Thompson (1979b: 41, 42; Figs 20a-j) [L<sub>1</sub>, L<sub>2-3</sub>; RR+FC]; Bousquet (2010a: Figs 632, 636, 641).
- Platynus (Batenus) hypolithos* (Say): Thompson (1979b: 41, 44; Figs 21a-i) [L<sub>3</sub>; FC].
- Platynus (Batenus) mannerheimii* (Dejean): ?Saalas (1917: 286; Figs 1-2) [L<sub>2-3</sub>; FC]; ?Saalas (1923: 667) [L<sub>2-3</sub>; FC]; Thompson (1979b: 41, 45, 46; Figs 22a-f) [L<sub>2-3</sub>; FC].
- Sericoda bembidioides* Kirby: Liebherr (1991b: 130, 132; Figs 328-338) [L<sub>1</sub>; RR].
- Sericoda obsoleta* (Say): Thompson (1979b: 8, 18, 19; Figs 6a-f) [L<sub>1</sub>, L<sub>2-3</sub>; RR].
- Tanystoma maculicolle* (Dejean): van Emden (1945: 24) [L<sub>1-3</sub>; ?]; Liebherr (1984a: 531, 532, 534, 536; Figs 1, 2a-g, 3a-i) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].
- Tetraleucus picticornis* (Newman): Thompson (1979b: 8, 24; Figs 9a-f) [L<sub>1</sub>, L<sub>2-3</sub>; RR]; Liebherr (1991b: 125; Figs 293-304) [L<sub>1</sub>; RR].

**ATRANINI**

*Atranus pubescens* (Dejean): Bousquet (1985b: 330-331; Figs 1-6) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; FC]; Makarov (1994: Fig. 81); Bousquet (2010a: Figs 642-646).

**LACHNOPHORINI**

*Calybe (Ega) sallei* (Chevrolat): Liebherr (1983: 255; Figs 1-7) [L<sub>2</sub>, L<sub>3</sub>; FC].

**ODACANTHINI**

*Colliuris (Cosnania) pennsylvanica* (Linnaeus): Thompson (1979a: Figs 77a-c); Bousquet (2010a: 491; Figs 647-650) [L<sub>1</sub>, L<sub>2-3</sub>; FC].

**CTENODACTYLINI**

*Leptotrachelus dorsalis* (Fabricius): Erwin and White (2012: 22, 24, 25, 27, 28 ; Figs 3-12) [L<sub>1,3</sub>; RR].

**LEBIINI**

*Apristus subsulcatus* (Dejean): Bousquet (2010a: 496-498; Figs 660, 669, 671, 673) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR+FC].

*Axinopalpus biplagiatus* (Dejean): Bousquet (2010a: 496; Fig. 659) [L<sub>2-3</sub>; FC].

*Calleida (Calleida) decora* (Fabricius): Thompson (1979a: Figs 78a-d); Zhou and Goyer (1993: Fig. 3a).

*Calleida (Calleida) punctata* LeConte: Bousquet and Goulet (1984: Fig. 36); Bousquet (1991a: Fig. 34.84); Zhou and Goyer (1993: Fig. 3b); Bousquet (2010a: Figs 663, 664, 676).

*Calleida (Calleida) viridipennis* (Say): Zhou and Goyer (1993: 234-236; Figs 1a-d) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].

*Cymindis (Tarulus) vaporariorum* (Linnaeus): Hürka (1969: 105-107; Figs 3a-m) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; FC]; Hürka (1986: 47; Figs 85-99) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR]; Hürka (1986: 48, as *C. vaporariorum immaculata*; Figs 100-103) [L<sub>1</sub>, L<sub>2</sub>; RR]; Arndt (1991b: 133) [L<sub>1</sub>, L<sub>2-3</sub>; LIT]; Luff (1993: 176, 177; Figs 581, 582) [L<sub>1</sub>, L<sub>2-3</sub>; ?]; Makarov (1996: Fig. 31).

*Cymindis* sp.: Bousquet and Goulet (1984: Figs 35, 46, 54, 59); Bousquet (1991a: Fig. 34.104); Bousquet (2010a: Figs 665, 666, 677, 678).

*Dromius (Dromius) piceus* Dejean: Mahar *et al.* (1983: 24-26; Figs 1-7) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; FC].

*Lebia (Lebia) analis* Dejean: Thompson (1979a: Figs 80a-b).

*Lebia (Loxopeza) grandis* Hentz: Chaboussou (1939: 414-419; Figs 18-20, 22-34) [L<sub>1</sub>, L<sub>2</sub>; RR].

*Lebia (Lebia) viridis* Say: Capogreco (1989a: 187-191; Figs 2-5, 7-16) [L<sub>1</sub>, L<sub>2</sub>; RR]; Makarov (1994: Figs 123, 125); Bousquet (2010a: Figs 656-658).

*Microlestes* sp.: Bousquet (2010a: 499; Figs 662, 670, 672, 674) [L<sub>2-3</sub>; FC].

*Mochtherus tetraspilotus* (Macleay)†: Gardner (1936: 193, 194; Figs 47-50) [L<sub>3</sub>; FC]; van Emden (1942: 78) [L<sub>3</sub>; FC].

*Onota floridana* Horn: van Emden (1942: 79) [L<sub>2</sub>; FC].

- Philophuga viridicollis* (LeConte): Larson (1969: 26; Figs 9, 11) [L<sub>3</sub>; FC].
- Philophuga viridis amoena* (LeConte): Mahar *et al.* (1983: Fig. 9).
- Philorhizus melanocephalus* (Dejean)†: Xambeu (1904: 88, 89) [L<sub>1-3</sub>; FC]; Larsson (1941: 357, 358; Fig. 67f) [L<sub>1-3</sub>; ?]; Larsson (1968: 429, 431; Fig. 73f) [L<sub>1-3</sub>; ?]; Luff (1993: 169, 172, 173; Figs 564-568) [L<sub>1</sub>, L<sub>2-3</sub>; FC].
- Plochionus* (*Plochionus*) *pallens* (Fabricius): van Emden (1945: 25) [L<sub>1-3</sub>; ?]; Arndt (1991b: Fig. 143).
- Plochionus* (*Menidius*) *timidus* Haldeman: Duffey (1892: 538; Figs a-e [Pl. 10]) [L<sub>1</sub>, L<sub>3</sub>; RR]; Larson (1969: 25; Figs 7, 8) [L<sub>2-3</sub>; FC]; Thompson (1979a: Figs 79a-b); Zhou and Goyer (1993: 237-240; Figs 2a-d) [L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>; RR].
- Somotrichus unifasciatus* (Dejean): van Emden (1945: 27) [L<sub>1-3</sub>; ?].
- Syntomus americanus* (Dejean): Bousquet (2010a: Figs 661, 667, 668, 675).
- Tecnophilus croceicollis croceicollis* (Ménétriés): Larson (1969: 24; Figs 6, 10, 12) [L<sub>1-3</sub>; RR]; Mahar *et al.* (1983: Fig. 8).
- Tecnophilus croceicollis peigani* Larson: Larson (1969: 24; Figs 13, 14) [L<sub>1-3</sub>; RR].

#### GALERITINI

- Galerita* (*Progaleritina*) *janus* (Fabricius): Packard (1871: 29, 30; Figs 13a-b) [L<sub>3</sub>; FC]; Hubbard (1875: 49-51) [L<sub>3</sub>; FC]; Schaupp (1879: 14) [L<sub>2-3</sub>; LIT]; Kirk (1981: 368; Fig. 1) [L<sub>2-3</sub>; FC]; Arndt and Drechsel (1998: Fig. 6); Bousquet (2010a: Figs 679-681).
- Galerita* (*Progaleritina*) *lecontei* Dejean: Sallé (1849: 298-299; Figs 2c-d [Pl. 8]) [L<sub>3</sub>; FC]; Chapuis and Candèze (1853: 367-369) [L<sub>3</sub>; FC]; Schaupp (1879: 14) [L<sub>2-3</sub>; LIT].
- Galerita* sp. (Arkansas): Thompson (1979a: Figs 82a-c).

#### HELLUONINI

- Helluomorphoides praeustus bicolor* (Harris): Bousquet (1987c: 922, 925-927; Figs 1-7) [L<sub>1</sub>, L<sub>2</sub>; FC]; Bousquet (2010a: Figs 682-686).
- Helluomorphoides* sp. (Georgia): Thompson (1979a: Figs 83a-c).

#### PSEUDOMORPHINI

- Pseudomorpha* (*Pseudomorpha*) *augustata* Horn: Liebherr and Kavanaugh (1985: 1081) [L<sub>1</sub>; RR].
- Pseudomorpha* (*Pseudomorpha*) *hubbardi* Notman: Liebherr and Kavanaugh (1985: 1081; Figs 1a-b) [L<sub>1</sub>; RR].
- Pseudomorpha* sp. [Arizona]: Erwin (1981a: 56, 58; Fig. 24) [?L<sub>2</sub>; FC].
- Pseudomorpha* sp. [Nevada]: Thompson (1979a: Figs 84a-f); Erwin (1981a: 54-56; Figs 1-23) [L<sub>1</sub>, L<sub>2-3</sub>; FC].



### Appendix 3. List of Geadephaga species described from specimens mislabeled as from North America

A number of available species were listed originally as from North America and were subsequently found not to belong to the region. The following is an annotated alphabetical list of species described from specimens mislabeled or incorrectly assumed to be from North America.

*Agonum splendidulum* Motschulsky, 1844: 138. Type locality listed as “Sitka et du Kamtchatka.” Chaudoir (1850*b*: 123) stated that the specimens he identified as *A. splendidulum* from Kamchatka seemed to represent a very minor variety of *Agonum impressum* (Panzer). *Agonum splendidulum* is currently considered a junior synonym of *A. impressum*, a Palaearctic species (Bousquet 2003*c*: 450). The original description is very short and uninterpretable (see Lindroth 1966: 594). According to Keleinikova (1976: 218), three syntypes from Kamchatka are present in ZMMU.

*Aretharea helluonis* Say, 1830*a*: 68. Type locality listed as “Pennsylv[ania]” although Say (1830*a*: 68) added “I am not sure whether I obtained it on our journey to the Rocky Mountains, to St. Peter’s river, or in Pennsylvania, but I think the latter.” LeConte (1859*e*: 524) wrote the following about this species: “No insect has yet been seen by other entomologists, which at all approaches the description here given ... In fact, there is nothing in the description of the head, thorax and anterior legs, which forbids a reference to *Cryptobium bicolor* or *C. melanocephalum* [Staphylinidae]. With regard to the elytra and posterior legs, I must suppose them to have been derived from some foreign *Carabide*, and that the union was effected unintentionally, before the specimen came under Say’s notice.”

*Bembidium glabriusculum* Motschulsky, 1844: 272. Type locality given as “Sitka [Baranof Island, Alaska].” Maddison (1993: 176) remarked that the holotype of this species is conspecific with members of *Bembidion argenteolum* Ahrens, a species found only west of the Lena River and Ussuri River areas of Russia. The original locality given by Motschulsky (1844: 272) is in error.

*Calleida rubricollis* Dejean, 1825: 225. Type locality given as “Amérique septentrionale.” Dejean (1831: 328) acknowledged receiving specimens of this species from Cuba, including some from Klug under the name *elegans*, which did not differ from his specimens of *C. rubricollis*. Chaudoir (1844: 469) described *Calleida elegans* (which he credited to Klug) by pointing out structural differences between his sole specimen and those of *C. rubricollis*. Later Chaudoir (1873*b*: 144) concluded that the differences reported in 1844 between the specimens from the United States and Cuba were only “accidental” and that all the specimens belonged to the same species. I have seen a specimen from Chaudoir’s collection in MHNP labeled “rubricollis mihi elegans [illegible letters] in Ins. Cuba D. Klug [handwritten] / Lectotype ♂ *Calleida rubricollis* Dej. by

Erwin ‘76 [partly handwritten].” The specimen is probably one received from Klug and noticed in 1831 by Dejean and therefore is likely not a syntype. Based on the original description by Dejean (1825: 225) and this specimen, I believe that *C. rubricollis* is structurally most similar to *C. decora* (Fabricius) among the North American species but specifically distinct. I have not seen a conspecific specimen from North America and believe the type locality listed by Dejean (i.e., Amérique septentrionale) is in error. The statement by Chaudoir (1873b: 144) that the specimens from United States were identical with those from Cuba may be based on a comparison of his Cuban specimens with those of Dejean, which he believed came from the United States. At the time, Chaudoir owned Dejean’s carabid collection. Already in his first catalogue, LeConte (1863b: 6) stated that “*C. rubricollis* Dej. is not found within the present limits of the United States, but is confined to Cuba.”

*Carabus beauvoisi* Dejean, 1826: 67. Type locality listed as “Amérique septentrionale.” Motschulsky (1850a: 81) listed this name as a “var.?” of *Carabus californicus*, a species he described only in 1866 [see next entry]. LeConte (1863b: 3) reported that this species is identical to “*Carabus catenulatus* Fabricius.” Motschulsky (1866: 287, as *C. bauvoisii* Dej.) stated that Haldeman gave him specimen(s) of this species during his trip to America. Kraatz (1878: 158) agreed with LeConte and stated that Dejean’s specimen(s) was conspecific with *C. catenulatus* and that the locality given was in error. Lapouge (1931: 570) considered this name to be a questionable junior synonym of *Carabus taedatus agassii* LeConte. Csiki (1927: 81) listed it as a variety of *Carabus problematicus* Herbst, and Breuning (1933b: 810) as a junior synonym of *Carabus problematicus problematicus natio gallicus* Géhin. There is no indication that either Csiki or Breuning saw the name-bearing type specimen(s) and therefore, if their conclusions are correct, the type locality was in error. Jeannel (1941b: 132) listed also the name as a junior synonym of *Carabus problematicus*, adding that the type locality of “Amér. du Nord” is in error. In the latest catalogue of the genus *Carabus* (Deuve 2004: 240), this name is listed as a junior synonym of *C. problematicus harcyniae* Sturm. Dejean’s original specimens came from Palisot de Beauvois’ collection which, according to Dejean (1825: 101), was not in order.

*Carabus bifasciatus* Olivier, 1790b: 347. Type locality listed as “Amérique septentrionale.” This species was transferred to the genus *Calophaena* by Klug (1821: 297) which is confirmed by the illustration provided by Olivier (1795: Fig. 80 [plate 7]). The genus is not found in North America, north of Mexico, and the type locality is obviously in error.

*Carabus californicus* Motschulsky, 1866: 288. This name was listed as a variety of the Palaearctic *Carabus problematicus* Herbst by Csiki (1927: 81), as a junior synonym of *Carabus problematicus problematicus natio gallicus* Géhin by Breuning (1933b: 810), and as a junior synonym of *Carabus problematicus gallicus* by Kryzhanovskij (1968: 175). In the latest catalogue of the genus *Carabus* (Deuve 2004: 240), this name is listed as a questionable junior synonym of *C. problematicus solutus* Oberthür. Obviously the provenance, implied by the specific name, is incorrect.

*Carabus carolinus* Fabricius, 1792: 126. Type locality given as “Carolina meridionali.” LeConte (1863*b*: 3) reported that Fabricius’ taxon was identical to *Carabus splendens* Olivier. The name is still listed in synonymy with *C. splendens* in Deuve’s (2004) latest catalogue of the genus *Carabus*. Since this species is found only in southwestern France, the provenance given by Fabricius is obviously incorrect.

*Carabus latus* Linnaeus, 1758: 415. Type locality listed as “Europa; America septentrionali.” Lindroth (1957*b*: 332) discussed the status of this species and came to the conclusion that the name should be retained for *Harpalus latus* auctorum, one of the commonest species in Sweden. However, none of the six “Linnean” specimens in LSL belong to this species. Motschulsky (1855*a*: 44) interpreted Linnaeus’ species as the North American *Harpalus herbivagus* Say.

*Casnonia rufipes* Dejean, 1825: 172. Type locality listed as “Amérique septentrionale.” The holotype came from Palisot de Beauvois’ collection. Chaudoir (1863: 278) indicated that the species is not found in North America but occurs from Cayenne (in French Guiana) to Brazil.

*Chlaenius nimrod* Horn, 1897: 372. Type locality given as “Custer, South Dakota.” Bell (1960: 116) stated that the original specimens were obviously mislabeled and probably belonged to an Old World species.

*Cicindela baltimorensis* Herbst, 1806: 181. Type locality given as “Baltimore.” Schaum (see LeConte 1863*b*: 1) reported that this taxon is the East Indian *Cylindera minuta* (Olivier) with an erroneous locality. Acciavatti and Pearson (1989: 291) found syntypes of *C. baltimorensis* in ZMHB and confirmed Schaum’s identification.

*Cicindela californica californica* Ménétriés, 1843: 52. Type locality listed as “Californie.” The nominotypical subspecies of *Habroscelimorpha californica* is known from the coast of central and southern Baja California (Pearson *et al.* 2006: 138) suggesting that the type locality is in error. However, all the other species described from California by Ménétriés (1843), except maybe *Agaosoma californicum*, are currently found in California. Two other possibilities are conceivable. The subspecies had a wider range in the XIX Century and did occur in California or our concept of *H. californica californica* is in error and the name actually applies to one of the two subspecies of *H. californica* found in California. As far as I know, nobody has reported studying syntype(s) of the nominotypical subspecies.

*Cicindela coerulea* Herbst, 1806: 182. Type locality given as “Nordamerica.” LeConte (1863*b*: 2) listed this name as a synonym of the Palaearctic *Cylindera germanica* (Linnaeus). The type locality is obviously in error.

*Cicindela magdalenae* LeConte, 1873*b*: 321. Type locality listed as “found in turpentine barrels brought to London, supposed to be from North Carolina.” Horn (1880*f*:

xix) noted the similarity between the elytral markings of LeConte's species and those of some South African species and later (1883b: 269–270) reported that the species was identical to *Lophyra senegalensis* (Dejean).

*Cicindela tortuosa* Dejean, 1825: 87. Type locality: “Amérique septentrionale et dans les Antilles.” Gistel (1837: 49) listed this name in synonymy with *Cicindela trifasciata* Fabricius. LeConte's (1851: 172) record of this species in “Georgia et Louisiana, in oryzaceis” refers to *Cicindela trifasciata ascendens* LeConte (Horn 1926: 294). Currently *C. tortuosa* is listed in catalogues (e.g., Wiesner 1992: 146; Lorenz 2005: 49) as a junior synonym of *C. trifasciata trifasciata* Fabricius, which occurs commonly over the West Indies. However, Dejean's type series likely includes specimens of *C. trifasciata trifasciata* and *C. trifasciata ascendens* LeConte. As far as I know, a lectotype has not been designated for *C. tortuosa* Dejean.

*Cicindela triguttata* Herbst, 1806: 182. Type locality given as “Nordamerica.” LeConte (1863b: 2) stated that Herbst's species was “not North American.” Acciavatti and Pearson (1989: 253), upon an examination of the syntypes in ZMHB, concluded that *C. triguttata* Herbst is a synonym of *Cylindera viduata* (Fabricius), a species found in Asia. The type locality originally reported is in error.

*Clivina biguttata* Putzeys, 1867b: 157. Type locality given as “Cuba. Louisiane.” Nichols (1988a: 129) reported this species from Cuba, Isla de Pinos, and Jamaica. As far as I know, the species has not been reported subsequently from North America.

*Clivina picipes* Bonelli, 1813: 481. Bonelli originally stated that the country of origin was unknown. Dejean (1825: 416) reported that his specimen(s) of this species originated from “Amérique” and Putzeys (1846: 105) redescribed the sole specimen in Dejean's collection and listed “Amérique boréale” as the provenance. Subsequently Putzeys (1867b: 110) listed this name as a junior synonym of *Clivina attenuata* (Herbst) and pointed out that the species was from India.

*Curtonotus transversicollis* Putzeys, 1866b: 236. Type locality given as “Amér[ique] Russe. (Akina).” According to Lindroth (1968: 665), the lectotype is conspecific with members of the Palearctic *Amara brevicollis* (Chaudoir) and probably originated from Akima in Transbaikalia.

*Cymindis morio* Dejean, 1825: 219. Type locality listed as “Amérique septentrionale.” The specimen(s) was given to Dejean by Palisot de Beauvois. Schaum (1857a: 293) stated that this species belongs to the genus *Apenes* LeConte and occurs in Haiti. LeConte (1863b: 6) said that it “does not occur in the United States.” According to Ball (1992b: Fig. 5.6), the species is found in the Bahamas and on Hispaniola.

*Dinodes rotundicollis* Dejean, 1826: 373. Type locality given as “Amérique septentrionale.” The specimen(s) was given to Dejean by Palisot de Beauvois. According to LeConte (1863*b*: 11), this species “is probably not North American.” Chaudoir (1876*b*: 58), who had access to Dejean’s types, stated that *D. rotundicollis* “n’est qu’un individu de l’azureus [= *Chlaenius decipiens* (Dufour)]” and that the locality originally given was in error.

*Dromius geminatus* Haldeman, 1843*b*: 298. Type locality indicated as “south-eastern Pennsylvania” by Haldeman (1843*a*: 296). LeConte (1863*b*: 5) stated that this species is identical to *Dromius quadrinotatus* (Panzer) [= *Calodromius spilotus* (Illiger)] of Europe, suggesting that the type locality given was in error.

*Feronia quadricollis* LeConte, 1846*b*: 343. Type locality given as “Pennsylvania.” LeConte (1853*a*: 235) stated that his species is identical to *Abax parallelus* Duftschmid of Europe, suggesting that the type locality was in error.

*Lebia angulata* Boheman, 1858: 7. Type locality given as “California.” As pointed out by Horn (1872*a*: 141), the California record is unreliable and the specimen(s) probably originated from South America (see also LeConte 1869*b*: 248). Chaudoir (1871*a*: 113) transferred the species to the genus *Rhombodera* (= *Pentagonica*). Reichardt (1968: 154) listed *L. angulata* as a questionable synonym of *Pentagonica picea* Chaudoir. *Lebia goniodera* Gemminger and Harold, 1868 is a replacement name for *Lebia angulata* Boheman, 1858.

*Lebia cupripennis* Boheman, 1858: 7. Type locality given as “California.” LeConte (1869*b*: 248) stated that *L. cupripennis* Boheman is identical to *Lebia cupripennis* Chaudoir and that Boheman’s specimens did not originate from California but from Peru and Chile. *Lebia chalcoptera* Gemminger and Harold, 1868 is a replacement name for *Lebia cupripennis* Boheman, 1858.

*Myosodus femoratus* Motschulsky, 1845*a*: 22. Type locality given as “Sitka.” Motschulsky (1850*a*: 47) listed this species from “Sitka? Irkutsk?” Tschitschérine (1902*b*: 105) suspected this taxon to be a form of *Pterostichus kamtschaticus* (Motschulsky). Csiki (1930: 681) listed the name as a valid species in section *Lyperopherus* Motschulsky and reported it from Siberia and Alaska. Lindroth (1966: 526) believed the type locality was “almost certainly false.” Finally, Kryzhanovskij *et al.* (1995: 105), followed by Bousquet (2003*d*: 497), listed the name as a questionable junior synonym of *Pterostichus costatus* (Ménétriés). According to Keleinikova (1976: 197), there is one “corruptum” syntype in Motschulsky’s collection (ZMMU). *Pterostichus cruralis* (Tschitschérine, 1902) is a replacement name for *P. femoratus* (Motschulsky, 1845).

*Nebria macrocephala* Motschulsky, 1844: 128. Type locality listed as “probablement de Sitka ou d’Ounalachka [Alaska].” Mannerheim (1853: 111), who apparently saw



syntypes of this taxon, noted that they were conspecific with specimens of *N. stigma* Dejean, 1826 (= *N. hellwigii* Panzer, 1803). Farkač and Janata (2003: 95) listed this form as a valid species of the subgenus *Tetungonebria* Shilenkov from “Siberia.” The provenance given by Motschulsky is likely incorrect.

*Oodes schaumii* Chaudoir, 1882: 346. Type locality given as “trouvée probablement dans la Louisiane.” The holotype in ZMHB belongs to the genus *Coptocarpus* Chaudoir (Bousquet 1996a: 471) which is endemic to the Australian Region. The provenance originally given is obviously in error.

*Pogonus minutus* Dejean, 1828: 15. Type locality listed as “Amérique septentrionale.” The sole specimen came from Palisot de Beauvois’ collection. Chaudoir (1872a: 27), who owned Dejean’s collection at the time, stated that the type of this species was conspecific with that of *Pogonus senegalensis* Dejean [= *Pogonus minutus* Dejean] from western Africa. The locality as originally given is in error.

*Scarites attenuatus* Herbst, 1806: 255. Type locality given as “Nordamerica.” Putzeys (1867b: 110) stated that this species, which belongs to the genus *Clivina* Latreille, occurs in India and it is by error that Herbst listed it from North America.

*Scarites emarginatus* Herbst, 1806: 255. Type locality listed as “Nordamerica.” Bänninger (1933: 116) studied the “type” of Herbst’s species in ZMHB and concluded that it was conspecific with *Scarites dentatus* Andrewes of India. The locality as originally given is in error.

*Scarites gagates* Bonelli, 1813: 475. Type locality given as “Amérique septentrionale.” Bänninger (1938: 112) stated that Bonelli’s specimen(s) is conspecific with those of *Scarites indus* Olivier of the Oriental Region and that the provenance originally given was obviously incorrect.

*Scarites polyphemus* Herbst, 1806: 254. Type locality given as “Nordamerica.” Dejean (1825: 372) listed Herbst’s name in synonymy with a new species, *Scarites herbstii* Dejean, from Cape of Good Hope although Dejean’s description indicates that he considered the two as distinct species. Bänninger (1938: 176), who saw Herbst’s type specimen(s), listed *S. polyphemus* as a synonym of *S. herbstii* Dejean and noted that the species does not occur in North America but in South Africa.

*Selenophorus beauvoisii* Dejean, 1829: 98. Type locality listed as “Amérique septentrionale.” Dejean’s specimen(s) came from Palisot de Beauvois’ collection. LeConte (1870: 403) saw the name-bearing type(s) in Paris and reported that the species was “abundant in the Antilles, but does not occur in the United States.” In Blackwelder (1944: 49) the species is listed as valid and from Jamaica, with *Selenophorus aeneocypreus* Dejean as a junior synonym.

*Steropus rugulosus* Motschulsky, 1845*b*: 342. Type locality given as “Ounalaschka.” Motschulsky’s original description was based on a single specimen in ZMMU. Csiki (1930: 658) listed the taxon as a valid species in the subgenus *Cryobius* and reported it from Alaska. Based on a study of the holotype, Bousquet and Laroche (1993: 333) concluded that it belongs to an undetermined species of *Abacetus* Dejean. The provenance originally given by Motschulsky is obviously incorrect. *Pterostichus rugatinus* Csiki, 1930 is a replacement name for *Pterostichus rugulosus* (Motschulsky, 1845).

*Tachypus elongatus* Motschulsky, 1850*a*: 16. Type locality given as “Sitka?” According to Lindroth (1963*b*: 204), this *Asaphidion* is “almost certainly not from N. America.” A syntype of Motschulsky’s species is present in ZMMU (Keleinikova 1976: 196) and a study of the specimen is needed to determine its identity.

*Trechus ruficollis* Van Dyke, 1926*a*: 66. Type locality given as “Lawrence, Massachusetts.” Barr (1962*a*: 76-77) stated that the four original specimens of this species were likely mislabeled and Donabauer (2010*b*: 45) pointed out that they are conspecific with members of *Trechus striatulus* Putzeys, a species endemic to the western Carpathians. Because of homonymy, Van Dyke’s name was first changed to *Trechus vandykei* Jeannel, 1928 (also a homonym) and subsequently to *Trechus dietrichi* Barr, 1962. The holotype (♂) is in CUIC [# 1635].

#### Appendix 4. List of unavailable Geadephaga names listed from North America

Many species- or genus-group names have been reported from North America but are unavailable (*nomina nuda*) because they were either not described [DES], or proposed as infrasubspecific entities [INF], or first proposed as junior synonyms and not treated as valid names or senior homonyms before 1961 [SYN], or proposed as generic entities after 1930 without type species designations [TYP], or not published [PUB]. All these names have no taxonomic status and are not listed in the catalogue itself. This list does not pretend to be complete.

- Acupalpus minuatus* Rathvon, 1869: 527. **DES**  
*Agonothorax anchomenoides* Motschulsky, 1850a: 68. **DES**  
*Agonum aeneicolle* Sturm, 1843: 23. **DES**  
*Agonum coracinum* Sturm, 1843: 22. **DES**  
*Agonum formosum* Sturm, 1826: 89. **DES**  
*Agonum foveolatum* Sturm, 1826: 89. **DES**  
*Agonum rotundicolle* Sturm, 1843: 23. **DES**  
*Agonum saltuum* Sturm, 1826: 89. **DES**  
*Agonum sulcatum* T.W. Harris [in Scudder], 1869: 230. **SYN**  
*Amara aerea* Sturm, 1843: 29. **DES**  
*Amara cylindrica* Motschulsky, 1850a: 60. **DES**  
*Amara elongatula* Motschulsky, 1850a: 60. **DES**  
*Amara fulvipes* Sturm, 1843: 29. **DES**  
*Amara misera* Dejean, 1828: 462. **SYN**  
*Amara ovalis* Sturm, 1826: 91. **DES**  
*Amara quadrifoveolata* Motschulsky, 1850a: 61. **DES**  
*Anchomenus aeruginosus* Sturm, 1826: 91. **DES**  
*Anchomenus decorus* ab. *syracusensis* Hatch, 1926: 247. **INF**  
*Anchomenus laticollis* Sturm, 1826: 91. **DES**  
*Anchomenus proximus* T.W. Harris, 1828d: 132. **SYN**  
*Anchomenus viridanus* Dejean, 1821: 10. **DES**  
*Angoleus picipes* Sturm, 1843: 24. **DES**  
*Anisodactylus brevis* Sturm, 1843: 32. **DES**  
*Argutor ornatus* Sturm, 1826: 97. **DES**  
*Argutor rufipes* Dejean, 1821: 11. **DES**  
*Argutor rufitarsis* Sturm, 1843: 24. **DES**  
*Bembidium apicale* Sturm, 1843: 36. **DES**  
*Bembidium axillare* Sturm, 1843: 37. **DES**  
*Bembidium bisbiguttatum* Sturm, 1843: 38. **DES**  
*Bembidion browni* Lindroth, 1954b: 158. **DES**  
*Bembidium elegans* Sturm, 1843: 36. **DES**  
*Bembidium maeklini* LeConte, 1863b: 14. **DES**

- Bembidion planiusculum* ab. *pallidum* Hatch, 1950: 99. **INF**  
*Bembidium unistriatum* Sturm, 1843: 36. **DES**  
*Brachinus glabripennis* LeConte, 1858a: 28. **DES**  
*Brachinus puncticollis* LeConte, 1858a: 28. **DES**  
*Brachinus similis* Sturm, 1843: 2. **DES**  
*Brachystylus megas* LeConte, 1853a: 250. **DES**  
*Bradytus planiusculus* Sturm, 1843: 29. **DES**  
*Calathus flavipes* Sturm, 1843: 21. **DES**  
*Calosoma luxatum zimmermanni* ab. *striata* Breuning, 1928b: 86. **INF + DES**  
*Carabus catena* Gosse, 1840: 107, 150, 185, 307. **DES**  
*Carabus fimbriatus* Sturm, 1826: 110. **DES**  
*Carabus maeander monstr. excatenatus* Kraatz, 1880: 337. **INF**  
*Celia compacta* Motschulsky, 1850a: 59. **DES**  
*Chlaenius aeratus* Dejean, 1821: 8. **DES**  
*Chlaenius angusticollis* Dejean, 1821: 8. **DES**  
*Chlaenius aureliensis* LaFerté-Sénectère, 1851: 248. **DES**  
*Chlaenius dimidiatus* Motschulsky, 1858: 157. **DES**  
*Chlaenius discolor* Sturm, 1826: 115. **DES**  
*Chlaenius exaratus* LaFerté-Sénectère, 1851: 249. **DES**  
*Chlaenius feisthamelii* LaFerté-Sénectère, 1851: 248. **DES**  
*Chlaenius indutus* LaFerté-Sénectère, 1851: 247. **DES**  
*Chlaenius lugubris* Motschulsky, 1850a: 64. **DES**  
*Chlaenius nigrocoeruleus* Sturm, 1843: 18. **DES**  
*Chlaenius nigrovirens* Sturm, 1843: 18. **DES**  
*Chlaenius opacus* Sturm, 1843: 18. **DES**  
*Chlaenius thalassinus* Sturm, 1843: 18. **DES**  
*Chlaenius viridiceps* LaFerté-Sénectère, 1851: 248. **DES**  
*Cicindela carthagena haemorrhagica* var. *nigroides* Hatch, 1938: 236. **INF**  
*Cicindela collaris* LaFerté-Sénectère, 1841a: 40, 41, 42. **DES**  
*Cicindela continua* Sturm, 1843: 2. **DES**  
*Cicindela deflexa* Sturm, 1843: 2. **DES**  
*Cicindela deflua* Sturm, 1843: 2. **DES**  
*Cicindela dejeanii* Dejean, 1831: 215. **SYN**  
*Cicindela deleta* Sturm, 1843: 2. **DES**  
*Cicindela erythrogaster* T.W. Harris [in Scudder], 1869: 20. **DES**  
*Cicindela excisa* Sturm, 1843: 2. **DES**  
*Cicindela formosa mescalero* Gaumer, 1977: 225. **PUB**  
*Cicindela formosa yampa* Gaumer, 1977: 219. **PUB**  
*Cicindela hamata* Sturm, 1843: 2. **DES**  
*Cicindela humeralis* Dejean, 1831: 215. **SYN**  
*Cicindela hydropica* Dejean, 1836: 3. **SYN**  
*Cicindela latecincta* Gould, 1834: 42. **SYN**  
*Cicindela lemnisticta* Smyth, 1908: 188. **SYN**

- Cicindela maculosa* Sturm, 1843: 2. **DES**  
*Cicindela purpurea* ab. *nigerrimoides* Hatch, 1938: 233. **INF**  
*Cicindela raiana* Frost, 1920: 229. **DES**  
*Cicindela scripta* Sturm, 1843: 2. **DES**  
*Cicindela thalassina* Dejean, 1821: 1. **DES**  
*Clivina brunnipes* Sturm, 1843: 2. **DES**  
*Clivina trisulcata* Sturm, 1843: 2. **DES**  
*Clivina unicolor* Sturm, 1843: 2. **DES**  
*Cratacanthus pallidus* Sturm, 1843: 30. **DES**  
*Dicaelus ambiguus* Dejean, 1836: 31. **DES**  
*Dicaelus lecontei* Dejean, 1836: 30. **DES**  
*Dicaelus quadratus* Dejean, 1836: 31. **DES**  
*Dicaelus tristis* Sturm, 1843: 19. **DES**  
*Dromius auratus* Sturm, 1826: 134. **DES**  
*Dromius collaris* Sturm, 1826: 134. **DES**  
*Dromius festinans* Dejean, 1821: 3. **DES**  
*Dromius picipes* Sturm, 1826: 134. **DES**  
*Dyschirius californicus* Motschulsky, 1850a: 18. **DES**  
*Emphanes flavopictus* Motschulsky, 1850a: 13. **DES**  
*Galerita elegans* Chaudoir, 1861b: 553. **SYN**  
*Harpalus brevis* Sturm, 1826: 148. **DES**  
*Harpalus brunnipennis* Dejean, 1821: 15. **DES**  
*Harpalus cuprescens* Sturm, 1843: 33. **DES**  
*Harpalus laevigatus* Sturm, 1843: 33. **DES**  
*Harpalus moestus* Dejean, 1821: 14. **DES**  
*Hirmoplataphus* Netolitzky, 1942: 46. **TYP**  
*Lebia albomarginata* Sturm, 1826: 161. **DES**  
*Lebia marginella* Sturm, 1826: 161. **DES**  
*Limodromus parallelus* Motschulsky, 1850a: 70. **DES**  
*Lorocera flavipes* Motschulsky, 1850a: 66. **DES**  
*Loxopeza testacea* LeConte, 1880b: 164. **DES**  
*Nebria fusiformis* Van Dyke, 1926b: 11. **DES**  
*Nebria strawberriensis* Kavanaugh, 1978: 413. **PUB**  
*Neonebria* Hatch, 1939a: 117. **TYP**  
*Notiophilus intermedius* Lindroth, 1954b: 157. **DES**  
*Notiophilus plumbeus* Sturm, 1843: 17. **DES**  
*Ochthedromus compar* LeConte, 1857a: 5. **DES**  
*Olisthopus dorsalis* Sturm, 1843: 23. **DES**  
*Omaseus cephalotes* Sturm, 1843: 24. **DES**  
*Omaseus punctatostriatus* Sturm, 1843: 24. **DES**  
*Omaseus sulcatus* Sturm, 1843: 24. **DES**  
*Pangus melanarius* Sturm, 1843: 31. **DES**  
*Pasimachus laterisulcatus* Sturm, 1826: 182. **DES**



- Pasimachus obtusus* Sturm, 1826: 182. **DES**  
*Pasimachus sulcatus* Dejean, 1821: 4. **DES**  
*Platynus dixianus* Zimmermann [in LeConte], 1869b: 246. **DES**  
*Platysma alternata* Motschulsky, 1850a: 53. **DES**  
*Platysma breviscula* Motschulsky, 1850a: 54. **DES**  
*Platysma punctatosulcata* Sturm, 1826: 185. **DES**  
*Poecilus albionicus* Motschulsky, 1850a: 53. **DES**  
*Poecilus cupreonitens* Sturm, 1843: 23. **DES**  
*Poecilus similis* Dejean, 1821: 11. **DES**  
*Pogonus californicus* Motschulsky, 1850a: 6. **DES**  
*Pseudomaseus dilutus* Motschulsky, 1850a: 51. **DES**  
*Pterostichus maeklini* LeConte, 1863b: 9. **DES**  
*Pterostichus muticus* LeConte, 1863b: 8. **DES**  
*Rhombodera pallipes* LeConte, 1863b: 6. **DES**  
*Scarites laevistriatus* Sturm, 1843: 2. **DES**  
*Scarites picicornis* Sturm, 1843: 2. **DES**  
*Selenophorus pedicularius* var. *semiopacus* Snow, 1903: 194. **DES**  
*Stenolophus americanus* Dejean, 1821: 15. **DES**  
*Stenolophus marginellus* Dejean, 1821: 15. **DES**  
*Stenolophus palliatus* Motschulsky, 1850a: 21. **DES**  
*Steropus picipes* Sturm, 1843: 25. **DES**  
*Steropus politus* Sturm, 1843: 25. **DES**  
*Tachys carolinus* Schwarz, 1878: 438. **DES**  
*Tachys columbiensis* Schwarz, 1878: 438. **DES**  
*Tachys truncorum* Crotch, 1874a 21. **DES**  
*Tenessarius* Valentine, 1952: 15. **TYP**  
*Trechus laevigatus* LeConte, 1863b: 14. **DES**

## Appendix 5. List of nomenclatural acts included in this catalogue

### New taxon

*Randallius* Bousquet, new subgenus. Type species: *Chlaenius purpuricollis* Randall, 1838.

### New replacement name

*Pterostichus amadeus* Bousquet for *Pterostichus vexatus* Bousquet, 1985.

### New synonymies

- Agonum canadense* Goulet, 1969 = *Agonum elongatulum* Haldeman, 1843.  
*Anisodactylus lecontei* Chaudoir, 1868 = *Anisodactylus nigrita* Dejean, 1829.  
*Axinopalpus coloradensis* Casey, 1920 = *Axinopalpus biplagiatus* (Dejean, 1825).  
*Axinopalpus demissus* Casey, 1920 = *Axinopalpus biplagiatus* (Dejean, 1825).  
*Axinopalpus habilis* Casey, 1920 = *Axinopalpus biplagiatus* (Dejean, 1825).  
*Badister laticeps* Blatchley, 1910 = *Badister flavipes flavipes* LeConte, 1853.  
*Bembidion arizonae* Lindroth, 1963 = *Bembidion durangoense* Bates, 1891.  
*Bembidium lapponicum* C.G. Thomson, 1857 = *Bembidion lapponicum* Zetterstedt, 1828.  
*Brachylobus lithophilus indigaceus* Casey, 1914 = *Chlaenius lithophilus* Say, 1823.  
*Calleida striata* Casey, 1913 = *Calleida fulgida* Dejean, 1831.  
*Carabus franciscanus* Casey, 1913 = *Carabus taedatus agassii* LeConte, 1850.  
*Celia impunctata* Putzeys, 1867 = *Amara chalcea* Dejean, 1828.  
*Chlaenius frostii* Carr, 1920 = *Chlaenius purpuricollis* Randall, 1838.  
*Chlaenius purpuricollis* Randall, 1838 = *Chlaenius purpuratus* Harris, 1836.  
*Chlaenius sierricola* Casey, 1914 = *Chlaenius sericeus* (Forster, 1771).  
*Chlaenius texanellus* Casey, 1914 = *Chlaenius brevilabris* LeConte, 1847.  
*Chlaenius viridifrons* Eschscholtz, 1833 = *Chlaenius sericeus* (Forster, 1771).  
*Clivina cordata* Putzeys, 1846 = *Clivina acuducta* Haldeman, 1843.  
*Cryobius delicatus* Casey, 1918 = *Pterostichus brevicornis brevicornis* (Kirby, 1837).  
*Cymindis elegans mobilensis* Casey, 1920 = *Cymindis elegans* LeConte, 1846.  
*Darlingtonia kentuckensis lexingtoni* Valentine, 1952 = *Darlingtonia kentuckensis* Valentine, 1952.  
*Dicaelus darlingtoni* Fall, 1932 = *Dicaelus quadratus* LeConte, 1847.  
*Euharpalops* Casey, 1924 = *Opadius* Casey, 1914.  
*Glanodes regressus* Casey, 1914 = *Harpalus obliquus* Horn, 1880.  
*Goniolophus lucens* Casey, 1914 = *Philodes flavilimbus* (LeConte, 1869).  
*Haploharpalus* Schauburger, 1926 = *Opadius* Casey, 1914.  
*Harpalus cyrtotoides* Notman, 1919 = *Harpalus desertus* LeConte, 1859.  
*Harpalus subaeneus* Mannerheim, 1853 = *Harpalus fulvilabris* Mannerheim, 1853.  
*Hypherpes alamedae* Casey, 1918 = *Pterostichus vicinus* Mannerheim, 1843.  
*Hypherpes intectus* Casey, 1918 = *Pterostichus protractus* LeConte, 1860.  
*Hypherpes kansanus* Casey, 1918 = *Pterostichus algidus* LeConte, 1853.

- Hypherpes placherensis* Casey, 1918 = *Pterostichus laborans* Casey, 1913.  
*Hypherpes protensipennis* Casey, 1918 = *Pterostichus mercedianus* (Casey, 1918).  
*Lebia scapularis* var. *limbigera* Chaudoir, 1871 = *Lebia solea* Hentz, 1830.  
*Micranillodes* Jeannel, 1963 = *Anillinus* Casey, 1918.  
*Moritapterus* O. Berlov, 2000 = *Euferonia* Casey, 1918.  
*Neomyas lindrothi* Allen, 1980 = *Myas cyanescens* Dejean, 1828.  
*Pharalus* Casey, 1914 = *Opadius* Casey, 1914.  
*Platynus hornii* Hausen, 1891 = *Agonum muelleri* (Herbst, 1784).  
*Poecilus lucublandus acomanus* Casey, 1924 = *Poecilus lucublandus* (Say, 1823).  
*Poecilus lucublandus louisinus* Casey, 1924 = *Poecilus lucublandus* (Say, 1823).  
*Pterostichus brevisculus* Casey, 1913 = *Pterostichus congestus* (Ménétriés, 1843).  
*Pterostichus brevisculus mimus* Casey, 1913 = *Pterostichus congestus* (Ménétriés, 1843).  
*Pterostichus bucolicus* Casey, 1913 = *Pterostichus algidus* LeConte, 1853.  
*Pterostichus cuneatulus* Casey, 1913 = *Pterostichus suffusus* Casey, 1913.  
*Pterostichus diabolus* Casey, 1913 = *Pterostichus californicus* (Dejean, 1828).  
*Pterostichus gregalis* Casey, 1913 = *Pterostichus castanipes* (Ménétriés, 1843).  
*Pterostichus humboldti* Casey, 1913 = *Pterostichus algidus* LeConte, 1853.  
*Pterostichus plutonicus* Casey, 1913 = *Pterostichus congestus* (Ménétriés, 1843).  
*Pterostichus tahoensis* Casey, 1913 = *Pterostichus laborans* Casey, 1913.  
*Pterostichus zunianus* Casey, 1913 = *Pterostichus protractus* LeConte, 1860.  
*Rhadine gracilenta* Casey, 1913 = *Rhadine jejuna* (LeConte, 1878).  
*Rhadine plumasensis* Casey, 1920 = *Rhadine jejuna* (LeConte, 1878).  
*Rhadine tenuipes* Casey, 1920 = *Rhadine jejuna* (LeConte, 1878).  
*Selenophorus excisus* LeConte, 1878 = *Selenophorus parumpunctatus* (Dejean, 1829).  
*Selenophorus parumpunctatus* Dejean, 1829 = *Selenophorus sinuatus* (Gyllenhal, 1806).  
*Selenophorus perpolitus* Casey, 1884 = *Athrostictus punctatulus* Putzeys, 1878.  
*Steniridia andrewsi barksdalei* Valentine, 1936 = *Scaphinotus andrewsi darlingtoni* (Valentine, 1935).  
*Steniridia andrewsi montana* Valentine, 1935 = *Scaphinotus andrewsii amplicollis* (Casey, 1920).  
*Steniridia andrewsi nantahalae* Valentine, 1936 = *Scaphinotus andrewsi darlingtoni* (Valentine, 1935).  
*Steniridia andrewsi saludae* Valentine, 1936 = *Scaphinotus andrewsi darlingtoni* (Valentine, 1935).  
*Steniridia ridingsi intermedia* Valentine, 1935 = *Scaphinotus ridingsii ridingsii* (Bland, 1863).  
*Steniridia violacea carolinae* Valentine, 1935 = *Scaphinotus violaceus* (LeConte, 1863).  
*Stenolophus abstinens* Casey, 1914 = *Stenolophus incultus* Casey, 1914.  
*Stenolophus extensicollis* Casey, 1924 = *Stenolophus cincticollis* LeConte, 1858.  
*Stenolophus lamprotus* Bates, 1891 = *Stenolophus cincticollis* LeConte, 1858.  
*Stenolophus peregrinus* Casey, 1914 = *Stenolophus anceps* LeConte, 1857.  
*Stenolophus quadripunctatus* Mannerheim, 1853 = *Dicheirotichus cognatus* (Gyllenhal, 1827).

*Stenolophus remissus* Casey, 1914 = *Stenolophus incultus* Casey, 1914.

*Stenolophus semitinctus* Casey, 1914 = *Stenolophus cincticollis* LeConte, 1858.

### **New status**

*Agonoleptus dolosus* Casey, 1914 from *Agonoleptus unicolor dolosus*.

### **New combinations**

*Agonoleptus conjunctus* (Say, 1823) from *Stenolophus*.

*Agonoleptus dolosus* Casey, 1914 from *Stenolophus*.

*Agonoleptus rotundatus* (LeConte, 1863) from *Stenolophus*.

*Agonoleptus rotundicollis* (Haldeman, 1843) from *Stenolophus*.

*Agonoleptus thoracicus* (Casey, 1914) from *Stenolophus*.

*Agonoleptus unicolor* (Dejean, 1829) from *Stenolophus*.

*Anillinus affabilis* (Brues, 1902) from *Anillodes*.

*Anillinus depressus* (Jeannel, 1963) from *Micranillodes*.

*Anillinus sinuatus* (Jeannel, 1963) from *Anillodes*.

*Calosoma dawsoni* (Dajoz, 1997) from *Callisthenes*.

*Scaphinotus hoffmani* (Barr, 2009) from *Maronetus*.

*Scaphinotus reichlei* (Barr, 2009) from *Maronetus*.

### **Changes in precedence**

*Agonum deplanatum* Ménétriés, 1843 for *Agonum fallianum* (Leng, 1919).

*Badister micans* LeConte, 1844 for *Badister ocularis* Casey, 1920.

*Ellipsoptera rubicunda* Harris, 1911 for *Ellipsoptera marutha* Dow, 1911.

## Index of personal names

Only personal names cited other than for taxonomic purposes are indexed.

- |   |  |
|---|--|
| Agassiz, Jean Louis Rodolphe 262                            | Cockerell, Theodore Dru Alison 670           |
| Andrewes, Herbert Edward 1353                               | Comstock, John Henry 1184                    |
| Andrews, Ethan Allen 210                                    | Criddle, Norman 444                          |
| Antoine, Maurice 506  | Cross, William Henley 991                    |
| Audouin, Jean-Victor 270                                    | Dana, James Dwight 1577                      |
| Audubon, John James 339                                     | Darlington, Philip Jackson Jr. 1204          |
| Babcock, Orville Gorman 1189                                | David, Lore Rose 1573                        |
| Bachelot de la Pylaie, August Jean Marie 256                | Davidson, George 243                         |
| Balduf, Walter Valentine 144                                | Dejean, Pierre François Marie Auguste 280    |
| Barber, Herbert Spencer 497                                 | Deyrolle, Achille 735                        |
| Baron, Oscar Theodor 266                                    | Dietz, Ottomar 245                           |
| Barr, Thomas Calhoun Jr. 519                                | Dohrn, Carl August 702                       |
| Bates, Henry Walter 1154                                    | Dury, Ralph 764                              |
| Beebe, Charles William 689                                  | Dury, Charles 764                            |
| Behrens, James H. 1373                                      | Edwards, Henry 273                           |
| Belfrage, Gustav Wilhelm 301                                | Edwards, J. Gordon 160                       |
| Beller, Samuel 1216   | Emerson, Alfred Edward 462                   |
| Béring, Vitus 220   | Emmons, Ebenezer 1571                        |
| Beutenmüller, William 510                                   | Engelhardt, George Paul 466                  |
| Beyer, Gustav 830   | Engelmann, George 877                        |
| Bierig, Alexander 1360                                      | Eschscholtz, Johann Friedrich Gustav von 168 |
| Blaisdell, Frank Elsworth 1041                              | Evans, Howard Ensign 1134                    |
| Blanchard, Frederick 781                                    | Exline, Harriet Idola 916                    |
| Blatchley, Willis Stanley 874                               | Fall, Henry Clinton 419                      |
| Boisduval, Jean Baptiste Antoine Déchauffour de 283         | Farrar, Elizabeth 640                        |
| Bonelli, Franco Andrea 1319                                 | Feilden, Henry Wemyss 1581                   |
| Bowditch, Frederick Channing 315                            | Fender, Kenneth M. 1062                      |
| Boyer de Fonscolombe, Etienne Laurent Joseph Hippolyte 1278 | Fletcher, James 350                          |
| Brevoort, James Carson 872                                  | Flohr, Julius 771                            |
| Brown, Williamson James 901                                 | Folkerts, George W. 703                      |
| Bryant, Owen 686  | Forrer, Alfonse 261                          |
| Calvin, Samuel 1579   | Forster, Johann Reinhold 973                 |
| Carr, Bertha 434  | Frost, Charles Albert 325                    |
| Carr, Frederick Stephens 1205                               | Fuchs, Charles 589                           |
| Carr, John Lawrence 434                                     | Gabb, William More 307                       |
| Casey, Thomas Lincoln 710                                   | Garman, Harrison 476                         |
| Cazier, Mont Adelbert 280                                   | Gebler, Frédéric Auguste 175                 |
| Chamberlin, Willard Joseph 355                              | Gehring, John George 459                     |
| Chamisso, Adelbert Loginovitch von 255                      | Germar, Ernst Friedrich 211                  |
| Champion, George Charles 420                                | Gibbs, George 141                            |
| Champlain, Alfred B. 1374                                   | Gibson, Arthur 351                           |
| Chaudoir, Maximilien Stanislavovitch Baron de 970           | Gory, Hippolyte Louis 253                    |
| Chermock, Ralph Lucien 1003                                 | Graham, Roy 548                              |
| Chevrolat, Louis Alexandre Auguste 602                      | Guex, John A. 322                            |
| Clairville, Joseph Phillippe de 378                         | Guyot, Arnold Henri 212                      |
| Clarke, John Frederick Gates 253                            | Gyllenhal, Leonhard 730                      |
|   | Haftorn, Svein 859                           |



- Hagen, Herman August 606  
 Haldeman, Samuel Stehman 778  
 Hall, James 1579  
 Hamilton, John 817  
 Harris, Thaddeus William 1232  
 Harris, Edward Doubleday 357  
 Hart, Charles Arthur 1133  
 Hartt, Charles Frederic 1579  
 Hatch, Melville Harrison 216  
 Hayden, Ferdinand Vandever 238  
 Hayward, Roland 660  
 Hellén, Wolter 440  
 Hemphill, Henry 196  
 Henrot, Henri 472  
 Henshaw, Samuel 621  
 Hentz, Nicholas Marcellus 322  
 Hicks, Stanton D. 910  
 Hinde, George Jennings 1580  
 Hinton, Howard Everest 433  
 Hippius, W.W. 169  
 Höge, Carl Friedrich 1360  
 Holmberg, Heinrich Johan 142  
 Hood, J. Douglas 1134  
 Hopping, George Redstone 1111  
 Hopping, Ralph 222  
 Horn, George Henry 840  
 Howden, Henri Fuller 1189  
 Howell, Thelma 522  
 Hubbard, Henry Guernsey 208  
 Hubricht, Leslie Raymond 480  
 Hyslop, James Augustus 1231  
 Jeannel, René 504  
 Jefferson, Thomas 1571  
 Johnson, Orson Bennett 217  
 Johnson, Benjamin P. 304  
 Jones, Walter Bryan 485, 501  
 Keen, John Henry 529  
 Kellogg, Ralph Todd 199  
 Kemp, James Furman 1031  
 Kincaid, Trevor 176  
 King, Clarence 1578  
 Kirby, William 1027  
 Klug, Johann Christoph Friedrich 414  
 Knaus, Warren 297  
 Krekeler, Carl Herman 472  
 Kryzhanovskij, Oleg Leonidovich 784  
 L'Herminier, Félix Louis 261  
 La Rivers, Ira John II 245  
 Lane, Merton C. 803  
 Lantz, David Ernest 330  
 Le Moult, Eugène Henri 733  
 Leach, Edwin R. 338  
 LeConte, John Eatton 1358  
 LeConte, John Lawrence 1358  
 Leng, Charles William 1269  
 Leonard, Levi Washburn 203  
 Lesquereux, Leo 1581  
 Levette, Gilbert M. 551  
 Lewis, Meriwether 330  
 Lewis, Samuel 1114  
 Liebeck, Charles 206  
 Lindroth, Carl Hildebrand 422  
 Löding, Henry Peter 1024  
 Lorquin, Pierre 551  
 Luczot de La Thébaudais, François-Marie-Julien 792  
 Lysholm, Bjarne 562  
 Maehler, Kenneth Leforest 367  
 Malkin, Borys 832  
 Manee, Abram Herbert 909  
 Mann, William M. 214  
 Mannerheim, Gustav Graf von 169  
 Marsh, Othniel Charles 1581  
 Martin, James Otis 1125  
 Matthews, Henry & Joseph 457  
 Matthews, Andrew 457  
 McCrady, Edward 484  
 Meany, Edmond S. 173  
 Ménétriés, Edouard 849  
 Merkel, August 214  
 Morrison, Herbert Knowles 241  
 Muir, John 1221  
 Müller, Otto Friedrich 1212  
 Nakane, Takehiko 159  
 Nelson, Gayle H. 493  
 Newberry, John Strong 1575  
 Newman, Edward 185  
 Notman, Howard 636  
 Nunenmacher, Frederick William 275  
 Oberthür, René 604  
 Oslar, Ernest J. 352  
 Packard, Alpheus Spring Jr. 463  
 Palm, Charles 800  
 Parker, Frank Henry 201  
 Petrunkevitch, Alexander Ivanovitch 490  
 Piccolomini, Enea Silvio Vincenzo 267  
 Pilate, Louis 302  
 Piper, Charles Vancouver 178  
 Poey y Aloy, Felipe 978  
 Ponce de León, Juan 1101  
 Porsild, Alf Erling 1078  
 Powell, John Wesley 1577  
 Pratt, Robert Y. 1313  
 Pumpelly, Raphael 1576  
 Putzeys, Jules Antoine Adolphe Henri 896

Quensel, Conrad 945  
 Randall, John Witt 988  
 Rathvon, Simon Snyder 175  
 Reichardt, Hans 1366  
 Richardson, John 149  
 Ricksecker, Lucius Edgar 662  
 Ridings, James 213  
 Riehl, Friedrich 1090  
 Rivers, James John 178  
 Roeschke, Hans Friedrich 200  
 Ross, Edward Shearman 1186  
 Roth, Vincent Daniel 830  
 Rothfels, Klaus 556  
 Rumpp, Norman L. 333  
 Sahlberg, Reinhold Ferdinand 898  
 Sahlberg, Carl Reinhold 163  
 Sahlberg, John Reinhold 898  
 Sallé, Auguste 424  
 Saulcy, Louis-Félicien-Joseph de 305  
 Saulcy, Félicien de 305  
 Saulcy, Ernest de 305  
 Say, Thomas 229  
 Schaum, Hermann Rudolphe 428  
 Schaupp, Franz G. 324  
 Schott, Fred M. 908  
 Schwarz, Eugene Amandus 1376  
 Scudder, Samuel Hubbard 621  
 Sexton, Richard 449  
 Shantz, Homer Leroy 916  
 Shelford, Victor Ernest 363  
 Sherman, John Dempster 148  
 Shirahata, Kôtarô 991  
 Shoemaker, Ernest 917  
 Shull, Wesley Earl 803  
 Slevin, Joseph Richard 142  
 Smith, Gordon Stace 634  
 Smyth, Eugene Graywood 300  
 Snow, Francis Huntington 201

Soper, Joseph Dewey 864  
 Spalding, Thomas Utting 326  
 Sprague, Philip Shaw 842  
 Stephan, Karl Heinz 1130  
 Stephens, James Francis 579  
 Straneo, Stefano Ludovico 764  
 Stupka, Arthur 519  
 Stuxberg, Anton Julius 861  
 Tanner, Vasco Myron 368  
 Tellkamp, August Otto Theodor 502  
 Townsend, Charles Henry Tyler 261  
 Trybom, Filip 902  
 Tschernikh, Egor Leont'evich 747  
 Ulke, Henry 583  
 Ulke, Julius 375  
 Valentine, Joseph Manson 495  
 Van Dyke, Edwin Cooper 181  
 Vesey, John Xantus de 272  
 Vietinghoff, Baron de 264  
 Wade, Joseph Sanford 932  
 Wakeland, Claude 910  
 Walcott, Charles Doolittle 1576  
 Wallis, John Braithwaite 338  
 Wapler, Émile 296  
 Watson, Arthel Lane 702  
 Webster, Francis Marion 1336  
 Weese, Asa Orrin 544  
 Whitcomb, Willard Hall 877  
 Whitehead, Donald Robert 411  
 Whitfield, Robert Parr 1578  
 Wickham, Henry Frederick 650  
 Wilkes, Charles 251  
 Williston, Samuel Wendell 328  
 Wingate, John D. 530  
 Wolcott, Albert Burk 1031  
 Wood, Donald Monty 864  
 Young, Frank Nelson Jr. 499  
 Zimmermann, Christian 247

## Index of supraspecific names

Taxon and author names are formatted as follows: family-group names regarded as valid and represented in North America are in small capitals without their authors, all other family-group names are in regular type without their authors; valid genus-group names with representatives in North America are in bold, those not represented in North America are in regular type; invalid genus-group names are in italics.

- Abacétides 753  
 ABACETINI 50, 753  
 Abacetodes Straneo 59  
 Abacetus Dejean 753  
**Abacidus** LeConte 769, 816  
 Abacodes Jeannel 51  
 Abacoleptus Fauvel 51  
 Abacomorphus Chaudoir 51  
 Abacopercus Ganglbauer 886  
*Abareoidius* Rye 770  
**Abaridius** Chaudoir 769, 770  
**Abaris** Dejean 769  
*Abarys* Agassiz 769  
**Abax** Bonelli 51, 886  
 Abaxini 769  
*Abaxodes* Gistel 854  
 Abropus Waterhouse 51  
**Acalathus** Semenov 1162, 1169  
*Acalosoma* Lafer 230  
*Acamegonia* Lapouge 234  
*Acampalita* Lapouge 228  
*Acanthoscelis* Dejean 35  
*Acanthoscelitina* 35, 400  
 Acinopi 57, 1091  
*Acrodon* Zimmermann 913  
**Actedium** Motschulsky 559  
*Actenoncus* Chaudoir 55  
*Actenonycina* 64, 1275  
 Acupalpini 1045  
**Acupalpus** Latreille 1080  
*Adelotopus* Hope 1372  
*Adocron* Lutshnik 913  
 Adrimus Bates 753  
*Aega* Agassiz 1263  
 Aeolodermus Andrewes 1265  
*Afrogehringia* Baehr, Schüle & Lorenz 39, 459  
*Afrotarus* Jeannel 1283, 1284  
*Agaosoma* Ménétriés 1153  
 Agelaeina 1174  
*Agilochlaenius* Kirschenhofer 974  
 Agonica Sloane 54  
 Agonicina 54  
 Agonidae 1174  
 Agonidium Jeannel 59  
*Agonocyrrhes* Motschulsky 1210  
**Agonoderus** Dejean 1046, 1052  
*Agonodromius* Reitter 1178  
**Agonoleptus** Casey 1056  
*Agonops* Bousquet 1211  
*Agonopsis* Semenov 1210  
*Agonothorax* Motschulsky 59, 1200  
**Agonum** Bonelli 59, 1200, 1210  
*Agostenops* Lutshnik 986  
**Agostenus** Fischer von Waldheim 986  
**Agra** Fabricius 1352  
*Agrana* Rafinesque 1352  
*Agreuter* Lepeletier & Audinet-Serville 967  
 Agridae 1351  
*Agridia* Chaudoir 1352  
 AGRINA 64, 1275, 1351  
*Agrochlaenius* Basilewsky & Grundmann 977  
*Agronoma* Gistel 928  
 Agronomaeidae 887  
**Akephorus** LeConte 430  
*Albux* LeConte 816  
 Allotriopus Bates 786  
*Altaiotrechus* Iablokoff-Khnzorian 506  
**Amara** Bonelli 51, 887, 928  
 AMARINA 887  
**Amarocelia** Motschulsky 921  
 Amaroiden 887  
 Amaroschesis Tschitschérine 1156  
 Amarotypini 33, 34  
 Amarotypus Bates 34  
 Amaurotachys Jeannel 667  
**Amblycheila** Say 31, 265  
 AMBLYCHEILINI 31, 265  
*Amblychila* Agassiz 265  
 Amblychilinae 265  
*Amblychus* Gyllenhal 1005  
 Amblygenius LaFerté-Sénectère 967  
**Amblygnathus** Dejean 1091, 1134  
*Amblyprosopa* Gistel 265  
 Amblystomi 57, 1091

- Amblystomini 1091  
*Amblystus* Motschulsky 1117  
 Amblytelini 43, 44  
*Amblytelus* Erichson 44  
*Americobius* Lutshnik 772  
*Americomaseus* Csiki 789  
**Amerinus** Casey 1076  
**Amerizus** Chaudoir 527  
**Amerodualius** Valentine 41, 504  
*Amoebea* Péringuey 60  
*Amolyntus* Gistel 1200  
 Amorphomerini 56  
*Amorphomerus* Sloane 56, 751  
**Amphasia** Newman 1038, 1039  
*Amphitasus* Bates 1260  
*Amphyginus* Haliday 1162, 1163  
*Anabolus* Gistel 202  
**Anadaptus** Casey 1020, 1033  
*Anaferonia* Casey 874  
*Anatrechus* Casey 712  
**Anatrichis** LeConte 953  
*Anaulacus* Macleay 63  
*Anchodemus* Motschulsky 1181  
*Anchomenii* 1174  
**Anchomenus** Bonelli 59, 1181, 1182  
*Anchonodérides* 1260  
**Anchonoderus** Reiche 1260  
*Anchus* LeConte 1199  
*Ancylostria* Schauburger 1080  
*Ancystroglossus* Chaudoir 1362  
*Andrewesella* Csiki 1353  
*Androzelma* Dostal 36  
*Androzelmina* 36  
*Angoleus* Villa & Villa 771  
*Aniara* Hope 281  
**Anillaspis** Casey 710  
 ANILLINA 41, 527, 697  
 Anillini 697  
**Anillinus** Casey 699  
**Anillodes** Jeannel 698  
**Anilloferonia** Van Dyke 769, 831  
*Anisocnemus* Chaudoir 1154  
*Anisodactylides* 1012  
 ANISODACTYLINA 57, 1012  
**Anisodactylus** Dejean 1019, 1020  
*Anisotarsi* 1012  
**Anisotarsus** Chaudoir 1012  
**Anomoglossus** Chaudoir 55, 965  
*Anomotarina* 1338  
*Anoncopeucus* Chaudoir 55  
*Anoxyina* 454  
*Antarctia* Dejean 51  
*Antarctiini* 51  
*Antarctiola* Straneo 51  
*Anthiini* 65  
*Anthracini* 1045  
**Anthracus** Motschulsky 1080, 1085  
*Antidyschirius* Fedorenko 432  
*Antilliscaris* Bänninger 400  
*Antoinella* Jeannel 506  
**Antroforceps** Barr 404, 409  
*Apatrobus* Habu & Baba 718  
**Apenes** LeConte 1295, 1297  
 APENINA 64, 1275, 1295  
*Aphanotrechus* Barr 461  
*Aphelogenia* Chaudoir 1319  
*Aploa* Hope 734  
*Aplocentroides* Ball & Bousquet 1036  
**Aplocentrus** LeConte 1020, 1036  
*Aplochile* LeConte 726  
*Aplothorax* Waterhouse 227  
*Aporesthus* Bates 1260  
 Apotominae 38  
*Apotomus* Illiger 38  
*Apristomorphus* Motschulsky 1310  
**Apristus** Chaudoir 1306  
*Aptenidium* Habu & Uéno 645  
*Apterodela* Rivalier 285  
*Apteroessina* 284  
*Apterotetracha* Naviaux 282  
*Aptinina* 48  
*Aptinoderus* Hubenthal 734  
*Aptinomimus* Alluaud 734  
*Aquilex* Moret 34  
*Aquilicina* 34  
*Arabotrechus* Mateu 505  
*Archaeocarabus* Semenov 252  
*Archastes* Jedlička 27, 150  
*Archeocarabus* Bengtsson 258  
**Archicarabus** Seidlitz 29, 258  
*Archipatrobus* Zamotajlov 718  
**Arctelaphrus** Semenov 377  
*Arctobia* Thomson 371  
**Arctoclinidium** Bell 24, 143  
*Ardistomides* 427  
*Ardistomiellus* Kult 428  
*Ardistomina* 404, 427  
**Ardistomis** Putzeys 36, 427  
*Ardistomus* Csiki 427  
*Aretaonus* Liebke 1261  
*Argestes* LeConte 1157  
**Argutor** Dejean 51, 787  
*Argyrobracteon* Netolitzky 547  
*Aristochroa* Tschitschérine 50

- Aristochroodini 769  
 Armatocillenus Dupuis 559  
 Arthroptera 46  
 Arthropterus Macleay 46  
**Asaphidion** des Gozis 527, 533, 534  
*Asaphidium* Jacobson 534  
**Asioperyphus** Vysoký 574  
 Asklepias Liebke 1260  
*Asmerinx* Tschitschérine 1156  
**Aspidoglossa** Putzeys 36, 429  
 Asporina Laporte 52  
 Assadecma Basilewsky 1283  
 Astenolophus Habu 1046  
**Athrostictus** Bates 1091, 1136  
 Atlantocellus Wrase & Jaeger 1059  
 Atlantomasoreus Mateu 63  
 Atlantotrechus Lompe 505  
 Atrani 1259  
 ATRANINI 59, 1259  
 Atranopsina 58, 1161  
**Atranus** LeConte 59, 1259  
*Aulacopterus* Géhin 238  
*Aulacotarsus* Reiche 787  
**Aulonocarabus** Reitter 29, 255  
 Aurisma Fairmaire 785  
 Australicapitona Sumlin 281  
 Australodrepa Lapouge 230  
*Austronotaphus* Jeannel 600  
 Austropseudomorpha Baehr 1372  
*Autocarabus* Seidlitz 259  
 Axinidiini 453  
 Axinidium Sturm 453  
**Axinopalpus** LeConte 1311  
*Axinophorus* Dejean 1372  
*Axinopselaphus* Gemminger & Harold 1311  
 Axonyina 37  
*Axylosius* Liebke 1260  
**Aztecarnpalus** Ball 1091, 1159  
**Badister** Clairville 1004  
*Badistes* Agassiz 1004  
 Badistidae 1004  
 Baenningeria Reichardt 400  
*Balius* Schiødte 1085  
*Baptaulonocarabus* Imura 255  
 Baripodina 454  
 Barylaus Liebherr 52  
 Barypodina 37  
**Barytachys** Chaudoir 667  
*Basaphidion* Netolitzky 534  
 Bascanidius Péringuey 54  
 Bascanini 54  
 Bascanus Péringuey 54, 751  
 Basoleia Westwood 50  
**Batenus** Motschulsky 1249  
**Baudia** Ragusa 1004, 1008  
 Bedelinus Ragusa 1162  
 Bedeliolus Semenov 711  
 Bellogenus Clarke 1156  
*Bembecidium* Agassiz 535  
*Bembicidium* Gemminger & Harold 535  
 Bembidiidae 527  
 BEMBIDIINA 41, 527  
 BEMBIDIINI 41, 527  
 Bembidiomorphum Champion 43  
**Bembidion** Latreille 527, 535, 584  
*Bembidium* Gyllenhal 535  
*Biphonias* Jeanne 789  
**Blaptosoma** Géhin 30, 238  
*Blechnus* Motschulsky 1303  
**Blemus** Dejean 41, 502  
**Blepharoplastaphus** Netolitzky 630  
**Blethisa** Bonelli 372  
 Bleusei 57, 1091  
*Bobsus* Fischer von Waldheim 886  
*Bomius* LeConte 1304  
 Bordoniella Mateu 1278  
*Boreobia* Tschitschérine 783  
**Boreoglymmius** Bell & Bell 23, 146  
**Boreonebria** Jeannel 154  
**Bothriopterus** Chaudoir 51, 791  
 Bothynoproctus Tschitschérine 50  
 Brachidius Chaudoir 50  
 Brachinii 733, 734  
 BRACHININA 48, 734  
 BRACHININAE 47, 733  
 BRACHININI 48, 733  
 Brachinoaptinus Lutshnik 734  
 Brachinulus Basilewsky 734  
**Brachinus** Weber 48, 734  
 Brachygnathini 54  
 Brachygnathus Perty 54, 751  
 Brachylobini 963  
**Brachylobus** Chaudoir 55, 985  
 Brachynillus Reitter 48  
 Brachynolomus Reitter 734  
*Brachynus* Agassiz 734  
 Brachyophonus Sciaky 1093  
*Brachystilus* Chaudoir 833  
*Brachytachys* Basilewsky 683  
*Bracteomimus* Lindroth 555  
**Bracteon** Bedel 546  
 Bradybaeni 57, 1091  
*Bradycelia* Lafer 913  
 Bradycellini 1045



- Bradycelloides Habu 1059  
**Bradycellus** Erichson 1059, 1061  
**Bradytus** Stephens 899  
 Brasiella Rivalier 300  
**Brennus** Motschulsky 217  
 Broschidae 454  
 BROSCINA 37, 454  
 BROSCINAE 37, 454  
 BROSCINI 454  
**Broscodera** Lindroth 456  
**Broscus** Panzer 457  
 Bryanites Valentine 1196  
 Buderes Murray 752  
 Caecidium Uéno 527  
 Caelostomini 52  
 Caelostomus Macleay 52  
 Cainogenion Notman 1372  
*Calamata* Motschulsky 228  
 Calathidae 1162  
 CALATHINA 58, 1162  
 Calathosoma Jeannel 34  
**Calathus** Bonelli 1162  
 Caledyschirius Bulirsch 430  
**Calleida** Latreille 1342, 1343  
 CALLEIDINA 64, 1275, 1338  
*Callida* Agassiz 1342  
 Callidides 1338  
 Callidiola Jeannel 1343  
*Callipara* Motschulsky 230  
*Callisoma* Agassiz 227  
**Callistenia** Lapouge 30, 244  
 Callistina 963  
 Callistoidini 963  
**Callistometus** Grundmann 55, 984  
*Callistriga* Motschulsky 228  
**Callitropa** Motschulsky 30, 237  
**Calocolliuris** Liebke 1270  
**Calodrepa** Motschulsky 30, 230, 231  
*Caloidea* Bedel 1342  
*Caloidea* Maindron 1342  
 Calophaena Klug 62  
 Calophaenini 62  
 Calophaenoidea Liebke 62  
**Calosoma** Weber 29, 227, 230  
 Calosomatina 29  
 Calosomii 227  
*Calotrechus* Wollaston 505  
*Caludema* Jeannel 229  
**Calybe** Laporte 61, 1260, 1263  
*Camaragnathus* Bocandé 34  
*Camedula* Motschulsky 228  
**Camegonia** Lapouge 30, 232  
 Camptidius Putzeys 36  
 Camptodontus Dejean 36  
 Camptotoma Reiche 52  
*Cannellocarabus* Lutshnik 259  
 Carabici 146, 191, 227  
 CARABIDAE 24, 146  
 Carabidomemnina 46  
 Carabidomemnus Kolbe 46  
 Carabina 29  
 CARABINAE 28, 191  
 CARABINI 29, 191, 227  
**Carabosoma** Géhin 30, 234  
**Carabus** Linnaeus 29, 227, 251, 252  
*Carbanus* Andrewes 1156  
 Cardiaderus Dejean 711  
 Cardiostenus Tschitschérine 1077  
 Carenini 35, 392  
 Carenostylus Chaudoir 771  
 Casnoniae 1267  
**Castrida** Motschulsky 30, 228  
 Catadromiens 769  
 Catadromus Macleay 49  
 Catapieseini 60  
 Catapiesis Brullé 60  
 Catapiesis Solier 50  
*Catastriga* Lapouge 228  
**Catharellus** Casey 1059, 1062  
**Catonebria** Shilenkov 172  
 Celaenephes Schmidt-Göbel 63  
 Celaenephina 64, 1275  
 Celanida Laporte 43  
**Celia** Zimmermann 913  
**Celiamorphus** Casey 1137  
 Celioschesini 753  
*Cephalogyna* Casey 1020  
*Cephalotes* Bonelli 457  
 Cephalotida 454  
 Cerapterina 46  
 Cerapterini 47  
 Cerapterus Swederus 46  
 Ceratoderina 47  
 Ceratoderus Westwood 47  
 Ceroglossini 29, 191  
 Ceroglossus Solier 29  
*Chaelinus* Basilewsky & Grundmann 968  
 Chaetapatrobus Lafer 718  
 Chaetodactyla Tschitschérine 49, 50, 751  
 Chaetodactylini 49  
 Chaetoduvalius Jeannel 41  
 Chaetogenyini 52  
 Chaetogenys van Emden 52  
*Chaleposomus* Chaudoir 265

- Chalteniina 41  
*Charopterus* Motschulsky 1310  
*Cheiloxia* Guérin-Ménéville 281  
*Chinapenetetrus* Kurnakov 718  
*Chinelaus* Basilewsky & Grundmann 968  
*Chinocillenus* Netolitzky 559  
*Chinoperyphus* Vysoký 574  
*Chiridysus* Fedorenko 432  
*Chlaenides* 962, 963  
**Chlaeniellus** Reitter 977  
 CHLAENIINA 963  
 CHLAENIINI 55, 962  
*Chlaenioctenini* 963  
*Chlaeniodini* 963  
*Chlaeniomimus* Semenov 1182  
*Chlaenionini* 963  
**Chlaenius** Bonelli 55, 963, 968  
*Chrysobracteon* Netolitzky 546  
**Chrysostigma** Kirby 30, 239  
**Cicindela** Linnaeus 310, 328  
*Cicindeletae* 265, 284, 285  
**Cicindelidia** Rivalier 310  
 CICINDELINA 284, 285  
*Cicindelina* Jeannel 285  
 CICINDELINAE 30, 265  
 CICINDELINI 31, 265, 284  
*Cicindella* Gistel 310  
*Cicindinae* 28  
*Cicindosa* Motschulsky 285  
*Cillenum* Curtis 559  
**Cillenus** Samouelle 559  
*Circinalia* Casey 1215  
*Circinalidia* Casey 1215  
*Clibanarius* des Gozis 1182  
*Clinidiina* 143  
 CLINIDIINI 24, 142, 143  
**Clinidium** Kirby 24, 143  
**Clivina** Latreille 404, 406  
*Clivinidia* Rafinesque 404  
*Cliviniella* Kult 404  
 CLIVININA 404  
 CLIVININI 36, 392, 404  
*Clivinopsis* Bedel 430  
*Cnecostolus* Reitter 48, 734  
*Cnemalobini* 49  
*Cnemalobus* Guérin-Ménéville 49  
*Colliurini* 1267  
**Colliuris** DeGeer 61, 1267  
*Collyridina* 32  
*Collyridini* 32, 265  
*Collyris* Agassiz 1268  
*Collyris* Fabricius 32  
*Colpodidas* 1174  
*Comstockia* Van Dyke 1184  
*Conicibracteon* Netolitzky 547  
*Conidera* Rivalier 285  
*Conjunctiini* 24  
**Coptodera** Dejean 1280  
*Coptodérides* 1275  
*Coptoderina* Jeannel 1280  
*Coptoderinella* Hansen 1280  
*Corallicillenus* Uéno 559  
*Cordoharpalus* Hatch 1104  
*Corsyra* Dejean 63  
*Corsyrini* 63  
*Coscinia* Dejean 39  
**Cosnania** Dejean 1268, 1269  
*Cratacanthi* 1091  
**Cratacanthus** Dejean 1091, 1159  
*Cratocara* LeConte 1089  
*Cratocarini* 1045  
*Cratocerini* 50  
*Cratocerus* Dejean 50  
*Cratogaster* Blanchard 51  
*Creagris* Nietner 1367  
*Creobiina* 37, 454  
*Crepidogaster* Boheman 48  
*Crepidogastrillus* Basilewsky 48  
*Crepidogastrini* 48  
*Crepidogastrinus* Basilewsky 48  
*Crepidolomus* Basilewsky 48  
*Crepidonellus* Basilewsky 48  
*Cribrodyschirius* Bruneau de Miré 430  
*Crossocrepis* Chaudoir 957  
*Crossonychus* Chaudoir 1273  
*Cryobiopterus* Berlov 854  
**Cryobius** Chaudoir 854  
*Cryocarabus* Lapouge 254  
*Cryptocephalomorpha* Ritsema 1372  
*Cryptoperigona* Perrault 1257, 1258  
*Ctenipus* Latreille 1173  
*Ctenodactylidae* 1271  
 CTENODACTYLINI 62, 1271  
*Ctenopus* Agassiz 1173  
*Ctenostoma* Klug 32  
*Ctenostomatini* 32, 265  
*Cuneipectini* 55  
*Cuneipectus* Sloane 55, 752  
**Curtonotus** Stephens 887  
*Cychridae* 191  
 CYCHRINI 28, 191  
*Cychropsis* Boileau 29, 191  
**Cychrus** Fabricius 29, 191, 195  
*Cychrys* Fabricius 195

- Cyclicus Jeannel 62, 1272  
**Cyclolopha** Casey 587  
 Cyclosomidae 1272  
 CYCLOSOMINI 62, 1272  
 Cyclosomus Latreille 62, 1272  
**Cyclotrachelus** Chaudoir 51, 769, 867, 868  
*Cylindella* Jacobson 286  
**Cylindera** Westwood 285  
*Cylindrobracteon* Netolitzky 542  
**Cylindrocharis** Casey 769, 822  
*Cylindrodera* Bedel 286  
**Cylindronotum** Putzeys 1351  
 Cymbionotum Baudi di Selve 39  
 Cymindidae 1283  
 CYMINDIDINA 64, 1275, 1283  
**Cymindis** Latreille 1283, 1284  
 Cymindoidea Laporte 1295  
 Cyrtolaus Bates 52  
*Cyrtonotus* Agassiz 888  
*Cyrptopterus* Motschulsky 1276  
 Dacca Putzeys 404  
 Dalyatini 37, 392  
 Dapti 57, 1091  
 Daptini 1091  
**Darlingtonia** Valentine 41, 504  
 Darodilia Laporte 51  
 Delinius Westwood 51  
 Deltomeridae 715  
 DELTOMERINA 42, 715  
 Deltomerodes Deuve 43, 715  
 Deltomerodina 42  
 Deltomerus Motschulsky 42, 715  
 Demetriadina 64, 1275  
*Deratanchus* Casey 1215  
 Dercylinea 53  
 Dercylini 52  
**Dercylinus** Chaudoir 53, 952  
*Dercylodes* Chaudoir 52  
 Dercylus Laporte 52, 752  
 Derocrania Chaudoir 32  
*Derulus* Tschitschérine 777  
**Derus** Motschulsky 771, 777  
 Desarmatocillenus Netolitzky 559  
 Desbordesius Maindron 1059  
 Dhysores Grouvelle 23  
 Dhysorini 23, 142  
**Diacheila** Motschulsky 371  
*Dianchomena* Chaudoir 1319  
*Diaphoromerus* Chaudoir 1013  
*Diaphorus* Dejean 1357  
 Diatypus Murray 1012  
 DICAELINA 990  
 Dicaelindus Macleay 53  
**Dicaelus** Bonelli 995, 1000  
 Diceromerus Chaudoir 52  
**Dicheirottrichus** Jacquelin du Val 1077  
**Dicheirus** Mannerheim 1040  
*Dichierius* Motschulsky 1040  
*Dichirotrichus* Gemminger & Harold 1077  
*Dichirus* Agassiz 1040  
 Dicoelidae 990  
*Dicoelus* Agassiz 995  
 Dicrochilina 990  
 Dicrodontina 1355  
*Didetus* LeConte 1265  
 Didymochaeta Chaudoir 1297  
 Dimorphopatrobus Casale & Sciaky 718  
*Dinodromius* Casey 1301  
 Dinopelma Bates 62  
**Diocarabus** Reitter 29, 254  
 Diodercarus Lutshnik 711  
**Diplocampa** Bedel 595  
**Diplochaetus** Chaudoir 711, 712  
**Diplocheila** Brullé 990  
*Diplocheirus* Ménétériés 1040  
*Diplochila* Agassiz 990  
**Diplous** Motschulsky 715  
*Disamara* Lindroth 1161  
*Dischirius* Duponchel 431  
**Discoderus** LeConte 1091, 1148  
 Discoptera Semenov 63  
 Ditomi 57, 1091  
 DOLICHINA 58  
 Dolichoctis Schmidt-Göbel 1276  
*Drepanus* Dejean 1372  
 Drimostoma Dejean 52  
 Drimostomatini 52  
*Dromaeus* Billberg 1301  
*Dromeochora* Gistel 301  
 Dromicina 284  
 Dromiei 1300  
*Dromiolus* Reitter 1303  
**Dromius** Bonelli 1301  
 DROMIUSINA 64, 1275, 1300  
**Dromochorus** Guérin-Méneville 301  
 Dryptini 64  
*Durangocarabus* Imura 260  
 Duvaliopsis Jeannel 41, 461  
 Dysbrachinus Schuler 734  
*Dyschiridius* Jeannel 431  
 DYSCHIRIINI 37, 392, 430  
 Dyschiriodes Jeannel 432  
 Dyschiriomimus Iablokoff-Khnzorian 36  
**Dyschirius** Bonelli 430, 431

- Dyscolus Dejean 1253  
*Dysidius* Chaudoir 791  
*Dystrichothorax* Blackburn 44  
*Eccoptomenini* 963  
*Echimuthus* Leach 1318  
*Ectenes* Billberg 1182  
**Ega** Laporte 1263  
*Egadroma* Motschulsky 1046  
*Egaploa* Alluaud 1080  
*Egini* 1260  
*Eidocompsus* Erwin 680  
*Elaphrii* 371  
 ELAPHRINAE 32, 371  
 ELAPHRINI 371  
**Elaphropus** Motschulsky 667  
*Elaphrotatus* Semenov 385  
**Elaphroterus** Semenov 385  
**Elaphrus** Fabricius 376, 380  
*Elgonophyes* Jeannel 505  
*Elgonotrechus* Jeannel 505  
**Ellipsoptera** Dokhtouroff 292  
**Elliptoleus** Bates 59, 1177  
*Elliptosoma* Wollaston 32, 369  
*Embrikiella* Lutshnik 913  
*Empeirus* Motschulsky 1095  
**Emphanes** Motschulsky 629  
*Emydopterus* Lacordaire 392  
*Enaphorus* LeConte 1359  
*Enceladini* 38  
*Enceladus* Bonelli 38  
*Enchores* Gistel 771  
*Encrates* Gistel 1314  
*Encratidae* 1314  
*Enoicini* 59  
*Enoicus* Péringuey 59  
*Eoclivina* Kult 404  
*Eodromeinae* 22  
*Eohomopterus* Wasmann 46  
*Eolagarus* Tschitschérine 787  
*Eonebria* Semenov & Znojko 27  
**Eosteropus** Tschitschérine 819  
*Eotachys* Jeannel 690  
*Epactiini* 386  
*Epactius* Schneider 387  
*Epelyx* Blackburn 44  
*Episcopellus* Casey 1158  
*Eriodera* Rivalier 285  
*Eriotomi* 1091  
*Erwiniana* Paulsen & Smith 663  
*Eucaeri* 1260  
**Eucaerus** LeConte 1260, 1264  
*Eucamaragnathus* Jeannel 34  
*Eucamptognathus* Chaudoir 51  
**Eucheila** Dejean 1278  
*Eucheilinae* Bates 1275  
*Euchila* Agassiz 1278  
*Euchroa* Brullé 50  
*Euchroides* 769  
*Eudromius* Acloque 1301  
*Eudromus* Kirby 645  
*Eudromus* Klug 51  
*Eudyschirius* Fedorenko 432  
**Euferonia** Casey 808  
*Eugnathus* LeConte 962  
*Eugrapha* Rivalier 285  
*Euhaptoderus* Jeanne 854  
*Euharpalops* Casey 1104  
*Eulachnocrepis* Habu 954  
*Eumecus* Motschulsky 285  
*Eumolops* Casey 874  
*Eunostus* Laporte 1362  
**Eunota** Rivalier 309  
*Eupalamus* Schmidt-Göbel 411  
**Eupetedromus** Netolitzky 650  
**Euphorticus** Horn 61, 1260, 1262  
*Euplatyrhopalus* Desneux 47  
**Euproctinus** Leng & Mutchler 1352, 1353  
*Euproctus* Solier 1352  
*Euripogena* Basilewsky 1257  
**Europhilus** Chaudoir 59, 1200, 1202  
*Euryaptus* Bates 51  
**Eurydactylus** LaFerté-Sénéctère 964  
*Eurydercylus* Moret & Bousquet 52  
**Euryderus** LeConte 1091, 1092  
*Eurypercus* Jeannel 51  
*Euryperigona* Jeannel 1257  
*Euryperis* Motschulsky 807  
**Eurytrachelus** Motschulsky 645  
*Eurytrichini* 1012  
*Eurytrichus* LeConte 1013  
*Eustomis* Semenov 783  
*Eustrini* 730  
*Eutogeneius* Solier 1004  
*Eutrichomerus* Carret 1173  
*Evanoleistus* Jedlička 150  
*Evarthrinus* Casey 874  
*Evarthrops* Casey 874  
**Evarthrus** LeConte 874  
**Evolenes** LeConte 53, 952  
*Extromus* Péringuey 1257  
*Ferestria* Leng 868  
*Feronalius* Casey 888  
*Feronia* Latreille 771  
*Féroniens* 769

- Feronina** Casey 769, 800  
*Feroniola* Tschitschérine 51  
*Feronius* Wencker & Silbermann 771  
*Feroperis* Lafer 808  
*Forcipator* Maindron 36  
*Forcipatorina* 404  
*Fortax* Motschulsky 868  
*Foveobracteon* Netolitzky 547  
**Furcacampa** Netolitzky 588  
*Fuscocalathus* Nègre 1162  
*Galapterus* Berlov & Plutenko 813  
**Galerita** Fabricius 1362, 1367  
*Galeritae* 1362  
*GALERITINA* 64, 1362  
*Galeritina* Jeannel 1363  
*GALERITINI* 64, 1362  
*Galeritinini* 1362  
*Galeritula* Strand 1363  
*Galeritulini* 1362  
*Gallerucidiina* 64, 1275  
**Gastrellarius** Casey 769, 780  
**Gastrosticta** Casey 769, 803  
*Gaymara* Freitag & Barnes 285  
*Geballusa* Erwin 663  
**Gehringia** Darlington 459  
*GEHRINGIINA* 39, 459  
*GEHRINGIINAE* 39, 459  
*GEHRINGIINI* 459  
**Genioschizus** Whitehead 418  
*Geobaenini* 57  
*Geobaenus* Dejean 57  
*Geopatrobis* Darlington 718  
*Geopezus* Gistel 791  
**Geopinus** LeConte 1038  
*Ginemini* 59  
**Glanodes** Casey 1129  
*Glomera* Acciavatti & Pearson 285  
*Gluptodactylus* Gautier des Cottés 787  
*Glycerius* Casey 1060  
*Glyptini* 56  
*Glyptoderus* LaFerté-Sénéctère 964  
*Glyptogrus* Bates 400  
**Glyptolenopsis** Perrault 1252  
*Glyptus* Brullé 56  
*Gnatho* Illiger 281  
*Goniocarabus* Reitter 259  
**Goniolophus** Casey 1087  
**Goniotropis** Gray 730, 731  
*Gonoderus* Motschulsky 833  
*Gouleta* Erwin 663  
*Grammognatha* Motschulsky 281  
*Granigerini* 1091  
*Granulopaussus* Kolbe 47  
*Graphipterini* 63  
*Graphipterus* Latreille 63  
*Grouvellina* Bell & Bell 24, 143  
*Guatemalteca* Erwin 1260  
*Gynandropus* Dejean 1140  
**Gynandrotarsus** LaFerté-Sénéctère 1020, 1028  
*Habroscelidomorpha* Bertkau 303  
**Habroscelimorpha** Dokhtoureff 302  
*Habutarus* Ball & Hilchie 1295  
*Hakaharpalus* Laroche & Larivière 1044  
**Halocoryza** Alluaud 426  
*Hammatomerus* Chaudoir 833  
*Hansus* Ball & Shpeley 1278  
*Haplocentrus* Csiki 1036  
*Haplochile* LeConte 726  
*Haplocoelus* Chaudoir 832  
*Haplocrepis* Jeannel 1280  
*Haploharpalus* Schauburger 1104  
*Haptoderus* Chaudoir 854  
*Harpaglossini* 963  
*Harpalellus* Lindroth 1131  
*Harpaleus* Billberg 1094  
*Harpali* 57, 1091  
*Harpalii* 751, 1012, 1090  
*HARPALINA* 57, 1090  
*HARPALINAE* 48, 751  
*HARPALINI* 57, 1012  
*HARPALITAE* 48, 989  
**Harpalobius** Reitter 1131  
**Harpalobrachys** Tschitschérine 1091, 1133  
*Harpalodes* Motschulsky 1013  
*Harpalomerus* Casey 1117  
*Harpaloxenus* Schauburger 1156  
**Harpalus** Latreille 1091, 1094, 1117  
*Harpazobia* Gistel 182  
**Hartonymus** Casey 1091, 1133  
*Helenaea* Schatzmayr & Koch 39, 459  
*Helenaeina* 39  
*Helluodes* Westwood 65  
*Helluomorphina* 66, 1367  
**Helluomorphoides** Ball 66, 1368  
*Helluonidae* 1367  
*Helluonina* 66, 1367  
*HELLUONINI* 66, 1367  
*Helobia* Curtis 182  
*Helobium* Leach 372  
*Hemiaulax* Bates 1080  
**Hemicarabus** Géhin 29, 257  
*Hemichlaenius* Lutshnik 974  
*Hemisopalus* Casey 1140  
*Henrotiochoromus* Busulini 51



- Hesperophonus Antoine 1093  
 Heteromorphidae 1370  
 Heteropaussina 47  
 Heteropaussus Thomson 47  
 Hexachaetus Chaudoir 55  
 Hexagonia Kirby 62  
 Hexagoniini 62  
 Hexaplatarthrus Jeannel 47  
 Hexatrichus Tschitschérine 1020  
 Hiletinae 34  
 Hiletus Schiødte 34  
 Himalopenetretus Zamotajlov 715  
**Hirmoplataphus** Lindroth 536  
 Hirmoplataphus Netolitzky 1626  
 Hirtoperigona Perrault 1257, 1258  
 Holaxinidium Basilewsky 453  
*Holciophorus* LeConte 833  
**Hologaeus** Ogueta 960  
 Holoponerus Fairmaire 65  
 Holoprizus Putzeys 36  
*Holosus* Fischer von Waldheim 1095  
 Homalomorpha Brullé 60  
*Homalops* Motschulsky 1318  
 Homethes Newman 1265  
**Homoeocarabus** Reitter 29, 256  
*Homophron* Fischer von Waldheim 387  
*Homophron* Semenov 387  
 Homopterina 47  
 Homopterus Westwood 47  
**Horologion** Valentine 711  
 Horologionidae 711  
 HOROLOGIONINA 41, 527, 711  
**Hyboptera** Chaudoir 1338  
**Hybothecus** Chaudoir 770  
**Hydriomicrus** Casey 540  
**Hydrium** LeConte 644  
*Hydrotrechus* Carabajal et al. 506  
 Hylopaussus Luna de Carvalho 47  
 Hylotorina 47  
 Hylotorus Dalman 47  
 Hyperectenus Alluaud 752  
 Hyperion Laporte 752  
**Hypherpes** Chaudoir 769, 832  
 Hystrichopus Boheman 1283  
*Iberoderus* Jeanne 854  
 Iberopus Ortuño 868  
*Ictinus* Laporte 733  
 Idacarabus Lea 41  
*Idiochroma* Bedel 1182  
 Idiomelas Tschitchérine 1080  
 Idiomorphina 56  
 Idiomorphini 56  
 Idiomorphus Chaudoir 56  
 Ifasina Jeannel 285  
 Ildobates Español 65  
*Incastichus* Moret 770  
 Incisophonus Sciaky 1093  
**Infernophilus** Larson 1349  
**Inna** Putzeys 1278  
 Inpa Erwin 663  
*Iranoleirides* Hieke 944  
 Iresina 284  
**Irichroa** Newman 202  
**Iridessus** Bates 1156, 1157  
 Isopleuridae 887  
*Isopleurus* Kirby 913  
 Isorembus Jeannel 990, 991  
*Isostenia* Lapouge 244  
*Isotachys* Casey 685  
*Istor* Semenov 387  
 Kaveinga Bell & Bell 23  
 Klepterus Péringuey 1301  
 Kultianella Perrault 36  
 Kupeharpalus Laroche & Larivière 1044  
 Kupeus Bell & Bell 23  
 Kuschelinus Straneo 51  
 Laccocenus Sloane 725  
 Lachnaces Bates 1264  
**Lachnocrepis** LeConte 954  
 Lachnophori 1260  
 LACHNOPHORINI 60, 1260  
**Lachnophorus** Dejean 61, 1260, 1261  
**Laemostenus** Bonelli 1172, 1173  
*Lagarus* Chaudoir 787  
**Lamenius** Bousquet 769, 818  
 Lampetes Andrewes 1156  
 Lampriadae 1314  
**Lamprias** Bonelli 1318  
*Lamprus* Billberg 1318  
 Lasiocerini 1267  
*Lasiotrechus* Ganglbauer 502  
*Latviaphilus* Barševskis 183  
 Lauricalathus Machado 1162  
**Lebia** Latreille 1314, 1319  
*Lebida* Motschulsky 1318  
 LEBIINA 64, 1275, 1314  
 LEBIINI 63, 1275  
 Lebioderus Westwood 47  
 Lebiotae Bonelli 1275, 1314  
*Lecalida* Casey 1343  
 Lecanomerus Chaudoir 1044  
*Leconteus* Lutshnik 772  
 Ledouxius Zamotajlov 715  
*Leiochiton* Curtis 455

- Leiotachys* Jeannel 680  
*Leiradira* Laporte 51  
*Leirodema* Tschitschérine 888  
*Leirus* Dejean 888  
**Leistus** Frölich 27, 150  
**Leja** Dejean 647  
*Leleupaussina* 47  
*Leleupaussus* Luna de Carvalho 47  
*Leleupidiina* 64, 1355  
*Leleuporella* Basilewsky 36  
**Lenapterus** Berlov 813  
*Leoglymmiini* 23, 142  
*Leptinomera* Rivalier 285  
*Leptodinodini* 963  
**Leptoferonia** Casey 769, 823  
*Leptomus* Casey 268  
*Leptosarcus* Péringuey 1283  
*Leptotachys* Jeannel 680  
**Leptotrachelus** Latreille 62, 1271  
*Lesticus* Dejean 51  
*Lestignathina* 990  
*Leucagonum* Casey 1196  
**Leuchydrium** Casey 583  
*Leucocara* Bousquet 404, 410  
*Leuropus* Andrewes 63  
*Lichnasthenitae* 1300  
*Lichnocarabus* Reitter 252  
*Licinii* 990, 1004  
LICININA 990, 1004  
LICININI 56, 990  
*Licinodercylus* Kuntzen 52  
*Liebherrius* Shilenkov 1211  
*Limnaeum* Agassiz 661  
*Limnastini* 664  
*Limneops* Csiki 661  
*Limodromus* Motschulsky 1244  
*Linconus* Fischer von Waldheim 899  
**Lindrochthus** Maddison 650  
*Lindrothius* Kurnakov 1162  
*Linomus* Fischer von Waldheim 928  
**Liocellus** Motschulsky 1059, 1060  
*Liocellus* Tschitschérine 1073  
*Liochiton* Agassiz 455  
**Liocosmius** Casey 654  
**Liodicaelus** Casey 995, 1003  
**Lionepha** Casey 527, 530  
*Lionychidae* 1300  
*Liopasa* Tschitschérine 51  
*Lipalocellus* Ball & Bousquet 1059, 1073  
*Lirus* Agassiz 888  
*Lissaucheniidae* 963  
*Lissopogonini* 42  
*Lissopogonus* Andrewes 42  
*Lissopterus* Waterhouse 34  
*Listropus* Putzeys 418  
**Lithochlaenius** Kryzhanovskij 974  
*Lithophilus* Schneider 387  
*Litoreobracteon* Netolitzky 546  
*Lobius* Motschulsky 1273  
*Lobobrachus* Sharp 50  
*Lobodontini* 1275  
*Lopha* Dejean 584  
*Lophidius* Dejean 63  
**Lophoglossus** LeConte 769, 778  
**Loricera** Latreille 32, 369  
*Loricerides* 368  
LORICERINAE 32, 368  
LORICERINI 368  
*Lorocera* Agassiz 369  
*Lovriciina* 41, 527  
*Loxandrina* 753  
**Loxandrus** LeConte 753  
*Loxogenius* Sloane 51  
*Loxomerus* Chaudoir 34  
**Loxopeza** Chaudoir 1314  
*Luperca* Laporte 38, 39  
*Lupercini* 39  
**Lymnaeum** Stephens 661  
*Lymnastis* Motschulsky 679  
*Lymneops* Casey 661  
*Lyperopherus* Motschulsky 815  
*Lyperosomus* Motschulsky 797  
*Lyperostenia* Lapouge 239  
*Lyperus* Chaudoir 797  
*Lyropedius* Seidlitz 771  
*Lyrophorus* Chaudoir 1243  
*Lyter* Darlington 1156  
*Macrophonus* Tschitschérine 1093  
*Macrotachys* Kult 690  
*Macrotachys* Uéno 682  
*Macrotrachelus* Latreille 1268  
*Makarovius* Barševskis 183  
*Malisus* Motschulsky 1297  
*Manicellus* Motschulsky 1080  
*Mantica* Kolbe 31  
*Manticora* Fabricius 31  
*Manticorini* 31, 265  
*Manumorpha* Erwin & Geraci 1372  
*Maoripamborus* Brookes 29  
**Maronetus** Casey 206  
*Masoreini* 63  
*Masoreus* Dejean 63  
*Mastacina* 48  
*Mastax* Fischer von Waldheim 734

- Mayaferonia Ball & Roughley 786  
 Mecyclothoracini 43  
 Mecyclothorax Sharp 43, 44  
 Medisorini 23, 142  
 Megacephala Latreille 281  
 Megacephalidae 281  
 MEGACEPHALINI 31, 265, 281  
*Megaliridia* Casey 202  
 Megalocephalidae 281  
 Megalodontus Jacobson 264  
*Megalonychus* Chaudoir 59, 1210  
 Megalopaussus Lea 46  
*Megalostylus* Chaudoir 753  
 Megamorio Chaudoir 752  
**Megapangus** Casey 1101  
*Megasteropus* Casey 874  
**Megodontus** Solier 29, 264  
*Megomus* Casey 268  
 Melaeninae 39  
 Melaenus Dejean 39  
*Melanagonum* Casey 1215  
 Melanchiton Andrewes 53  
 Melanchitonini 53  
 Melanchrous Andrewes 53  
**Melanius** Bonelli 51, 797  
*Melanodes* Chaudoir 53  
 Melanospilus Westwood 47  
*Melanotus* Dejean 1089  
 Melisodera Westwood 43  
**Melomalus** Casey 656  
*Melvilleus* Ball 801  
**Menidius** Chaudoir 1339  
 Meonini 43  
 Meonis Laporte 43, 44  
 Meonochilus Lieberr & Marris 43, 44  
 Merizodus Solier 41  
*Merochlaenius* Grundmann 968  
 Merutrechus Jeannel 505  
 Mesarthropterus Wasmann 46  
*Metabletus* Schmidt-Göbel 1310  
*Metabola* Chaudoir 1319  
 Metabrachinus Jeannel 734  
**Metacolpodes** Jeannel 1256  
 Metadromiina 1300  
 Metallica Chaudoir 1352  
 METALLICINA 64, 1275, 1352  
 Metallicini 1352  
*Metallina* Motschulsky 647  
**Metallophilus** Chaudoir 815  
*Metallosomus* Motschulsky 1254  
*Metamelanius* Tschitschérine 797  
 Metapedius Fiori 771  
 Metaxinidium Basilewsky 453  
 Metaxymorphina 1300  
 Metaxymorphus Chaudoir 1283  
 Metiini 51  
 Metius Curtis 51  
 Metoncidus Bates 753  
 Metophonus Bedel 1093  
 Metrii 727  
 METRIINI 45, 727  
 Metriocheila Thomson 281  
**Metrius** Eschscholtz 45, 727  
 Mexiclinidium Bell & Bell 143  
**Mexisphodrus** Barr 1196  
*Micragonum* Casey 1215  
*Micragra* Chaudoir 1351  
*Micranillodes* Jeannel 699  
 Micratopini 664  
**Micratopus** Casey 679  
**Micrixys** LeConte 962  
*Microcalosoma* Breuning 228  
 Microcephala Dejean 54  
 Microcephalus Dejean 50  
 Microcheila Brullé 49, 752  
 Microcheilini 49  
*Microcys* Sahlberg 660  
**Microlestes** Schmidt-Göbel 1303  
*Micromaseus* Casey 789  
*Micromelomalus* Casey 631  
**Microplatynus** Barr 1243  
*Microtachys* Casey 682  
 Microtetracha Naviaux 282  
 Microthylax Rivalier 299  
**Microtrechus** Jeannel 505, 515  
*Migadophonus* Tschitschérine 1095  
 Migadopinae 33  
 Migadopini 33  
**Mimocasonia** Liebke 1268  
 Minipenetetrus Zamotajlov 715  
 Minitrechus Vigna Taglianti & Magrini 505  
 Minypatrobus Uéno 718  
**Mioptachys** Bates 663  
 Miscelini Jeannel 1275  
**Miscodera** Eschscholtz 455  
 Mnuphorus Chaudoir 62, 1272  
**Mochtherus** Schmidt-Göbel 1276  
 Molopides 769  
 Molopidius Jeannel 51  
 Molopinus Jeannel 51  
 Molops Bonelli 51  
 Molopsida White 44  
*Monillipatrobus* Hatch 726  
**Monoferonia** Casey 769, 820

- Monolobus Solier 34  
 Moriodema Laporte 44  
 Moriomorpha Laporte 44  
 Moriomorphinae 43  
 Moriomorphini 43  
**Morion** Latreille 752  
 Morionidius Chaudoir 752  
 Morioniens 752  
 MORIONINI 49, 752  
 Moriosomus Motschulsky 752  
*Moritapterus* Berlov 808  
 Mormolycites 1275  
**Morphnosoma** Lutshnik 807, 808  
 Mouhotia Laporte 35, 392  
 Myadina 769  
**Myas** Sturm 50, 785  
 Myosodus Fischer von Waldheim 815  
 Mystropomini 46  
 Mystropomus Chaudoir 46  
*Nabicarabus* Kwon & Lee 264  
*Nagonium* Habu 1211  
**Nakanebria** Ledoux & Roux 159  
 Naxipenetetrus Zamotajlov 715  
**Neaphaenops** Jeannel 41, 501  
**Nebria** Latreille 27, 150, 153, 182  
 Nebriidae 147, 150  
 NEBRIINAE 26, 147  
 NEBRIINI 27, 150  
 Nebrileistus Bänninger 150  
**Nelsonites** Valentine 41, 499  
 Nemaglossa Solier 1044  
*Nematotarsus* Gemminger & Harold 1354  
 NEMOTARSINA 64, 1275, 1354  
 Nemotarsinae 1354  
**Nemotarsus** LeConte 1354  
 Neobatenus Jeannel 59  
**Neobembidion** Bousquet 594  
**Neobrachinus** Erwin 48, 734  
**Neocalathus** Ball & Nègre 1162, 1163  
*Neocarabus* Hatch 252  
*Neocarabus* Lapouge 260  
 Neocollyris Horn 32  
**Neocychrus** Roeschke 225  
 Neodhysores Bell & Bell 23  
 Neodrypta Basilewsky 64  
 Neodyschirius Kult 430  
**Neoelaphrus** Hatch 378  
**Neoeuproctus** Shpeley 1353  
 Neoglyptus Basilewsky 56  
**Neoleistus** Erwin 150, 151  
*Neomyas* Allen 785  
 Neonebria Hatch 1626  
 Neonomius Moore 43, 44  
 Neoorthogonius Tian & Deuve 55  
*Neopardileus* Habu 1095  
*Neopatrobis* Darlington 718  
**Neopercosia** Hieke 905  
 Neoperigona Perrault 1257  
 Neoreicheia Kult 36  
 Neorembus Ball 990  
**Neostomis** Bousquet 782  
*Neotachys* Kult 683  
 Neotalus Will 769  
 Neotetracha Naviaux 282, 284  
 Nepalorthogonius Habu 55  
*Nipponachus* Habu 1182  
 Nipponobradycellus Habu 1060  
**Nippononebria** Uéno 27, 150, 152  
 Nipponosynuchus Morita 1170  
**Nomaretus** LeConte 204  
 Nomiidae 725  
*Nominus* Motschulsky 1297  
**Nomius** Laporte 43, 725  
*Notaphidius* Jeannel 600  
*Notaphiellus* Jeannel 600  
**Notaphus** Dejean 600  
 Nothobroscina 37, 454  
*Nothopus* LeConte 1092  
**Notiobia** Perty 1012  
*Notiocharis* Gistel 1046  
 Notiokasiini 27  
 Notiophili 183  
 NOTIOPHILINI 27, 183  
**Notiophilus** Duméril 27, 183  
 Notopseudomorpha Baehr 1372  
 Notospeophonus Moore 1044  
*Nototachys* Alluaud 667  
 Nototylinae 44  
 Nototylus Gemminger & Harold 44  
 Novicillenus Uéno & Habu 559  
 Obadius Burmeister 36  
 Oblongotetracha Naviaux 282  
 Obodromius Jedlička 1301  
*Ocaeus* Gistel 1301  
 Ochropisus Bates 1277  
**Ochthedromus** LeConte 553  
 Ochtozetus Chaudoir 711  
**Ocydromus** Clairville 560  
*Ocys* Gistel 527, 542  
*Odacanthella* Liebke 1269  
 Odacanthinae 1267  
 ODACANTHINI 61, 1267  
**Odontium** LeConte 542  
 Odontomasoreus Darlington 63

- Odontonyx* Stephens 1175  
**Oenaphelox** Ball 1277  
*Olegius* Komarov 711  
*Oligoma* Rivalier 285  
**Olisares** Motschulsky 59, 1200, 1214  
**Olisthopus** Dejean 1175  
*Omala* Motschulsky 629  
*Omalomorpha* Motschulsky 1318  
*Omaseidius* Jeannel 807  
*Omaseulus* Lutshnik 789  
*Omaseus* Dejean 797  
*Omiastus* Motschulsky 1254  
*Omites* Horn 265  
*Omius* Fischer von Waldheim 899  
*Omoglymmiina* 145  
 OMOGLYMMIINI 23, 143, 145  
**Omoglymmius** Ganglbauer 23, 145  
**Omophron** Latreille 33, 386, 387  
*Omophronii* 386  
 OMOPHRONINAE 33, 386  
 OMOPHRONINI 386  
*Omphreini* 58  
*Omphreoides* Fairmaire 62  
*Omphreus* Dejean 58  
 OMPHRINA 66, 1367  
*Omphrini* 1367  
**Omus** Eschscholtz 31, 265, 268  
**Onota** Chaudoir 1350  
**Oodes** Bonelli 955  
*Oodiellus* Chaudoir 954  
 OODINI 53, 952  
**Oodinus** Motschulsky 954  
*Oodites* 952  
*Oopterus* Guérin-Ménéville 41  
**Opadius** Casey 1104  
*Ophonidae* 1090  
**Ophonus** Dejean 1091, 1093  
*Ophryodactylus* Chaudoir 1254  
*Ophryogaster* Chaudoir 770  
**Opilidia** Rivalier 300  
*Opisthiinae* 149  
 OPISTHIINI 27, 149  
**Opisthius** Kirby 149  
*Oreocarabus* Géhin 264  
*Oreonebria* Daniel 150  
**Oreoxenus** Tschitschérine 1077  
*Orientolobus* Dostal 400  
*Orites* Schaum 854  
**Orsonjohnsonus** Hatch 769, 818  
*Orthogoniini* 55  
*Orthogonius* Macleay 55  
*Orthomus* Chaudoir 51  
*Orzolina* Machado 527  
*Oscadytes* Lagar Mascaró 51  
*Oxephloena* Shpeley & Ball 1277  
*Oxycheila* Dejean 31, 281  
*Oxycheilites* 281  
*Oxycrepis* Reiche 753  
**Oxydrepanus** Putzeys 36, 426  
*Oxyglychus* Straneo 50  
*Oxylobina* 35, 400  
*Oxylobus* Chaudoir 35, 400  
**Oxypselaphus** Chaudoir 1199  
**Ozaena** Olivier 46, 732  
*Ozaenidae* 730  
 OZAENINI 46, 730  
*Pachycallida* Jeannel 1352  
*Pachychlaenius* Grundmann 968  
*Pachydela* Rivalier 328  
**Pachyteles** Perty 730  
*Pachytelini* 730  
*Palcuapus* Habu 1080  
*Paleocorax* Ortuño 868  
*Pamborini* 29, 191  
*Pamborus* Latreille 29  
*Panagaeides* 960  
 PANAGAEINI 54, 960  
**Panagaeus** Latreille 960  
*Pangetidae* 887  
*Pangetes* Gistel 928  
*Parabracteon* Notman 546  
*Parabroscus* Lindroth 1170  
*Paracarabus* Lapouge 252  
**Paracelia** Bedel 944  
**Paraclivina** Kult 413  
*Paracurtonotus* Habu 888  
*Paracyrtonotus* Baliani 888  
**Paradicaelus** Ball 995  
*Paradyschirius* Fedorenko 432  
**Paraferonia** Casey 769, 800  
*Paragonum* Casey 1211  
*Parahaptoderus* Jeanne 855  
*Paralagarus* Lutshnik 787  
*Parallelomorphus* Motschulsky 400  
*Paralopha* Casey 596  
*Paralophidius* Basilewsky 63  
*Paranchomenus* Casey 1249  
**Paranchus** Lindroth 1198  
*Paranomus* Chaudoir 1254  
*Parapedius* Seidlitz 771  
*Parapenetretus* Kurnakov 718  
*Parapoecilus* Jeannel 772  
*Parargutor* Casey 791  
*Parascopodes* Darlington 1265



- Paratachys** Casey 690  
 Paratachyta Erwin 664  
*Parataphus* Jedlička 630  
*Paratetracha* Naviaux 282  
*Parathlibops* Basilewsky 35  
*Paratrithorax* Baehr 44  
*Paratropa* Lapouge 237  
*Paraxinidium* Basilewsky 453  
*Pardileus* des Gozis 1095  
*Parena* Motschulsky 1352  
*Pareuryaptus* Dubault, Lassalle & Roux 51  
*Paromophron* Semenov 387  
*Paropisthius* Casey 149  
*Pasimachides* 392  
 PASIMACHINI 35, 392  
**Pasimachus** Bonelli 35, 392, 393  
*Passalidius* Chaudoir 35  
*Patanitretus* Zamotajlov 715  
*Patellus* Chaudoir 53  
*Patriziina* 65  
*Patriziini* 1355  
*Patrobidae* 714, 715, 718  
*Patrobina* 43, 718  
 PATROBINAЕ 42, 714  
 PATROBINI 42, 715  
*Patroboidea* Van Dyke 725  
**Patrobus** Dejean 718  
*Paulianites* Jeannel 1279  
*Paussili* 727  
*Paussina* 47  
 PAUSSINAE 44, 727  
*Paussini* 46  
*Paussomorphus* Raffray 47  
*Paussotropus* Waterhouse 1372  
*Paussus* Linnaeus 47  
*Pedius* Motschulsky 51  
*Pelagophilus* Tschitschérine 1077  
*Pelasnus* Fischer von Waldheim 986  
*Peleciina* 54  
*Peleciini* 53  
*Peliocypadina* 64, 1275  
 PELMATELLINA 57, 1044  
*Pelmatellinae* 1044  
*Pelmatellopsis* Perrault 1044  
**Pelmatellus** Bates 1044  
**Pelophila** Dejean 27, 147  
 PELOPHILINI 27, 147  
*Pemphus* Motschulsky 215  
*Penetretus* Motschulsky 715  
**Pentagonica** Schmidt-Göbel 61, 1265  
*Pentagonicinae* 1264  
 PENTAGONICINI 61, 1264  
*Pentaplatarthrina* 47  
*Pentaplatarthrini* 47  
*Pentaplatarthrus* Westwood 47  
*Pephrica* Alluaud 1279  
*Percodermus* Sloane 41  
*Percolaus* Bates 786  
**Percosia** Zimmermann 906  
*Percus* Bonelli 51  
*Pericalidae* 1275  
 PERICALINA 64, 1275  
**Pericompsus** LeConte 680  
*Periglossium* Liebke 1278  
**Perigona** Laporte 59, 1257  
*Perigonae* 1256  
*Perigonillus* Jeannel 1257  
 PERIGONINI 59, 1256  
*Peristethus* LeConte 816  
*Perochnoristhina* 56  
*Perochnoristhus* Basilewsky 56  
*Peronoscelis* Chaudoir 1273  
**Peryphanes** Jeannel 576  
*Peryphidae* 527  
*Peryphidium* Tschitschérine 581  
**Peryphodes** Casey 628  
**Peryphus** Dejean 561  
*Petrimagnia* Kryzhanovskij & Mikhailov 1283  
*Petrophilus* Chaudoir 807, 808  
*Phaeoxantha* Chaudoir 281  
*Pharalus* Casey 1104  
*Pheropsophidius* Hubenthal 734  
*Pheropsophina* 48  
*Pheropsophus* Solier 734  
*Pheryphes* Casey 833  
*Philipis* Erwin 663  
**Philodes** LeConte 1086  
*Philopheuga* Bates 1347  
**Philophuga** Motschulsky 1347  
*Philophyga* Gemminger & Harold 1347  
**Philorhizus** Hope 1302  
*Phimus* Péringuey 59  
**Phloeoxena** Chaudoir 1277  
*Phloeozetus* Peyron 1279  
**Phonias** des Gozis 51, 789  
*Phrator* Semenov 387  
*Phromoon* Lutshnik 387  
**Phrypeus** Casey 662  
**Phyla** Motschulsky 660  
**Phymatocephalus** Schaum 1089  
**Physea** Brullé 46, 732  
*Physeitae* 730  
*Physoclivina* Kult 404  
*Physocrotaphini* 65

- Physocrotaphus Parry 65  
 Physoderina 64, 1275  
*Physomerus* Chaudoir 52  
 Picnochile Motschulsky 265  
**Piesmus** LeConte 769, 780  
 Piezia Brullé 63  
**Pinacodera** Schaum 1284, 1292  
**Piosoma** LeConte 1091  
 Plagiopyga Boheman 1283  
*Planesus* Motschulsky 1292  
 Planetes Macleay 64  
 Planetina 64, 1362  
**Plataphodes** Ganglbauer 631  
**Plataphus** Motschulsky 631  
 PLATIDIOLINA 43, 724  
**Platidiolus** Chaudoir 43, 724  
**Platidius** Chaudoir 715  
*Platus* Motschulsky 1095  
*Platynidius* Casey 1249  
 Platynii 1174  
 PLATYNINI 58, 1174  
 Platynodes Westwood 752  
*Platynomenus* Ádám 1249  
**Platynomicrus** Casey 59, 1200  
*Platynopsis* Lutshnik 1210  
**Platynus** Bonelli 1242, 1243  
**Platypatrobus** Darlington 718, 724  
 Platyrrhopalina 47  
 Platyrrhopalopsis Desneux 47  
 Platyrrhopalus Westwood 47  
 Platysmatini 769  
 Platysmodes Fauvel 51  
 Platytarini 1295  
 Platytarus Fairmaire 1295  
*Platytrachelus* Motschulsky 645  
 Platyxythrius Lorenz 52  
 Plectographa Rivalier 285  
**Plectralidus** Casey 1102  
 Pleroticini 963  
 Plesioloricera Sciaky & Facchini 32, 369  
*Pleurasoma* Guérin-Méneville 1254  
*Pleurosoma* Guérin-Méneville 1254  
 Plochionidae 1338  
**Plochionus** Dejean 1339, 1340  
*Plocionus* Agassiz 1339  
 Poecilii 769  
**Poecilus** Bonelli 51, 771, 772  
 Pogonidae 711  
*Pogonidium* Ganglbauer 645  
 POGONINI 42, 711  
 Pogonistes Chaudoir 711  
**Pogonodaptus** Horn 1088  
 Pogonoglossus Chaudoir 65  
 Pogonoidius Carret 714  
 Pogonophorus Latreille 150  
 Pogonopsini 711  
 Pogonopsis Bedel 711  
 Pogonostoma Klug 32  
**Pogonus** Dejean 711, 714  
**Polpochila** Solier 1089, 1090  
 Polpochilinae 1045  
**Polycheloma** Madge 1317  
*Polyderidius* Jeannel 683  
**Polyderis** Motschulsky 682  
**Porotachys** Netolitzky 681  
*Pristodactyla* Dejean 1170  
 Pristonychidae 1172  
**Pristonychus** Dejean 1173  
 Pristosiina 58  
 Procainogenion Baehr 1372  
*Procalathus* Jedlička 1169  
 Proclitini 963  
 Procoscina Ball & Shpeley 39  
*Progaleritina* Jeannel 1363  
 Promecognathi 453  
 PROMECOGNATHINI 37, 392, 453  
**Promecognathus** Chaudoir 453  
*Prosecon* Semenov 387  
 Prosphodrus Britton 1196  
*Prostolonis* Mateu 768  
*Proteonus* Fischer von Waldheim 1117  
 Prothymina 284  
 Protocollyris Mandl 32  
 Protopaussini 46  
 Protopaussus Gestro 46  
*Protoperyphus* Alluaud 560  
 Protorabinae 24  
 Prototetracha Naviaux 282  
 Pseudagonica Moore 54  
**Pseudamara** Lindroth 1161  
 Pseudamblytelus Baehr 44  
**Pseudamphasia** Casey 1039  
*Pseudanchus* Casey 1182  
 Pseudanisodactylus Noonan 1020  
**Pseudanomoglossus** Bell 55, 964  
**Pseudanophthalmus** Jeannel 41, 461  
 Pseudanthracus Habu 1080  
**Pseudaplocentrus** Noonan 1020, 1037  
**Pseudaptinus** Laporte 1357, 1358  
*Pseudargutor* Casey 787  
*Pseudelaphrus* Acloque 534  
*Pseudhexatrichus* Noonan 1020  
 Pseudoamara Baliani 1161  
*Pseudobradytus* Csiki 899

- Pseudocryobius* Motschulsky 854  
*Pseudoderus* Seidlitz 771  
*Pseudodichirus* Lutshnik 1020  
**Pseudoferonina** Ball 769, 801  
*Pseudoinna* Mateu 1278  
*Pseudolagarus* Lutshnik 787  
*Pseudolimnaeum* Kraatz 527  
**Pseudomaseus** Chaudoir 798  
*Pseudomasoreini* 1283  
*Pseudomasoreus* Desbrochers des Loges 1283  
*Pseudometabletus* Liebke 1351  
**Pseudomorpha** Kirby 1372, 1373  
*Pseudomorphidae* 1370  
PSEUDOMORPHINI 66, 1370  
**Pseudonomareus** Roeschke 214  
**Pseudoophonus** Motschulsky 1095  
**Pseudoperyphus** Hatch 554  
*Pseudophorticus* Erwin 1260  
*Pseudoplatynus* Habu 1249  
*Pseudorthomus* Chaudoir 854  
*Pseudotetracha* Fleutiaux 281  
*Pseudotriaena* Minsk & Hatch 947  
*Pseudoxycheila* Guérin-Ménéville 281  
*Pseudozaenini* 730  
*Psychristus* Andrewes 1060  
*Psydri* 725  
PSYDRINAE 43, 725  
PSYDRINI 725  
**Psydrus** LeConte 725, 726  
*Pterocyrtus* Sloane 41  
*Pterodercylus* Kuntzen 52  
*Pterogmus* Sloane 44  
*Pteropalus* Casey 1156  
*Pterostichii* 751, 769  
PTEROSTICHINI 50, 769  
PTEROSTICHITAE 48, 751  
**Pterostichus** Bonelli 786  
*Punctagonum* Gray 1215  
*Pycnochila* Motschulsky 31  
*Pyreneorites* Jeannel 854  
*Qiangopatrobis* Zamotajlov 715  
*Quammenis* Erwin 1260  
*Quasipenetretus* Zamotajlov 718  
**Randallius** Bousquet 55, 988  
*Raphetis* Moore 43, 44  
*Rathymus* Dejean 56  
**Reductocelia** Lafer 913  
**Reductonebria** Shilenkov 159  
*Refonia* Casey 819  
**Reichardtula** Whitehead 404  
*Reicheia* Saulcy 36  
*Reicheiodes* Ganglbauer 430  
Rembidae 990  
*Rembus* Macleay 990  
**Rhadine** LeConte 1184  
*Rhaeolestes* Sloane 44  
*Rhaphiona* Fischer von Waldheim 373  
*Rhembus* Agassiz 990  
*Rhombodera* Reiche 1265  
*Rhopalomelini* 963  
*Rhopalostyla* Chaudoir 1318  
*Rhysodes* Germar 23  
RHYSODIDAE 22, 142  
*Rhysodini* 23, 143  
*Rhysodites* 142  
*Rhytiderus* Chaudoir 1177  
*Rhytidoderus* Agassiz 1178  
*Rhytidognathus* Chaudoir 34  
*Rhyzodiastes* Fairmaire 24, 143  
*Ripogena* Jeannel 1257  
*Rossjoycea* Liebherr 44  
*Sadonebria* Ledoux & Roux 27  
*Sakagutia* Uéno 527  
*Salcedia* Fairmaire 36  
*Salcediina* 36  
*Salcediini* 36, 392  
*Samiriamorpha* Erwin & Geraci 1372  
*Sardoleistus* Perrault 150  
*Sarothrocrepidae* 1272  
*Sarothrocrepidini* 63  
*Sarothrocrepis* Chaudoir 63  
*Scallophorites* Motschulsky 401  
**Scaphinotus** Dejean 29, 191, 196, 197  
*Scaphonotus* Agassiz 196  
*Scapterina* 35, 400  
*Scapterus* Dejean 35  
*Scaraphites* Westwood 35, 400  
**Scarites** Fabricius 400  
*Scaritides* 392, 400  
SCARITINA 35, 400  
SCARITINAE 35, 392  
SCARITINI 35, 392, 400  
*Scaritolius* Fairmaire 401  
**Schizogenius** Putzeys 418, 419  
*Schuelea* Baehr 65  
*Scolyti* 386  
*Scolyttus* Billberg 387  
*Scolytus* Fabricius 386, 387  
*Scopodes* Erichson 1265  
*Scopodinae* 1265  
*Scotodipnina* 697  
*Scythropasus* Chaudoir 731  
*Selenalius* Casey 1148  
*Selenochilus* Chaudoir 43, 44

- Selenophori 57, 1091  
 Selenophorini 1091  
**Selenophorus** Dejean 1091, 1137, 1140  
 Selina Motschulsky 1260  
 Selinini 1260  
**Semiardistomis** Kult 36, 428  
**Semicampa** Netolitzky 597  
**Semiclivina** Kult 404  
*Sericochlaenius* Grundmann 968  
**Sericoda** Kirby 59, 1177  
 Sericodiadae 1174  
**Serranillus** Barr 709  
 Setacupalpus Habu 1080  
 Setalidius Chaudoir 51  
 Setalis Laporte 50  
 Setinteridenta Acciavatti 285  
 Setodyschirius Fedorenko 430  
*Shirahataia* Habu 991  
 Siagona Latreille 38  
 Siagoninae 38  
 Siagonini 38  
*Similidromius* Mateu 1303  
 Simoini 952  
 Sinechostictus Motschulsky 527  
 Singilini 1300  
 Singiliomimina 1300  
 Singilis Rambur 1279  
 Sinobrosculus Deuve 456  
 Sinoelaphrus Shi & Liang 376  
 Sinometrius Wrase & Schmidt 45, 727  
 Sinozolina 41  
 Sinozolus Deuve 41  
 Sirdenus Dejean 711  
 Sitaphe Moore 44  
 Sloaneana Csiki 41  
 Sloanoglymmiini 23  
 Smeringocera Chaudoir 60  
 Solenogenyina 36  
 Solenogenys Westwood 36  
 Somoplatini 63  
 Somoplatodes Basilewsky 63  
 Somoplatus Dejean 63  
 Somotrichini 1276  
**Somotrichus** Seidlitz 1279  
*Spelaeobia* Gistel 906  
*Spelaeorhadine* Bolívar y Pieltain 1184  
 Speomolops Patrizi 51  
**Sphaeroderus** Dejean 29, 191  
 Sphaerodini 952  
 Sphaerotachys Müller 667  
 Sphallomorpha Westwood 1372  
*Sphenopalpus* Blanchard 1297  
*Sphenopselaphus* Gemminger & Harold 1297  
*Spheracra* Say 1271  
 Sphodridae 1161, 1172  
 SPHODRINA 58, 1172  
 SPHODRINI 58, 1161  
*Spongoloba* Chaudoir 1343  
**Spongopus** LeConte 1020, 1035  
 Steganomma Macleay 35  
**Steniridia** Casey 209  
 Stenocallida Jeannel 1343  
**Stenocantharus** Gistel 215  
**Stenocellus** Casey 1059, 1063  
 Stenochoromus Miller 51  
**Stenocrepis** Chaudoir 956, 957  
*Stenoglossa* Chaudoir 1280  
 Stenolophidae 1045  
 STENOLOPHINA 57, 1045  
**Stenolophus** Dejean 1046  
*Stenomophron* Semenov 387  
 Stenomorphidae 1090  
**Stenomorphus** Dejean 1091, 1153, 1154  
*Stenonotum* Lacordaire 1351  
 Stenorhopalus Wasmann 47  
**Stenous** Chaudoir 957  
*Stereagonum* Casey 1215  
**Stereocerus** Kirby 51, 783  
 Stereostoma Kirby 752  
 Sterocorax Ortuño 868  
 Steropanus Fairmaire 51  
*Stictanchus* Casey 1214  
 Stigmaphorus Motschulsky 1261  
*Stilbolidus* Casey 1013  
*Stobeus* Fairmaire 782  
**Stolonis** Motschulsky 753, 768  
*Stomatomius* Gistel 782  
 Stomides 769  
**Stomis** Clairville 51, 782  
 Stratiotes Putzeys 36  
 Strigia Brullé 56  
 Strigomerus Chaudoir 52  
*Stylobracteon* Netolitzky 547  
 Styracoderus Chaudoir 51  
 Subacupalpus Habu 1080  
*Submera* Habu 991  
 Sugimotoina 64, 1275  
*Sulcophonius* Schaubberger 1093  
 Syleter Andrewes 36  
 Syllectus Bates 1044  
*Syncalosoma* Breuning 230  
*Synechoperyphus* Netolitzky 560  
*Synochus* Agassiz 1170  
 Synteratus Broun 41

- Syntomus** Hope 1310  
 Synuchi 1170  
 Synuchidius Apfelbeck 1162  
 SYNUCHINA 58, 1170  
**Synuchus** Gyllenhal 1170  
 Syrdenoidius Baehr & Hudson 712  
 Systolosoma Solier 22, 141  
 Tacana Ball 1277  
 Tachalus Ball & Nègre 1162  
**Tachistodes** Casey 1080, 1083  
 Tachyaires 664  
 Tachycellus Morawitz 1059  
 TACHYINA 41, 527, 664  
 Tachylopha Motschulsky 667  
*Tachymantes* Gistel 685  
*Tachymenis* Motschulsky 663  
*Tachyphanes* Jeannel 667  
*Tachypus* Dejean 533  
**Tachypus** Weber 29, 259  
**Tachys** Dejean 684, 685  
*Tachysalia* Casey 680  
*Tachysops* Casey 680  
**Tachyta** Kirby 664, 665  
**Tachyura** Motschulsky 667, 678  
 Tachyuropsis Shilenkov 667  
 Taeniolobus Chaudoir 400  
 Tainoa Bell & Bell 143  
**Tanaocarabus** Reitter 29, 260  
 Tangarona Bell & Bell 23  
*Tanystola* Motschulsky 1196  
**Tanystoma** Motschulsky 1196  
 Tanythrix Schaum 51  
*Taphranchus* Casey 1214  
*Taphria* Dejean 1170  
*Tapinosthenes* Kolbe 239  
*Taractus* Gistel 584  
 Taridae 1283  
 Taridius Chaudoir 1283, 1284  
**Tarulus** Bedel 1284  
*Tarus* Clairville 1284  
**Tecnophilus** Chaudoir 1341  
 Tefflini 960  
 Tennessarius Valentine 461, 1627  
 Teraphis Laporte 44  
*Tereus* Billberg 1272  
**Terminophanes** Müller-Motzfeld 573  
**Testediolum** Ganglbauer 580  
**Tetracha** Hope 281, 282  
 Tetrachae 281  
 Tétragonodérides 1272  
**Tetragonoderus** Dejean 62, 1272, 1273  
**Tetraleucus** Casey 58, 1181  
*Tetraplatypus* Tschitschérine 1061  
**Thalassotrechus** Van Dyke 712  
*Thalia* Hope 771  
**Thalpius** LeConte 1359  
 Thenarellus Bates 1044  
 Theprisa Moore 44  
 Therates Latreille 284  
 Theratina 284  
 Thermoscelis Putzeys 1162  
 Thlibops Putzeys 35  
 Thryptocerini 952  
 Thyréoptérides 1275  
 Thysanotini 1275  
 Tichonia Semenov 54  
*Tilodes* Fischer von Waldheim 791  
*Tiphys* Gistel 1357  
 Tiruka Andrewes 527  
 Tomocarabus Reitter 254  
 Torretassoa Schatzmayr 430  
*Trachelizus* Solier 732  
*Trachelonepha* Casey 631  
 TRACHYPACHIDAE 21, 141  
 TRACHYPACHINI 141  
**Trachypachus** Motschulsky 22, 141  
*Trachypachys* Gemminger & Harold 141  
 Trachysarus Reed 1044  
**Trapezodera** Casey 1253  
 Trechichinae 1256  
*Trechicus* LeConte 1257, 1258  
 Trechii 460  
 TRECHINA 41, 460  
 TRECHINAE 40, 460  
 TRECHINI 40, 460  
**Trechoblemus** Ganglbauer 41, 460  
 Trechodina 41  
**Trechonepha** Casey 653  
**Trechus** Clairville 41, 505  
**Trepanedoris** Netolitzky 622  
*Trepanotachys* Alluaud 667  
 Trephionus Bates 1170  
 Trephisa Moore 44  
*Triaena* LeConte 947  
 Triaenogenius Chaudoir 65  
*Tribonia* Rivalier 328  
 Trichamblytelus Baehr 44  
*Trichelaphrus* Semenov 380  
 Trichillinus Straneo 52  
 Trichina 1275  
 Trichocalathus Bolívar y Pieltain 1162  
**Trichocellus** Ganglbauer 1077, 1078  
 Trichognathus Latreille 1362  
 Trichopiezia Nègre 63



- Trichoplataphus** Netolitzky 657  
Trichopselaphus Chaudoir 1154  
Trichotichnini 1091  
**Trichotichnus** Morawitz 1091, 1156  
Tricondyla Latreille 32  
Tricondylinea 32  
**Trigonognatha** Motschulsky 50, 785  
Trigonotoma Dejean 51  
Trigonotomidae 769  
**Triliarthrus** Casey 1059, 1074  
Trilophidius Jeannel 36  
Trilophus Andrewes 36  
Trimorphus Stephens 1004, 1011  
*Triplectrus* LeConte 1028  
*Triporus* Andrewes 657  
*Troglanillus* Jeannel 699  
Tropopsis Solier 730  
Tropopterini 43  
Tropopterus Solier 44  
Trymosternini 1295  
Trymosternus Chaudoir 1295  
*Tundraphilus* Berlov 815  
Tuxtlamorphia Erwin & Geraci 1372  
Typhlocharina 697  
Typhlochoromus Moczarski 51  
Typhlonestra Jeannel 1257  
Typhloreicheia Holdhaus 36  
Upocompsus Erwin 680  
Uroclivina Dostal 404  
**Vancouveria** Kavanaugh 27, 152  
*Variopalpis* Solier 1311  
*Velimius* Jedlička 1156  
Velindopsis Burgeon 1279  
Verticina Rivalier 285  
Xenaroswellianini 66  
Xenion Tschitschérine 51  
**Xenocelia** Hieke 907  
Xenogona Jeannel 1257  
Xenogonilla Basilewsky 1257  
**Xenotrechus** Barr & Krekeler 41, 503  
**Xestonotus** LeConte 1019  
XYSTOSOMINA 41, 527, 663  
Xystosomus Schaum 663  
Yasunimorphia Erwin & Geraci 1372  
Zabrides 887  
ZABRINI 51, 887  
Zabrus Clairville 51, 887  
Zacotini 454  
**Zacotus** LeConte 456  
Zariquieya Jeannel 51  
**Zezea** Csiki 947  
Zolina 41  
Zolini 41  
Zolus Sharp 41  
*Zophium* Gistel 1355  
*Zoyphium* Agassiz 1355  
Zuphietae 1355  
ZUPHIINA 65, 1355  
ZUPHIINI 64, 1355  
*Zuphiosoma* Laporte 1359  
**Zuphium** Latreille 1355

## Index of species-group names

Valid names are in regular type and invalid ones in italics.

- aabaaba* Erwin, *Brachinus* 735  
*abbreviata* Casey, *Cymindis* 1292  
*abbreviata* Casey, *Pinacodera* 1292  
*abbreviatus* Putzeys, *Dyschirius* 447  
*abditata* Madge, *Lebia* 1323  
*abditus* Krekeler, *Pseudanophthalmus* 475  
*abdominale* Géhin, *Calosoma* 229  
*abdominalis* Chaudoir, *Lebia* 1322  
*abdominalis* Fabricius, *Cicindela* 312, 1589  
*abdominalis* LeConte, *Feronia* 876  
*aberti* Hatch, *Bembidion* 605  
*abjectus* Bates, *Euproctinus* 1353  
*abjectus* Bates, *Euproctus* 1353  
*abjectus* LeConte, *Pterostichus* 799  
*abrogatus* Scudder, *Pterostichus* 1575  
*abrupta* Casey, *Cicindela* 360  
*abrupta* Casey, *Lebia* 1329  
*abstinens* Casey, *Stenolophus* 1049  
*abstracta* Scudder, *Nebria* 1570  
*abstrusa* LeConte, *Cymindis* 1286  
*abstrusus* Casey, *Harpalus* 1097  
*accelerans* Casey, *Loxandrus* 754  
*accuratum* Casey, *Bembidion* 618  
*acherontis* Barr, *Pseudanophthalmus* 463  
*acomana* Casey, *Amara* 940  
*acomana* Casey, *Cymindis* 1286  
*acom anum* Casey, *Bembidion* 571  
*acom anus* Casey, *Calathus* 1164  
*acom anus* Casey, *Harpalus* 1103  
*acom anus* Casey, *Pasimachus* 393  
*acom anus* Casey, *Poecilus* 775  
*acticola* Casey, *Bembidion* 600  
*actiosus* Casey, *Harpalus* 1095  
*actuosum* Casey, *Bembidion* 562  
*actuosus* Casey, *Apristus* 1307  
*acuducta* Haldeman, *Clivina* 411  
*acuminata* Casey, *Amara* 933  
*acuminata* Chaudoir, *Feronia* 885  
*acuminatus* Casey, *Pasimachus* 396  
*acuminatus* Paykull, *Carabus* 942  
*acuta* Lindroth, *Nebria* 165  
*acutangula* Chaudoir, *Blethisa* 376  
*acutangula* Putzeys, *Celia* 916  
*acutangulus* Chaudoir, *Lyperus* 798  
*acutesculptus* Bates, *Elliptoleus* 1177  
*acuticauda* Casey, *Amara* 934  
*acuticollis* Motschulsky, *Limodromus* 1248  
*acutifrons* LeConte, *Bembidion* 622  
*acutifrons* LeConte, *Bembidion* 622  
*acutipes* Barr, *Pterostichus* 822  
*acutus* LeConte, *Evarthrus* 871  
*acutus* Marsham, *Carabus* 648  
*adductum* Casey, *Bembidion* 584  
*adiunctus* LeConte, *Pterostichus* 809  
*adjunctus* Casey, *Celiamorphus* 1137  
*adjunctus* Casey, *Selenophorus* 1137  
*adjutor* Casey, *Bembidion* 656  
*adjutor* Casey, *Calosoma* 243  
*admiscens* Casey, *Cicindela* 345  
*admissus* Casey, *Harpalus* 1096  
*adolescens* Casey, *Bembidion* 626  
*adolescens* Casey, *Lebia* 1333  
*adoxia* Say, *Feronia* 833  
*adoxus* Say, *Pterostichus* 833, 1602  
*adstrictus* Eschscholtz, *Pterostichus* 792, 1602  
*adstrictus* Putzeys, *Curtonotus* 891  
*adultum* Casey, *Bembidion* 641  
*adumbratum* Casey, *Bembidion* 642  
*aduncus* Allen, *Loxandrus* 757  
*aduncus* Barr, *Trechus* 522  
*adustipennis* Erwin, *Brachinus* 749  
*adustus* Casey, *Europhilus* 1206  
*advena* LeConte, *Calathus* 1169, 1612  
*advena* LeConte, *Harpalus* 1121  
*advena* LeConte, *Pristodactyla* 1169  
*aeger* Chaudoir, *Brachinus* 750  
*aeger* Chaudoir, *Brachynus* 750  
*aegrotum* Casey, *Bembidion* 538  
*aemula* Casey, *Dianchomena* 1322  
*aenea* DeGeer, *Amara* 936, 1605  
*aeneicolle* LeConte, *Bembidion* 607  
*aeneicolle* Sturm, *Agonum* 1624  
*aeneicollis* Beutenmüller, *Cychrus* 209  
*aeneicollis* Beutenmüller, *Scaphinotus* 209  
*aeneicollis* LeConte, *Ochthedromus* 607  
*aeneicolor* Bates, *Celia* 928  
*aeneipennis* Motschulsky, *Tachys* 690  
*aeneolucens* Casey, *Amara* 926  
*aeneolus* Bates, *Euphorticus* 1262  
*aeneolus* LeConte, *Anchomenus* 1182  
*aeneolus* LeConte, *Dyschirius* 435  
*aeneolus* LeConte, *Platynus* 1182  
*aeneolus* Motschulsky, *Batenus* 1204  
*aeneopiceus* Casey, *Selenophorus* 1140  
*aeneopolita* Casey, *Amara* 937  
*aeneorubrum* Casey, *Bembidion* 544

- aenescens* Casey, Harpalus 1118  
*aenescens* LeConte, Blemus 679  
*aenescens* LeConte, Calosoma 240  
*aenescens* LeConte, Micratopus 679  
*aeneum* Putzeys, Cyldronotum 1351  
*aeneus* DeGeer, Carabus 936  
*aeneus* Fabricius, Carabus 1117  
*aeneus* Herbst, Elaphrus 185  
*aeneus* Herbst, Notiophilus 185  
*aenulum* Hayward, Bembidion 543, 1598  
*aenulum* Hayward, Bembidium 543  
*aequabilis* Casey, Harpalus 1127  
*aequalis* Casey, Bradytus 912  
*aequalis* Casey, Discoderus 1149  
*aequalis* Casey, Omaseus 797  
*aequalis* Casey, Sphaeroderus 195  
*aequalis* Walker, Peryphus 656  
*aequicollis* Casey, Micromaseus 790  
*aequicornis* Casey, Omus 271  
*aequinotialis* Chaudoir, Galerita 1367  
*aerata* Dejean, Coptodera 1280  
*aeratus* Dejean, Chlaenius 1625  
*aeratus* Reiche, Selenophorus 1138  
*aerea* Sturm, Amara 1624  
*aereum* Jacquelin du Val, Bembidium 576  
*aereus* LeConte, Selenophorus 1146  
*aeruginosum* Dejean, Agonum 1236  
*aeruginosus* Sturm, Anchomenus 1624  
*aesopus* Casey, Harpalus 1114  
*aesopus* Casey, Platynidius 1250  
*aestivum* Casey, Bembidion 590  
*aestivus* Say, Chlaenius 969  
*aethiops* Casey, Agonum 1232  
*aethiops* Casey, Omus 278  
*aethiops* Casey, Triplectrus 1031  
*affabilis* Brues, Anillinus 699  
*affabilis* Brues, Anillus 699  
*affine* Chaudoir, Calosoma 239, 1585  
*affine* Kirby, Agonum 1229  
*affine* Say, Bembidion 588  
*affine* Stephens, Agonum 1209  
*affinis* Dejean, Lebia 1331  
*affinis* Fall, Dyschirius 432  
*affinis* LeConte, Brachinus 743  
*affinis* LeConte, Scarites 402  
*affinis* Motschulsky, Amara 922  
*affinis* Say, Bembidium 588  
*affinis* Schrank, Carabus 1117  
*affinis* Schrank, Harpalus 1117, 1610  
*affinis* Stephens, Peryphus 579  
*afoveolata* Hayward, Amara 949  
*agassii* LeConte, Carabus 262  
*agilis* Dejean, Feronia 754  
*agilis* Dejean, Harpalus 1017  
*agilis* Dejean, Loxandrus 754  
*agilis* LeConte, Platynus 1243  
*agitabile* Casey, Bembidion 648  
*agitabilis* Casey, Harpalus 1016  
*agitata* Casey, Cymindis 1291  
*agitatus* Casey, Apristus 1307  
*agonus* Horn, Pterostichus 813  
*agrestis* Bland, Pterostichus 819  
*agricola* Say, Anisodactylus 1025  
*agricolus* Say, Harpalus 1025  
*ahasverus* Liebke, Galerita 1365  
*alabama* Bousquet, Clivina 410  
*alabamae* Casey, Cicindela 308  
*alabamae* Valentine, Pseudanophthalmus 462  
*alabamae* Van Dyke, Cyclotrachelus 877  
*alabamae* Van Dyke, Evarthrus 877  
*alabamensis* Casey, Cyclotrachelus 871  
*alabamensis* Casey, Evarthrinus 871  
*aladdini* Valentine, Pseudanophthalmus 465  
*alamedae* Casey, Hypherpes 853  
*alaskana* Csiki, Amara 890  
*alaskanum* Wickham, Asaphidion 534, 1597  
*alaskanus* Obydov, Carabus 264  
*alaskense* Lindroth, Bembidion 547, 1598  
*alaskensis* Basilewsky, Carabus 256  
*alaskensis* Lindroth, Harpalus 1123  
*alaskensis* Poppius, Cryobius 862  
*alata* Liljeblad, Cicindela 286  
*alaxnoguia* Minsk & Hatch, Amara 950  
*albamontana* Dajoz, Rhadine 1189  
*albertae* Casey, Celia 923  
*albertanum* Casey, Bembidion 609  
*albertanus* Casey, Anchomenus 1246  
*albertanus* Casey, Chlaenius 987  
*albertanus* Casey, Curtonotus 898  
*albertina* Casey, Cicindela 330  
*albicus* Dejean, Agonum 1215  
*albidipenne* Casey, Bembidion 566  
*albilabris* Kirby, Cicindela 352  
*albilata* Acciavatti, Cicindela 306  
*albilata* Acciavatti, Habroscelimorpha 306  
*albimontis* Kavanaugh, Nebria 174  
*albionicus* Mannerheim, Harpalus 1120  
*albionicus* Motschulsky, Poecilus 1627  
*albipes* Bates, Pentagonica 1266  
*albipes* Fabricius, Carabus 1198  
*albipes* Fabricius, Paranchus 1198, 1614  
*albipes* LeConte, Tachys 690  
*albissima* Rumpff, Cicindela 358  
*albohirta* Dejean, Cicindela 362

- albomarginata* Sturm, Lebia 1626  
*alcyoneum* Chaudoir, Agonum 1214  
*aldanicus* Poppius, Platynus 1204  
*aleneanum* Casey, Bembidion 647  
*aleneanus* Casey, Anchomenus 1246  
*aleneanus* Casey, Anisodactylus 1022  
*aleuta* Van Dyke, Nebria 163  
*aleutorum* Lutshnik, Platysma 867  
*alexiguus* Erwin, Brachinus 736  
*aleyae* Sokolov & Watrous, Anillinus 699  
*algidus* Allen, Loxandrus 755  
*algidus* LeConte, Pterostichus 851, 852, 1602  
*alienus* LeConte, Harpalus 1113  
*alinae* Dajoz, Trechus 512  
*allegeniense* Bell & Bell, Clinidium 143  
*alleni* Cazier, Cicindela 319  
*alleni* Van Dyke, Pseudomorpha 1373  
*alleniana* Mandl, Cicindela 319  
*alpina* Paykull, Amara 888, 1605  
*alpineanum* Casey, Bembidion 536  
*alpinum* Motschulsky, Agonum 1211  
*alpinus* Beutenmüller, Nomarethus 206  
*alpinus* Beutenmüller, Scaphinotus 206  
*alpinus* Curtis, Patrobus 722  
*alpinus* Paykull, Carabus 888  
*alternans* Casey, Cyclotrachelus 880, 1601  
*alternans* Casey, Cymindis 1286  
*alternans* Casey, Diplochila 994  
*alternans* Casey, Evarthrinus 880  
*alternans* Dejean, Brachinus 735  
*alternans* Dejean, Dicaelus 1000  
*alternans* LeConte, Anisodactylus 1033  
*alternans* LeConte, Philodes 1087  
*alternans* LeConte, Stenolophus 1087  
*alternans* Motschulsky, Anisodactylus 1033  
*alternans* Motschulsky, Harpalus 1033  
*alternans* Motschulsky, Notaphus 618  
*alternata* Motschulsky, Platysma 1627  
*alternatus* Hatch, Dyschirius 443  
*alternatus* Horn, Chlaenius 987  
*alternatus* LeConte, Cratognathus 1133  
*alternatus* LeConte, Hartonymus 1133  
*alternatus* Motschulsky, Cychrus 225  
*alticola* Casey, Cymindis 1286  
*alticola* Casey, Trachypachus 141  
*alticola* Lindroth, Dyschirius 436  
*altisierrae* Kavanaugh, Nebria 153  
*altisierrae* Kavanaugh, Nippononebria 153  
*alutacea* Notman, Pseudomorpha 1373  
*alutaceum* Hatch, Bembidion 586  
*alutaceus* Bates, Anatrachis 954  
*alutaceus* Bates, Oodinus 954  
*alutaceus* Casey, Calathus 1165  
*alutaceus* Casey, Dicheirus 1043  
*alutaceus* Casey, Stenocellus 1066  
*alutaceus* Horn, Dicaelus 1577  
*amadeus* Bousquet, Pterostichus 802  
*amandus* Newman, Plochionus 1339  
*amargosae* Dahl, Cicindela 312, 1589  
*amaroides* Dejean, Oodes 955  
*amaroides* LeConte, Anisodactylus 1036  
*ambiens* Casey, Cicindela 304  
*ambiens* Casey, Pasimachus 397  
*ambigens* Bates, Calathus 1163  
*ambiguus* Dejean, Dicaelus 1626  
*ambiguus* LaFerté-Sénectère, Dicaelus 999  
*ambiguus* Mäklin, Anchomenus 1180  
*ambiguus* Schaupp, Omus 270  
*amedeensis* Casey, Cicindela 326  
*amens* Casey, Agonum 1235  
*americana* Csiki, Amara 944  
*americana* Dejean, Clivina 411  
*americana* Dejean, Cymindis 1284  
*americana* Dejean, Feronia 879  
*americana* Dejean, Pristodactyla 1171  
*americana* Harris, Blethisa 376  
*americana* Laporte, Stomis 781  
*americana* Mannerheim, Miscodera 455  
*americana* Motschulsky, Diachila 372  
*americana* Motschulsky, Pentagonica 1266  
*americanum* Dejean, Bembidion 553  
*americanum* Dejean, Bembidium 553  
*americanum* Dejean, Omophron 387, 1594  
*americanum* Dejean, Zuphium 1356  
*americanus* Dejean, Dromius 1311  
*americanus* Dejean, Elaphrus 381, 1593  
*americanus* Dejean, Gynandropus 1143  
*americanus* Dejean, Oodes 956, 1608  
*americanus* Dejean, Patrobus 721  
*americanus* Dejean, Stenolophus 1627  
*americanus* Dejean, Syntomus 1311, 1616  
*americanus* Harris, Notiophilus 189  
*americanus* Laporte, Omoglymmius 146  
*americanus* Laporte, Rhysodes 146  
*americanus* LeConte, Aptinus 737  
*americanus* LeConte, Brachinus 737, 1600  
*americanus* LeConte, Pristonychus 1171  
*americanus* Motschulsky, Mazoreus 1058  
*americanus* Motschulsky, Pangus 1151  
*amethystinus* Mannerheim, Pterostichus 835, 1602  
*amiculus* Casey, Harpalus 1128  
*amicum* Casey, Bembidion 654  
*amicum* Casey, Micragonum 1237  
*amnicola* Casey, Cicindela 292

- amnicola* Casey, Gastrosticta 806  
*amnicola* Casey, Lebia 1337  
*amnicum* Casey, Bembidion 619  
*amoena* Faldermann, Blethisa 371  
*amoena* Faldermann, Diacheila 371  
*amoena* LeConte, Cicindela 335  
*amoena* LeConte, Cymindis 1348  
*amoena* LeConte, Philophuga 1348, 1616  
*amoenus* Dejean, Chlaenius 967  
*amoenus* LeConte, Discoderus 1149  
*amphibia* Haldeman, Clivina 424  
*amphibius* Haldeman, Schizogenius 424  
*ampla* Casey, Eumolops 885  
*ampliata* Casey, Cymindis 1292  
*ampliata* Casey, Pinacodera 1292  
*ampliata* Vaurie, Cicindela 294  
*ampliata* Vaurie, Ellipsoptera 294  
*ampliatum* Casey, Bembidion 639  
*ampliceps* Casey, Bembidion 622  
*amplicollis* Casey, Anchomenus 1219  
*amplicollis* Casey, Irichroa 209  
*amplicollis* Casey, Scaphinotus 209  
*amplicollis* Mannerheim, Celia 914  
*amplicollis* Motschulsky, Brachystylus 853  
*amplior* Casey, Agonum 1214  
*amplipenne* Casey, Bembidion 609  
*amplipennis* Bates, Brachinus 743  
*amplipennis* Casey, Calosoma 236  
*amplipennis* Casey, Celia 907  
*amplipennis* Casey, Diplocheila 994  
*amplus* LeConte, Chlaenius 965  
*amputatus* Say, Harpalus 1119  
*anadyricus* Csiki, Pterostichus 862  
*analis* Dejean, Lebia 1319, 1615  
*analis* LeConte, Dyschirius 433  
*analis* Putzeys, Clivina 411  
*anceps* LeConte, Elaphropus 668, 1599  
*anceps* LeConte, Stenolophus 1046  
*anceps* LeConte, Tachys 668  
*anchomenoides* Motschulsky, Agonothorax 1624  
*anchomenoides* Randall, Agonum 1202, 1613  
*anchora* Chevrolat, Lebia 1319  
*ancilla* Casey, Tachyura 678  
*ancillaris* Casey, Harpalus 1119  
*ancocisconensis* Harris, Cicindela 328, 1589  
*andrewsii* Harris, Cychrus 210  
*andrewsii* Harris, Scaphinotus 210  
*angelli* Beutenmüller, Cychrus 212  
*angulata* Boheman, Lebia 1621  
*angulata* Casey, Tachyta 665  
*angulatum* Chevrolat, Calosoma 234  
*angulatum* LeConte, Calosoma 234  
*angulatus* Casey, Dicheirus 1041  
*angulatus* Casey, Hemisopalus 1136  
*angulatus* Harris, Cychrus 225  
*angulatus* Harris, Scaphinotus 225  
*angulatus* LeConte, Anophthalmus 489  
*angulicolle* Chaudoir, Calosoma 234  
*angulicollis* Reiche, Lebia 1350  
*angulicollis* Reiche, Onota 1350  
*angulifer* LeConte, Ochthedromus 626  
*anguliferum* LeConte, Bembidion 626  
*angusta* Dejean, Feronia 824  
*angustata* Sahlberg, Amara 889  
*angustata* Say, Amara 948  
*angustata* Say, Feronia 948  
*angustata* Schwarz, Apenes 1298  
*angustatoides* Hieke, Amara 948  
*angustatus* Dejean, Platynus 1250  
*angusticeps* Casey, Galerita 1365  
*angusticeps* Casey, Lymneops 661  
*angusticollis* Blatchley, Rembus 993  
*angusticollis* Casey, Anisotarsus 1018  
*angusticollis* Casey, Bothriopterus 794  
*angusticollis* Dejean, Chlaenius 1625  
*angusticollis* Mannerheim, Cychrus 216  
*angusticollis* Mannerheim, Patrobus 721  
*angusticollis* Mannerheim, Scaphinotus 216  
*angusticollis* Motschulsky, Pelophila 148  
*angusticollis* Sahlberg, Elaphrus 385, 1593  
*angustior* Casey, Agonum 1197  
*angustior* Casey, Bembidion 564  
*angustior* Casey, Celia 930  
*angustocylindricus* Horn, Omus 272  
*angustulus* Casey, Dicheirus 1043  
*angustulus* Casey, Pasimachus 396  
*angustus* Casey, Anisodactylus 1021  
*angustus* Casey, Badister 1006  
*angustus* Casey, Dicaelus 999  
*angustus* Casey, Zacotus 457  
*angustus* Chaudoir, Elaphrus 385  
*angustus* Dejean, Pterostichus 824  
*angustus* LeConte, Dromius 1305  
*animatum* Casey, Bembidion 572  
*animosus* Casey, Harpalus 1108  
*anita* Dow, Cicindela 317  
*annosus* Casey, Pterostichus 839  
*antecursor* Scudder, Badister 1577  
*antennalis* Casey, Omus 276  
*antennalis* Casey, Stenocellus 1068  
*anthicoides* Casey, Rhadine 1185  
*anthobia* Villa & Villa, Amara 937, 1605  
*anthracina* Haldeman, Amara 932  
*anthracina* Horn, Cicindela 314



- anthracinum* Dejean, *Agonum* 1222  
*anthracinus* Dejean, *Anisodactylus* 1030  
*anthracinus* Dejean, *Harpalus* 1030  
*anthracinus* LeConte, *Badister* 1007  
*anthrax* Casey, *Hypherpes* 852  
*anthrax* LeConte, *Elaphropus* 668  
*anthrax* LeConte, *Tachys* 668  
*antiphon* Casey, *Harpalus* 1123  
*antiquum* Dejean, *Bembidion* 555, 1598  
*antiquum* Dejean, *Bembidium* 555  
*antiquus* Notman, *Europhilus* 1205  
*apache* Dajoz, *Trechus* 512  
*apache* Kataev, *Harpalus* 1104  
*apacheana* Casey, *Calosoma* 236  
*apacheana* Casey, *Tachyura* 671  
*apacheanus* Casey, *Chlaenius* 974  
*apachensis* Casey, *Amara* 907  
*apalachius* Horn, *Pterostichus* 821  
*apertum* Reitter, *Clinidium* 144  
*apicale* Jacquelin du Val, *Bembidium* 602  
*apicale* Sturm, *Bembidium* 1624  
*apicalis* Haldeman, *Dromius* 1326  
*apicalis* Horn, *Cicindela* 309  
*apicalis* LeConte, *Chlaenius* 985  
*apicalis* LeConte, *Dyschirius* 438  
*apicalis* Motschulsky, *Trechus* 506, 1597  
*appalachia* Darlington, *Nebria* 170  
*appalachius* Casey, *Calathus* 1166  
*appalachius* Casey, *Tachys* 692  
*appendiculata* Chaudoir, *Lebia* 1321  
*approximatum* LeConte, *Bembidion* 607  
*approximatus* Chaudoir, *Colpodes* 1248  
*approximatus* LeConte, *Broscus* 868  
*approximatus* LeConte, *Cyclotrachelus* 868  
*approximatus* LeConte, *Ochthedromus* 607  
*apricaria* Paykull, *Amara* 900, 1605  
*apricarius* Paykull, *Carabus* 900  
*apricoidea* Casey, *Cicindela* 305  
*aptum* LeConte, *Bembidium* 646  
*aquatica* Linnaeus, *Cicindela* 185  
*aquaticus* Linnaeus, *Notiophilus* 185, 1584  
*aquaticus* Valentine, *Pseudanophthalmus* 468  
*aquilonium* Tschitschérine, *Platysma* 856  
*aquilus* Casey, *Calathus* 1165  
*arachnoides* Casey, *Anchomenus* 1247  
*arapahoensis* Cockerell, *Carabites* 1581  
*aratum* LeConte, *Bembidion* 618  
*aratus* LeConte, *Dyschirius* 447  
*aratus* LeConte, *Ochthedromus* 618  
*aratus* Newman, *Rhysodes* 146  
*arcanus* Casey, *Pterostichus* 836  
*arctica* Dejean, *Pelophila* 148  
*arctica* Gyllenhal, *Diacheila* 1593  
*arctica* Paykull, *Miscodera* 455, 1596  
*arctica* Reiche, *Platysma* 793  
*arctica* Sahlberg, *Feronia* 855  
*arctica* Chaudoir, *Feronia* 858  
*arctica* Chaudoir, *Pterostichus* 858, 1602  
*arcticollis* Jeannel, *Trechus* 508  
*arcticum* Lindroth, *Bembidion* 638  
*arcticus* Paykull, *Scarites* 455  
*arcuata* Casey, *Amara* 932  
*arcuata* Casey, *Calosoma* 247  
*arcuatum* LeConte, *Bembidium* 651  
*arcuatus* Casey, *Stenomorphus* 1155  
*ardelio* Casey, *Bradycellus* 1069  
*ardelio* Casey, *Cicindela* 340  
*ardelio* Casey, *Stenocellus* 1069  
*arenaria* Darlington, *Halocoryza* 426  
*arenaria* LeConte, *Pseudamara* 1161  
*arenarium* Dejean, *Bembidium* 549  
*arenarius* Casey, *Anchomenus* 1226  
*arenarius* Darlington, *Schizogenius* 426  
*arenarius* LeConte, *Geobaenus* 1161  
*arenicola* Rumpff, *Cicindela* 358, 1589  
*arenobile* Maddison, *Bembidion* 556  
*arenobilis* Maddison, *Bembidion* 556  
*argenteolum* Ahrens, *Bembidion* 549  
*argutum* Casey, *Bembidion* 600  
*argutus* Casey, *Curtonotus* 889  
*argutus* Casey, *Omus* 278  
*arida* Davis, *Cicindela* 329  
*aridus* Allen, *Morion* 752  
*aridus* Casey, *Bradycellus* 1069  
*aridus* Casey, *Stenocellus* 1069  
*arizonae* Casey, *Anisodactylus* 1015  
*arizonae* Casey, *Trechus* 513  
*arizonae* Lindroth, *Bembidion* 545  
*arizonae* Wickham, *Cicindela* 313  
*arizonensis* Bates, *Cicindela* 292  
*arizonensis* Bates, *Cylindera* 292  
*arizonensis* Horn, *Platynus* 1223  
*arizonensis* Schaeffer, *Cymindis* 1285  
*arizonica* Casey, *Galerita* 1366  
*arizonica* Casey, *Pristodactyla* 1171  
*arizonica* Casey, *Tachyta* 666  
*arizonica* Schaeffer, *Lebia* 1330  
*arizonicus* Casey, *Nothopus* 1093  
*arizonicus* Schaeffer, *Pterostichus* 771  
*arizonicus* Van Dyke, *Dyschirius* 451  
*arkansana* Casey, *Nebria* 160  
*armata* Laporte, *Calosoma* 229  
*arsenjevi* Lutshnik, *Amara* 943  
*asahiensis* Habu & Baba, *Cymindis* 1292

- ascendens* LeConte, Cicindela 325  
*ashevillensis* Casey, Dicaelus 996  
*ashevillensis* Casey, Lebia 1326  
*asperatus* Casey, Omus 277  
*asperulus* Ménétriés, Chlaenius 984  
*assensum* Casey, Bembidion 600  
*assensus* Casey, Harpalus 1125  
*assimilis* Barr, Pseudanophthalmus 473  
*assimilis* Chaudoir, Amara 943  
*assimilis* Dejean, Harpalus 1117  
*assimilis* LeConte, Diplocheila 991  
*assimilis* LeConte, Pasimachus 399  
*assimilis* LeConte, Rembus 991  
*atbarae* Stehr, Brachinus 743  
*ater* Villers, Carabus 886  
*aterrimus* Dejean, Diplous 716, 1600  
*aterrimus* Dejean, Patrobus 716  
*aterrimus* Motschulsky, Percus 848  
*athabascensis* Graves, Cicindela 360  
*atlanticus* Lapouge, Carabus 257  
*atra* Dejean, Feronia 848  
*atrata* Newman, Feronia 817  
*atratus* LeConte, Platynus 1234  
*atratus* Newman, Pterostichus 817  
*atriceps* Casey, Europhilus 1206  
*atriceps* LeConte, Dromius 1303  
*atriceps* LeConte, Lebia 1315  
*atriceps* LeConte, Philorhizus 1303  
*atrichata* Minsk & Hatch, Amara 950  
*atrichatus* Hatch, Harpalus 1120  
*atrimedeia* Say, Feronia 1074  
*atrimedeus* Say, Bradycellus 1074  
*atripennis* Casey, Cymindis 1293  
*atripennis* Casey, Pinacodera 1293  
*atripennis* LeConte, Chlaenius 980  
*atripes* LeConte, Galerita 1363  
*atriventris* Say, Lebia 1315  
*atrolucens* Casey, Bembidion 648  
*atrolucens* Casey, Parargutor 795  
*atromicans* Casey, Agonum 1220  
*atronitens* Casey, Gastrellarius 781  
*atronitens* Casey, Pasimachus 396  
*attenuatus* Herbst, Scarites 1622  
*attuese* Lindroth, Bembidion 566  
*audax* Casey, Cicindela 365  
*audax* Horn, Anophthalmus 462  
*audax* Horn, Pseudanophthalmus 462  
*audax* LeConte, Tachys 670  
*audens* Casey, Omus 271  
*audouini* Reiche, Omus 270, 1588  
*audubonii* LeConte, Cicindela 339  
*augurale* Casey, Bembidion 610  
*auguralis* Casey, Cicindela 339  
*augustata* Horn, Pseudomorpha 1373, 1616  
*augustus* Newman, Chlaenius 969  
*aulica* Panzer, Amara 890, 1606  
*aulicus* Panzer, Carabus 890  
*aurata* Dejean, Amara 929  
*aurata* Fischer von Waldheim, Blethisa 375  
*auratus* Linnaeus, Carabus 260, 1586  
*auratus* Sturm, Dromius 1626  
*aureliensis* LaFerté-Sénectere, Chlaenius 1625  
*aureolus* Notman, Dyschirius 446  
*auriga* Ball, Pterostichus 858  
*auripennis* Bates, Schizogenius 421  
*aurocinctum* Chaudoir, Calosoma 231  
*aurora* Horn, Cymindis 1580  
*austinica* Barr, Rhadine 1190  
*austiniensis* Casey, Paratachys 691  
*austiniensis* Casey, Tachys 691  
*australinus* Casey, Dicheirus 1043  
*autumnalis* Say, Feronia 1158  
*autumnalis* Say, Trichotichnus 1158  
*auxiliadora* Erwin, Hyboptera 1338  
*auxiliator* Casey, Bembidion 608  
*averenskii* Berlov & Berlov, Pterostichus 813  
*avernus* Valentine, Pseudanophthalmus 478  
*aversans* Casey, Bembidion 568  
*avida* Say, Amara 900, 1606  
*avidum* Casey, Bembidion 536  
*avidus* Say, Zabrus 900  
*avus* Barr, Trechus 510  
*awemeana* Casey, Cicindela 335  
*axillare* Sturm, Bembidion 1624  
*axillaris* Dejean, Lebia 1325  
*axillaris* LeConte, Ochthedromus 584  
*axillaris* Mannerheim, Acupalpus 1079  
*azteca* Bates, Amara 935  
*aztecanum* Casey, Agonum 1214  
*aztecanus* Casey, Stilbolidus 1015  
*azurea* Calder, Cicindela 337  
*azureipennis* Chaudoir, Brachinus 741  
*azureipennis* Chaudoir, Brachynus 741  
*azurescens* Chaudoir, Chlaenius 969  
*babcocki* Barr, Agonum 1189  
*babcocki* Barr, Rhadine 1189  
*baccivorus* Fischer von Waldheim, Carabus 263  
*badiipenne* Casey, Bembidion 571  
*badiipennis* Casey, Triliarthrus 1075  
*badipennis* Haldeman, Bradycellus 1074  
*badipennis* Haldeman, Stenolophus 1074  
*badipennis* Haldeman, Triliarthrus  
*badius* Dejean, Harpalus 1100  
*baergi* Csiki, Harpalus 1113

- baldufi* Bell, Clinidium 144  
*baldwini* Casey, Hypherpes 839  
*baldwini* Casey, Pterostichus 839  
*balesi* Gray, Agonum 1185  
*balesi* Gray, Rhadine 1185  
*balli* Kavanaugh, Nebria 176  
*balli* Lindroth, Bembidion 547, 1598  
*balli* Noonan, Harpalus 1120  
*balli* Shpeley, Euproctinus 1353  
*balli* Sokolov & Carlton, Anillinus 700  
*ballistarius* LeConte, Brachinus 748  
*balsamensis* Barr, Trechus 515  
*baltimorensis* Herbst, Cicindela 1619  
*baltimoriensis* Say, Harpalus 1035  
*barbaraannae* Sumlin, Cicindela 319  
*barbarae* Casey, Bembidion 612  
*barbarae* Casey, Lebia 1330  
*barbarae* Horn, Thalassotrechus 712, 1600  
*barbarae* Horn, Trechus 712  
*barbarinus* Casey, Pterostichus 852  
*barberi* Jeannel, Anillinus 700  
*barberi* Jeannel, Microtrechus 524  
*barberi* Jeannel, Pseudanophthalmus 497  
*barberi* Jeannel, Trechus 524  
*barksdalei* Valentine, Steniridia 210  
*barnesi* Stehr, Tachyura 676  
*baroni* Rivers, Amblycheila 266, 1588  
*baroni* Rivers, Amblychila 266  
*barri* Bousquet, Pterostichus 800  
*barri* Krekeler, Pseudanophthalmus 463  
*barri* Sokolov & Carlton, Anillinus 700  
*barryorum* Ball, Pterostichus 858  
*basale* LeConte, Agonum 1236  
*basalis* Casey, Brennus 219  
*basalis* Gyllenhal, Cymidis 1291  
*basalis* LeConte, Dyschirius 438  
*basalis* LeConte, Ochthedromus 557  
*basicorne* Notman, Bembidion 632  
*basicorne* Notman, Bembidium 632  
*basilaris* Kirby, Harpalus 1131  
*basilaris* Motschulsky, Evarthrus 878  
*basillaris* Say, Amara 937  
*basillaris* Say, Feronia 937  
*batesellus* Csiki, Pterostichus 871  
*batesi* Casey, Stenomorphus 1154  
*batesiana* Csiki, Amara 896  
*bathycola* Valentine, Pseudanophthalmus 493  
*beakleyi* Valentine, Pseudanophthalmus 494  
*beatulus* Casey, Harpalus 1112  
*beauvoisi* Dejean, Carabus 1618  
*beauvoisii* Dejean, Selenophorus 1622  
*beckwithii* Stephens, Scarites 403  
*beebei* Mutchler, Tachys 689  
*behrensi* Horn, Pseudomorpha 1373  
*behrensi* Roeschke, Neocychrus 227  
*behrensi* Roeschke, Scaphinotus 227  
*behrensii* Mannerheim, Calathus 1168  
*belfragei* Horn, Amara 948  
*belfragei* Sallé, Dromochorus 301  
*bellefragei* Heyne, Dromochorus 301  
*belleri* Hatch, Agonum 1216  
*belleri* Hatch, Platynus 1216  
*bellissima* Leng, Cicindela 358, 1589  
*bellorum* Kavanaugh, Nebria 157  
*bellorum* Maddison, Bembidion 555  
*bellulum* Casey, Bembidion 561  
*bembidioides* Kirby, Sericoda 1178, 1614  
*bendermani* Barr, Pseudanophthalmus 463  
*beniciensis* Casey, Dicheirus 1042  
*beringensis* Poppius, Pterostichus 862  
*beringi* Casey, Brennus 220  
*beringi* Casey, Calathus 1165  
*beringi* Casey, Cryobius 862  
*beringi* Netolitzky, Bembidion 548  
*beryllus* Casey, Triplectrus 1029  
*beutenmuelleri* Jeannel, Trechus 510  
*beverlianna* Kavanaugh, Nebria 180  
*beyeri* Notman, Pachyteles 732  
*beyeri* Van Dyke, Pterostichus 830  
*biarcuatus* Casey, Curtonotus 898  
*bicanaliceps* Casey, Carabus 263  
*bicarinatus* LeConte, Cychrus 191  
*bicarinatus* LeConte, Sphaeroderus 191  
*bicincta* Laporte, Lebia 1321  
*bicolor* Dejean, Agonum 1211  
*bicolor* Dejean, Anchomenus 1211  
*bicolor* Drury, Carabus 1096  
*bicolor* Drury, Galerita 1363  
*bicolor* Fabricius, Carabus 1363  
*bicolor* Harris, Helluomorphoides 1369, 1616  
*bicolor* Harris, Zuphium 1369  
*bicolor* Kirby, Argutor 790  
*bicolor* LeConte, Pentagonica 1265  
*bicolor* LeConte, Platynus 1244  
*bicolor* LeConte, Poecilus 773  
*bicolor* LeConte, Rhombodera 1265  
*bicolor* Notman, Plochionus 1339  
*bicolor* Walker, Carabus 249  
*bicoloratus* Gemminger & Harold, Platynus 1244  
*biedermani* Roeschke, Scaphinotus 199  
*bierigi* Liebke, Pseudaptinus 1360  
*bifaria* Mannerheim, Nebria 157  
*bifasciata* Motschulsky, Lophia 655  
*bifasciatus* Olivier, Carabus 1618

- bifossulatum* LeConte, Bembidion 553  
*bifossulatus* LeConte, Ochthedromus 553  
*bifrons* Gyllenhal, Amara 914, 1606  
*bifrons* Gyllenhal, Harpalus 914  
*biguttata* Putzeys, Clivina 1620  
*biguttatus* Fabricius, Elaphrus 186  
*biguttatus* Fabricius, Notiophilus 186, 1584  
*biimpressum* Mannerheim, Bembidium 641  
*bilineata* Motschulsky, Lebia 1322  
*billingsi* Casey, Cicindela 343  
*bilobus* Say, Cychrus 204  
*bilobus* Say, Scaphinotus 204, 1584  
*bimaculatum* Kirby, Bembidion 574  
*bimaculatus* Kirby, Peryphus 574  
*binaria* Casey, Pristodactyla 1170  
*binarium* Casey, Bembidion 549  
*binotatus* Casey, Agonoderus 1052  
*binotatus* Casey, Stenolophus 1052  
*binotatus* Fabricius, Anisodactylus 1020, 1609  
*biocryus* Ball, Pterostichus 858  
*bipartita* Casey, Cymindis 1289  
*biplagiatus* Dejean, Axinopalpus 1312, 1615  
*biplagiatus* Dejean, Dromius 1312  
*bipustulata* Fabricius, Paraclivina 413  
*birulai* Poppius, Amara 889  
*bisbiguttatum* Sturm, Bembidium 1624  
*bisectus* Casey, Cratacanthus 1160  
*bisigillatus* Harris, Omaseus 812  
*bisignata* Dokhtourov, Cicindela 313  
*bisignata* Putzeys, Clivina 414  
*bispiculatus* Casey, Lophoglossus 779  
*bisulcatus* Nicolai, Porotachys 682, 1599  
*bisulcatus* Nicolai, Trechus 682  
*bitaeniata* Chevrolat, Lebia 1321  
*bituberosus* Casey, Elaphrus 381  
*bivittata* Fabricius, Lebia 1322  
*bjorkmanae* Gray & Hatch, Agonum 1182  
*blaisdelli* Casey, Bembidion 599  
*blaisdelli* Casey, Omus 279  
*blaisdelli* Van Dyke, Dicheirus 1041  
*blaisdelli* Van Dyke, Feronia 863  
*blanchardi* Hayward, Amara 891  
*blanchardi* Hayward, Bembidium 557  
*blanchardi* Horn, Gastrellarius 781, 1601  
*blanchardi* Horn, Pterostichus 781  
*blanchardi* Leng, Sphaeroderus 192  
*blanchardi* Manee, Selenophorus 1140  
*blanda* Casey, Cymindis 1293  
*blanda* Dejean, Cicindela 292  
*blanda* Dejean, Ellipsoptera 292  
*blanditum* Casey, Bembidion 638  
*blanditus* Casey, Chlaenius 982  
*blanditus* Casey, Harpalus 1128  
*blandus* Germar, Platynus 1251  
*blatchleyi* Barr, Pseudanophthalmus 498  
*blatchleyi* Casey, Cyclotrachelus 874  
*blatchleyi* Casey, Evarthrus 874  
*blatchleyi* Csiki, Loxandrus 755  
*blodgettensis* Will, Pterostichus 827  
*bloomi* Krekeler, Pseudanophthalmus 499  
*bogemannii* Gyllenhal, Harpalus 1179  
*bogemannii* Gyllenhal, Sericoda 1179  
*boisduvalii* Gistel, Megacephala 283  
*bokori* Csiki, Amara 891  
*bonellii* Putzeys, Lebia 1319  
*bonfilsii* Audinet-Serville, Lebia 1341  
*bonnevillensis* Knisley & Kippenhan, Cicindela 330  
*boonensis* Krekeler, Pseudanophthalmus 498  
*boopis* Casey, Anchomenus 1247  
*borea* Hentz, Lebia 1329  
*borealium* Casey, Agonum 1216  
*borealis* Casey, Omus 270  
*borealis* Chaudoir, Leirus 888  
*borealis* Harris, Cicindela 349  
*borealis* Harris, Notiophilus 186  
*borealis* Laporte, Galerita 1364  
*borealis* LeConte, Cymindis 1285  
*borealis* Ménétriés, Platysma 866  
*borealis* Motschulsky, Amara 925  
*borealis* Motschulsky, Batenus 1203  
*borealis* Paykull, Carabus 147  
*borealis* Paykull, Pelophila 147, 1582  
*borealis* Schaeffer, Trechus 507  
*borealis* Zetterstedt, Harpalus 792  
*borealis* Zimmermann, Metabletus 1311  
*boreellus* Casey, Trichocellus 1079  
*boreus* Csiki, Pterostichus 867  
*boulderensis* Casey, Cicindela 320  
*bousqueti* Bergdahl, Pterostichus 802  
*bowditchi* Hayward, Amara 893  
*bowditchi* Leng, Cicindela 315  
*bowditchii* LeConte, Bembidion 543, 1598  
*bowditchii* LeConte, Bembidium 543  
*bowlingi* Barr, Trechus 524  
*boyeri* Solier, Eucheila 1278  
*boyeri* Solier, Polistichus 1278  
*bracata* Casey, Lebia 1334  
*bracatus* Casey, Harpalus 1119  
*brachyderus* Chaudoir, Chlaenius 973  
*brachyderus* Jeannel, Trechus 507  
*brachyderus* Wiedemann, Carabus 255  
*brachylobus* Kavanaugh & LaBonte, Pterostichus 849  
*brachythorax* Lindroth, Bembidion 638  
*bradycellinus* Hayward, Tachys 685

- bradytonota* Hieke, *Amara* 908  
*breve* Motschulsky, *Bembidion* 638  
*brevibasis* Casey, *Omaseus* 799  
*brevicarinatus* Putzeys, *Dyschirius* 427  
*breviceps* Casey, *Micragonum* 1238  
*breviceps* Casey, *Platidius* 716  
*breviceps* Casey, *Triplectrus* 1030  
*brevicolle* Dejean, *Agonum* 1230  
*brevicollis* Casey, *Brennus* 225  
*brevicollis* Casey, *Diplocheila* 994  
*brevicollis* Chaudoir, *Anisotarsus* 1013  
*brevicollis* Chaudoir, *Notiobia* 1013  
*brevicollis* Fabricius, *Carabus* 182  
*brevicollis* Fabricius, *Nebria* 182, 1583  
*brevicollis* LeConte, *Anisodactylus* 1021  
*brevicollis* LeConte, *Argutor* 760  
*brevicollis* LeConte, *Chlaenius* 972  
*brevicollis* LeConte, *Loxandrus* 760  
*brevicollis* Tschitschérine, *Feronia* 866  
*brevicornis* Casey, *Olisthopus* 1176  
*brevicornis* Casey, *Omus* 271  
*brevicornis* Kirby, *Argutor* 855  
*brevicornis* Kirby, *Pterostichus* 855, 1602  
*brevicornis* Ménétrés, *Leirus* 889  
*breviformis* Casey, *Amara* 941  
*breviformis* Casey, *Evarthrus* 879  
*brevilabris* Kirby, *Curtonotus* 897  
*brevilabris* LeConte, *Chlaenius* 979  
*brevilobus* Lindroth, *Microlestes* 1304  
*brevior* Casey, *Triplectrus* 1024  
*brevior* Chaudoir, *Brachynus* 750  
*brevipenne* Casey, *Omophron* 391  
*brevipennis* Casey, *Curtonotus* 898  
*brevipennis* Casey, *Piosoma* 1092  
*brevipennis* Zimmermann, *Cymindis* 1289  
*brevis* Casey, *Elaphropus* 669  
*brevis* Casey, *Nebria* 153  
*brevis* Casey, *Omus* 277  
*brevis* Casey, *Tachyura* 669  
*brevis* Lindroth, *Oodes* 956  
*brevis* Motschulsky, *Peryphus* 638  
*brevis* Sturm, *Anisodactylus* 1624  
*brevis* Sturm, *Harpalus* 1626  
*brevis* Valentine, *Pseudanophthalmus* 467  
*brevisetosus* Casey, *Dicheirus* 1042  
*brevisetosus* Whitehead, *Schizogenius* 419  
*brevistriatum* Hayward, *Bembidion* 541  
*brevistriatum* Hayward, *Bembidium* 541  
*brevitarsis* Casey, *Celia* 918  
*brevitarsis* Casey, *Pasimachus* 399  
*breviuscula* Motschulsky, *Platysma* 1627  
*breviusculum* Casey, *Agonum* 1220  
*breviusculus* Casey, *Cryobius* 865  
*breviusculus* Casey, *Loxandrus* 756  
*breviusculus* Casey, *Platidius* 717  
*breviusculus* Casey, *Pterostichus* 837  
*breviusculus* Horn, *Selenophorus* 1148  
*breviusculus* Mannerheim, *Anchomenus* 1169  
*brevoorti* LeConte, *Cyclotrachelus* 872  
*brevoorti* LeConte, *Feronia* 872  
*brevoorti* LeConte, *Sphaeroderus* 193  
*browni* Lindroth, *Amara* 901  
*browni* Lindroth, *Bembidion* 597, 1624  
*brumale* Casey, *Bembidion* 531  
*brumalis* Casey, *Celia* 946  
*brumalis* Casey, *Trechus* 507  
*brunnea* Casey, *Cratocara* 1090  
*brunnea* Dejean, *Feronia* 836  
*brunnea* Gyllenhal, *Amara* 914, 1606  
*brunnea* Haldeman, *Lebia* 1326  
*brunnea* Shpeley & Ball, *Coptodera* 1281  
*brunneomarginatus* Mannerheim, *Anchomenus* 1244  
*brunneomarginatus* Mannerheim, *Platynus* 1244  
*brunnescens* Casey, *Celia* 946  
*brunnescens* Casey, *Omus* 274  
*brunnescens* Mannerheim, *Anchomenus* 1169  
*brunneus* Blatchley, *Loxandrus* 755  
*brunneus* Dejean, *Dicheirus* 1041  
*brunneus* Dejean, *Harpalus* 1041  
*brunneus* Gyllenhal, *Harpalus* 914  
*brunnicollis* Motschulsky, *Elaphropus* 669  
*brunnicollis* Motschulsky, *Lebia* 1325  
*brunnicollis* Motschulsky, *Tachyura* 669  
*brunnipennis* Dejean, *Amara* 888  
*brunnipennis* Dejean, *Harpalus* 1626  
*brunnipes* Motschulsky, *Amara* 944  
*brunnipes* Sahlberg, *Bembidium* 576  
*brunnipes* Sturm, *Clivina* 1626  
*bruxellense* Wesmael, *Bembidion* 564, 1598  
*bryanti* Carr, *Bembidion* 548  
*bryanti* Lindroth, *Tachys* 686  
*bryanti* Van Dyke, *Feronia* 859  
*bryanti* Van Dyke, *Pterostichus* 859  
*bryantoides* Ball, *Pterostichus* 859  
*buchanani* Hope, *Colpodes* 1256  
*buchanani* Hope, *Metacolpodes* 1256, 1614  
*bucolica* Casey, *Cicindela* 360  
*bucolicum* Casey, *Bembidion* 641  
*bucolicus* Casey, *Pterostichus* 852  
*bullata* Casey, *Ferestria* 871  
*bullatus* Van Dyke, *Scaphinotus* 217  
*bullis* Reddell & Cokendolpher, *Rhadine* 1191  
*bulwerii* Stephens, *Omaseus* 792



- bumeliae* Schaeffer, *Lebia* 1327  
*cacumenis* Ball, *Pterostichus* 859  
*caducum* Casey, *Bembidion* 566  
*caecus* Krekeler, *Pseudanophthalmus* 475  
*caelator* Casey, *Calosoma* 243  
*caenus* Say, *Anisodactylus* 1037  
*caenus* Say, *Harpalus* 1037  
*caerulea* Casey, *Philophuga* 1347  
*caeruleicollis* Chaudoir, *Chlaenius* 987  
*caesus* Scudder, *Platynus* 1578  
*calathinus* LeConte, *Loxandrus* 754  
*calathoides* Casey, *Anisotarsus* 1016  
*calator* Casey, *Calathus* 1165  
*calcaratum* LeConte, *Clinidium* 144  
*calcareus* Barr, *Pseudanophthalmus* 481  
*calceus* Ball & Nègre, *Calathus* 1163  
*calgaryana* Casey, *Cicindela* 355  
*calidum* Fabricius, *Calosoma* 239, 1585  
*calidus* Fabricius, *Carabus* 239  
*californica* Casey, *Tachyta* 666  
*californica* Dejean, *Amara* 915  
*californica* Dejean, *Feronia* 852  
*californica* Horn, *Cymindis* 1285  
*californica* LeConte, *Loricera* 370  
*californica* Mannerheim, *Galerita* 1365  
*californica* Ménétriés, *Cicindela* 1619  
*californica* Motschulsky, *Pelophila* 148  
*californica* Van Dyke, *Clivina* 412  
*californicum* Hayward, *Bembidion* 541  
*californicum* Hayward, *Bembidium* 541  
*californicum* Ménétriés, *Agaosoma* 1154  
*californicus* Chaudoir, *Pasimachus* 393  
*californicus* Dejean, *Anchomenus* 1226  
*californicus* Dejean, *Anisodactylus* 1021, 1609  
*californicus* Dejean, *Pterostichus* 852  
*californicus* Eschscholtz, *Omus* 272, 1588  
*californicus* LeConte, *Bradycellus* 1068  
*californicus* LeConte, *Scarites* 403  
*californicus* LeConte, *Stenolophus* 1068  
*californicus* Mannerheim, *Elaphrus* 382, 1593  
*californicus* Ménétriés, *Stenomorphus* 1154  
*californicus* Motschulsky, *Carabus* 1618  
*californicus* Motschulsky, *Diplous* 716  
*californicus* Motschulsky, *Dromius* 1312  
*californicus* Motschulsky, *Dyschirius* 1626  
*californicus* Motschulsky, *Lirus* 897  
*californicus* Motschulsky, *Patrobus* 716  
*californicus* Motschulsky, *Pogonus* 1627  
*californicus* Motschulsky, *Trachypachus* 141  
*californicus* Motschulsky, *Trechus* 507  
*caligans* Horn, *Pterostichus* 827  
*caligatus* Putzeys, *Curtonotus* 889  
*caliginis* Barr, *Trechus* 509  
*caliginosum* Casey, *Bembidion* 613  
*caliginosus* Fabricius, *Carabus* 1102  
*caliginosus* Fabricius, *Harpalus* 1102, 1610  
*callens* Casey, *Bembidion* 605  
*callidum* Casey, *Bembidion* 538  
*calliope* Bates, *Lebia* 1323  
*callizona* Bates, *Lebia* 1321  
*callosus* Casey, *Omus* 278  
*calva* Kavanaugh, *Nebria* 177  
*calvini* Wickham, *Calosoma* 1570  
*calvini* Wickham, *Platynus* 1578  
*campbelli* Bousquet, *Pterostichus* 801  
*campbelli* Giachino, *Anillinus* 700  
*campbelli* Kavanaugh, *Nebria* 153  
*campbelli* Kavanaugh, *Nippononebria* 153  
*campestris* Barr, *Pseudanophthalmus* 488  
*campicola* Lindroth, *Dyschirius* 450  
*canadense* Goulet, *Agonum* 1203  
*canadense* Hayward, *Bembidium* 579  
*canadensis* Casey, *Acupalpus* 1081  
*canadensis* Casey, *Cicindela* 355  
*canadensis* Casey, *Patrobus* 720  
*canadensis* Chaudoir, *Feronia* 779  
*canadensis* Chaudoir, *Sphaeroderus* 192, 1585  
*canadensis* Lapouge, *Carabus* 259  
*canadensis* LeConte, *Carabus* 258  
*canadensis* Putzeys, *Curtonotus* 894  
*canadensis* Putzeys, *Trechus* 506  
*canadianum* Casey, *Bembidion* 623  
*canadicus* Roeschke, *Carabus* 262  
*canallatus* Casey, *Pterostichus* 847  
*cancellatum* Eschscholtz, *Calosoma* 240, 1585  
*cancellatus* Bates, *Brachinus* 740  
*cancellatus* Illiger, *Carabus* 260  
*canonica* Casey, *Lebia* 1324  
*canonicum* Casey, *Bembidion* 570  
*canonicus* Casey, *Harpalus* 1118  
*canora* Casey, *Philophuga* 1348  
*canus* Barr, *Trechus* 511  
*capax* LeConte, *Elaphropus* 669  
*capax* LeConte, *Tachys* 669  
*capitata* Chaudoir, *Polpochila* 1089, 1612  
*capitatus* Chaudoir, *Melanotus* 1089  
*capnicus* Erwin, *Brachinus* 737  
*captiosus* Casey, *Harpalus* 1107  
*captiosus* Casey, *Stenolophus* 1057  
*carbo* Bousquet, *Stenolophus* 1047  
*carbo* LeConte, *Platynus* 1229  
*carbo* Poppius, *Cryobius* 856  
*carbonaria* Dejean, *Feronia* 795  
*carbonaria* Eschscholtz, *Nebria* 160

- carbonarius* Dejean, Harpalus 1047  
*carbonarius* Say, Anisodactylus 1023  
*carbonarius* Say, Harpalus 1023  
*carbonatum* LeConte, Calosoma 235  
*carbonatus* LeConte, Harpalus 1127  
*caribou* Ball, Pterostichus 865  
*carinata* LeConte, Amara 891, 1606  
*carinatum* LeConte, Bembidion 543  
*carinatum* LeConte, Odontium 543  
*carinatus* Dejean, Carabus 254  
*carinatus* Dejean, Dicaelus 997  
*carinatus* LeConte, Curtonotus 891  
*carinula* Chaudoir, Bembidion 548, 1598  
*carinula* Chaudoir, Bembidium 548  
*carinulatus* Motschulsky, Brachynus 740  
*carlhi* Erwin & Kavanaugh, Bembidion 650  
*carhlindrothi* Kangas, Bembidion 567  
*carltoni* Sokolov, Anillinus 700  
*carneum* Lindroth, Bembidion 573  
*carolina* Harris, Cicindela 343  
*carolina* Linnaeus, Cicindela 282  
*carolina* Linnaeus, Tetracha 282, 1588  
*carolinae* Casey, Anillinus 703  
*carolinae* Casey, Cicindela 329  
*carolinae* Schaeffer, Harpalus 1115  
*carolinae* Schaeffer, Trechus 510  
*carolinae* Valentine, Steniridia 214  
*carolinense* Casey, Bembidion 632  
*carolinensis* Casey, Bradycellus 1070  
*carolinensis* Casey, Dicaelus 996  
*carolinensis* Casey, Pasimachus 394  
*carolinensis* Casey, Platynidius 1250  
*carolinensis* Casey, Stenocellus 1070  
*carolinensis* Csiki, Pterostichus 879  
*carolinensis* Latreille, Megacephala 282  
*carolinus* Darlington, Pterostichus 820  
*carolinus* Fabricius, Carabus 1619  
*carolinus* Schwarz, Tachys 1627  
*carri* Casey, Europhilus 1205  
*carri* Kavanaugh, Nebria 174  
*carriana* Casey, Amara 943  
*carrianum* Casey, Bembidion 551  
*carrorum* Bousquet, Dyschirius 434  
*carus* LeConte, Acupalpus 1081  
*carus* LeConte, Stenolophus 1081  
*cascadensis* Kavanaugh, Nebria 174  
*cascadiensis* Hatch, Harpalus 1113  
*caseyi* Angell, Carabus 261  
*caseyi* Csiki, Pterostichus 865  
*caseyi* Jeannel, Anillaspis 710  
*caseyi* Leng, Bembidion 586  
*caseyi* Leng, Elaphrus 379  
*caseyi* Leng, Galerita 1365  
*caseyi* Liebke, Cymindis 1287  
*caseyi* Liebke, Galerita 1365  
*casta* Casey, Lionepha 531  
*castalia* Casey, Amara 940  
*castalium* Casey, Bembidion 567  
*castanea* Casey, Pseudomorpha 1374  
*castanea* Dejean, Feronia 836  
*castanea* Horn, Philophuga 1350  
*castaneus* Dejean, Pterostichus 836  
*castaneus* Horn, Infernophilus 1350  
*castanipes* Kirby, Helobia 155  
*castanipes* Kirby, Nebria 155  
*castanipes* Kirby, Poecilus 775  
*castanipes* Ménétriés, Feronia 837  
*castanipes* Ménétriés, Pterostichus 837  
*castanopterus* Heer, Trechus 514  
*castigata* Casey, Ferestria 871  
*castigata* Casey, Lebia 1333  
*castissima* Bates, Cicindela 305  
*castor* Goulet & Bousquet, Pterostichus 798, 1603  
*castor* Lindroth, Bembidion 609  
*castum* Casey, Bembidion 531  
*casus* Scudder, Platynus 1579  
*catalinae* Van Dyke, Scaphinotus 199  
*catena* Gosse, Carabus 1625  
*catenaria* Brown, Blethisa 373  
*catenata* Casey, Nebria 177  
*catenulatus* Casey, Brennus 223  
*catenulatus* Casey, Curtonotus 892  
*catharina* Harris, Cicindela 329  
*catherinae* Barr, Pseudanophthalmus 464  
*catoryctos* Krekeler, Pseudanophthalmus 494  
*caudalis* Casey, Harpalus 1103  
*caudata* LeConte, Rhadine 1187  
*caudatus* LeConte, Platynus 1187  
*caudex* Casey, Bembidion 612  
*caudicalis* Say, Feronia 819  
*caudicalis* Say, Pterostichus 819, 1603  
*caurinus* Horn, Brachylobus 985  
*caurinus* Horn, Chlaenius 985  
*cautus* Dejean, Harpalus 1120  
*cautus* LeConte, Ochthedromus 627  
*cavicollis* LeConte, Nomaretus 204  
*cavicollis* LeConte, Scaphinotus 204  
*caymanensis* Darlington, Colliuris 1270  
*cazieri* Liebherr & Will, Platynus 1254  
*cazieri* van der Berghe, Omus 280  
*cazieri* Vogt, Cicindela 313  
*celer* Dejean, Loxandrus 759  
*celer* Fabricius, Carabus 648  
*celeripes* LeConte, Cicindela 286

- celeripes* LeConte, *Cylindera* 286  
*celeris* Dejean, *Feronia* 759  
*celianus* Stehr, *Bradytus* 912  
*celioides* Ménétriés, *Harpalus* 1131  
*celox* Casey, *Harpalus* 1128  
*cephala* Casey, *Notiobia* 1013  
*cephalicus* Casey, *Omus* 275  
*cephalotes* Casey, *Cratacanthus* 1160  
*cephalotes* Casey, *Pasimachus* 393  
*cephalotes* Dejean, *Brachinus* 742  
*cephalotes* Linnaeus, *Broscus* 459, 1596  
*cephalotes* Linnaeus, *Carabus* 459  
*cephalotes* Sturm, *Omaseus* 1626  
*cephalus* Casey, *Anisotarsus* 1013  
*cephalus* Casey, *Apristus* 1307  
*cephalus* Casey, *Holciophorus* 848  
*cerberus* Barr, *Pseudanophthalmus* 487  
*cerberus* Larson, *Dyschirius* 443  
*cernens* Casey, *Bembidion* 608  
*cervicalis* Casey, *Celia* 947  
*cervicalis* Casey, *Loxandrus* 755  
*cervicalis* Casey, *Platynidius* 1250  
*chalcas* Bates, *Stenocrepis* 957  
*chalcea* Dejean, *Amara* 908  
*chalceum* Dejean, *Bembidion* 555, 1598  
*chalceum* Dejean, *Bembidium* 555  
*chalceum* LeConte, *Agonum* 1216  
*chalceus* LeConte, *Anisodactylus* 1034  
*chalceus* Stephens, *Tachypus* 649  
*chalcites* Say, *Feronia* 772  
*chalcites* Say, *Poecilus* 772, 1602  
*chalcochrous* Chaudoir, *Stenocrepis* 957  
*chalybeipennis* Chevrolat, *Chlaenius* 981  
*chalybeus* Dejean, *Dicaelus* 1001  
*chalybeus* Dejean, *Trechus* 507  
*chamberlaini* Knaus, *Cicindela* 355  
*chamissonis* Fischer von Waldheim, *Carabus* 254, 1587  
*championi* Bates, *Celia* 915  
*championi* Kult, *Schizogenius* 420  
*champlaini* Casey, *Bembidion* 657  
*champlaini* Casey, *Pasimachus* 394  
*champlaini* Notman, *Pseudomorpha* 1374  
*chandleri* Sokolov, *Anillinus* 701  
*chaparralus* Purrington, *Selenophorus* 1140  
*charactum* Hatch, *Agonum* 1198  
*charlottae* Lindroth, *Nebria* 161  
*charmis* Bates, *Anchomenus* 1226  
*chaudoiri* Horn, *Chlaenius* 970  
*chaudoiri* Liebke, *Tetragonoderus* 1274  
*cheoahbaldensis* Donabauer, *Trechus* 516  
*cheoahensis* Donabauer, *Trechus* 516  
*chermocki* Ball, *Dicaelus* 1003  
*cherokee* Sokolov & Carlton, *Anillinus* 701  
*chetcoens* Hatch, *Bembidion* 537  
*chevrolati* Gemminger & Harold, *Bembicidium* 602  
*cheyennense* Casey, *Bembidion* 554, 1598  
*chiapana* Bates, *Cicindela* 318  
*chihuahuae* Bates, *Cicindela* 320  
*chilhowee* Sokolov, *Anillinus* 701  
*chintimini* Erwin & Kavanaugh, *Bembidion* 531  
*chintimini* Erwin & Kavanaugh, *Lionepha* 531  
*chipewyan* Ball, *Pterostichus* 860  
*chiricahuae* Dajoz, *Dyschiriodes* 436  
*chiricahuae* Dajoz, *Dyschirius* 436  
*chiricahuanus* Whitehead, *Schizogenius* 422  
*chloridipennis* Motschulsky, *Callida* 1341  
*chloris* Bates, *Coptodera* 1282  
*chlorophanus* Dejean, *Chlaenius* 977  
*chlorophanus* Erichson, *Oodes* 960  
*choatei* Bousquet & Skelley, *Clivina* 406  
*chokoloskei* Leng, *Selenophorus* 1138  
*chrysomalinus* Frölich, *Carabus* 1055  
*chthonius* Krekeler, *Pseudanophthalmus* 475  
*chuskae* Kavanaugh, *Nebria* 170  
*cibecuei* Duncan, *Cicindela* 345  
*cibolensis* Erwin, *Brachinus* 741  
*cicatricosa* Mannerheim, *Sericoda* 1178  
*cicatricosus* LeConte, *Elaphrus* 379, 1593  
*cieglerae* Sokolov & Carlton, *Anillinus* 701  
*ciliaris* Valentine, *Pseudanophthalmus* 491  
*cimarrona* LeConte, *Cicindela* 340  
*cinninati* Casey, *Loxandrus* 760  
*cinninatiensis* Csiki, *Loxandrus* 760  
*cinctellus* LeConte, *Platynus* 1244  
*cincticollis* LeConte, *Stenolophus* 1047  
*cincticollis* Say, *Feronia* 1250  
*cincticollis* Say, *Platynus* 1250  
*cinctipennis* Chevrolat, *Brachinus* 735  
*cinctipennis* LeConte, *Cicindela* 288  
*cinctipennis* LeConte, *Cylindera* 288  
*cinctus* Motschulsky, *Patrobus* 722  
*cinctus* Say, *Olisthopus* 1176  
*cinctus* Say, *Stenolophus* 1067  
*circulatus* Marsham, *Carabus* 1198  
*circulosus* Lindroth, *Pterostichus* 819  
*circulus* Allen, *Loxandrus* 761  
*circumcincta* Bates, *Calleida* 1343  
*circumcinctus* Say, *Chlaenius* 977  
*circumpicta* LaFerté-Sénectère, *Cicindela* 303  
*circumpicta* LaFerté-Sénectère, *Habroscelimorpha* 303, 1592  
*cisteloides* Panzer, *Carabus* 1163  
*citata* Rumpff, *Cicindela* 296  
*citata* Rumpff, *Ellipsoptera* 296

- citatum* Casey, Agonum 1214  
*ciudadensis* Bates, Amara 911  
*ciudadensis* Bates, Celia 911  
*civile* Casey, Bembidion 601  
*clairvillei* Dejean, Helluo 1368  
*clairvillei* Dejean, Helluomorphoides 1368  
*clairvillei* Kirby, Elaphrus 378, 1593  
*clandestinus* LeConte, Harpalus 1106  
*clarkei* Blumenthal, Carabus 253  
*clemens* Casey, Bembidion 623  
*clemens* Casey, Calosoma 233  
*clemens* LeConte, Platynus 1199  
*clementina* Casey, Celia 929  
*cliens* Casey, Diplochila 992  
*clientulus* Casey, Anchomenus 1228  
*clientus* Casey, Harpalus 1106  
*clingmanensis* Donabauer, Trechus 516  
*cnephosus* Krekeler, Pseudanophthalmus 483  
*cobaltina* Casey, Lebia 1334  
*cobaltina* Casey, Philophuga 1349  
*cobaltinus* Dejean, Chlaenius 969  
*cochisensis* Casey, Cicindela 338  
*cochlearis* Hacker, Pterostichus 824  
*cockerelli* Casey, Amara 941  
*cockerelli* Fall, Elaphropus 670  
*cockerelli* Fall, Tachys 670  
*cockerelli* Wickham, Amara 1576  
*cockerelli* Wickham, Calosoma 1571  
*cockerelliana* Csiki, Amara 941  
*coelebs* Hayward, Amara 938  
*coerulea* Herbst, Cicindela 1619  
*coerulea* Motschulsky, Celia 905  
*coeruleipennis* Gemminger & Harold, Callida 1344  
*coerulescens* Van Dyke, Bembidium 642  
*cogitans* Casey, Bembidion 580  
*cogitans* Casey, Calosoma 244  
*cognatus* Chaudoir, Brachynus 740  
*cognatus* Gyllenhal, Dicheirotichus 1078, 1610  
*cognatus* Gyllenhal, Harpalus 1078  
*cognatus* Putzeys, Curtonotus 889  
*cohnii* Ball, Harpalus 1129  
*cohnii* Lieberr & Will, Platynus 1253  
*colemanensis* Barr, Pseudanophthalmus 491  
*collare* Say, Agonum 1230  
*collaris* Casey, Omus 274  
*collaris* Casey, Tachyta 666  
*collaris* Dejean, Lebia 1323  
*collaris* Herbst, Carabus 406  
*collaris* Herbst, Clivina 406, 1595  
*collaris* LaFerté-Sénectere, Cicindela 1625  
*collaris* LeConte, Coptodera 1277  
*collaris* Say, Anchomenus 1230  
*collaris* Sturm, Dromius 1626  
*colligatus* Walker, Omaseus 794  
*collisus* Casey, Anchomenus 1227  
*collucens* Casey, Harpalus 1103  
*collucens* Casey, Loxandrus 765  
*collusor* Casey, Cicindela 323  
*collusor* Casey, Europhilus 1207  
*colonica* Casey, Sericoda 1178  
*coloradense* Hayward, Bembidion 609  
*coloradense* Hayward, Bembidium 609  
*coloradensis* Breuning, Carabus 262  
*coloradensis* Casey, Axinopalpus 1312  
*coloradensis* Casey, Calathus 1164  
*coloradensis* Casey, Harpalus 1124  
*coloradensis* Casey, Notiophilus 189  
*coloradensis* Casey, Platidius 716  
*coloradensis* Csiki, Poecilus 773  
*coloradensis* Csiki, Pterostichus 773  
*coloradensis* Schaeffer, Trechus 508  
*coloradensis* Van Dyke, Nebria 177  
*coloradensis* Van Dyke, Scaphinotus 197  
*coloradula* Graves, Cicindela 361  
*colossus* Larson, Dyschirius 444  
*colossus* LeConte, Cyclotrachelus 881  
*colossus* LeConte, Feronia 881  
*columbiana* Casey, Celia 927  
*columbiana* Casey, Cicindela 354  
*columbiana* Casey, Nebria 176  
*columbianus* Casey, Brennus 221  
*columbianus* Casey, Harpalus 1121  
*columbica* Casey, Blethisa 376  
*columbica* Hatch, Cicindela 359  
*columbicum* Casey, Agonum 1220  
*columbiensis* Hayward, Tachys 691  
*columbiensis* Schwarz, Tachys 1627  
*colvillense* Lindroth, Bembidion 547  
*colvillensis* Lindroth, Amara 913  
*comatus* Bousquet, Dyschirius 442  
*comes* Casey, Anisodactylus 1022  
*comes* Casey, Calosoma 240  
*comis* Haldeman, Harpalus 1115  
*comma* Fabricius, Carabus 1053  
*comma* Fabricius, Stenolophus 1053, 1612  
*comma* Harris, Cymindis 1293  
*commixta* Chaudoir, Feronia 793  
*commotum* Casey, Bembidion 581  
*communis* Panzer, Amara 937, 1606  
*communis* Panzer, Carabus 937  
*commutabilis* Motschulsky, Loxandrus 788  
*commutabilis* Motschulsky, Pterostichus 788, 1603  
*compacta* Motschulsky, Celia 1625  
*compactus* Lindroth, Dyschirius 436

- compar* LeConte, Harpalus 1096, 1610  
*compar* LeConte, Ochthedromus 1626  
*complanata* Dejean, Cymindis 1293  
*complanata* Dejean, Feronia 779  
*complanatus* Dejean, Laemostenus 1173, 1612  
*complanatus* Dejean, Pristonychus 1173  
*complanatus* Gmelin, Tenebrio 394  
*complanulum* Mannerheim, Bembidion 639  
*complanulus* Mannerheim, Peryphus 639  
*completus* Barr, Pseudanophthalmus 487  
*compositus* Casey, Brennus 223  
*compositus* Casey, Omus 274  
*compressum* Lindroth, Bembidion 640  
*comptus* Casey, Loxandrus 756  
*concinna* LeConte, Lebia 1318  
*concinnum* Blaisdell, Bembidium 599  
*concinnum* Casey, Omophron 390  
*concinus* Casey, Callisthenes 249  
*concinus* Casey, Loxandrus 759  
*concinus* Schaeffer, Selenophorus 1141  
*concitatum* Casey, Bembidion 615  
*concluda* Liebke, Colliuris 1270  
*concolor* Kirby, Bembidion 537  
*concolor* Kirby, Peryphus 537  
*concolor* Motschulsky, Peryphus 578  
*concolor* Olivier, Carabus 902  
*concreta* Casey, Calosoma 240  
*concretum* Casey, Bembidion 627  
*concretum* Casey, Micragonum 1237  
*concretus* Casey, Curtonotus 892  
*concurrents* Casey, Anchomenus 1183  
*concurrents* Fall, Bembidion 627  
*condei* Barr & Krekeler, Xenotrechus 503  
*conditus* Krekeler, Pseudanophthalmus 470  
*conditus* Scudder, Harpalus 1578  
*confinis* Dejean, Amara 900  
*conflagratus* Mannerheim, Acupalpus 1079  
*conflata* LeConte, Amara 939  
*conflictum* Casey, Bembidion 633  
*confluens* Casey, Omaseus 799  
*confluens* Casey, Omus 273  
*conformis* Dejean, Brachinus 741  
*conformis* Fall, Bradycellus 1075  
*conformis* Fall, Tachycellus 1075  
*conformis* Jeannel, Trechus 513  
*confusa* LeConte, Amara 939  
*confusa* LeConte, Clivina 405  
*confusum* Hayward, Bembidion 543, 1598  
*confusum* Hayward, Bembidium 544  
*confusus* Casey, Brennus 221  
*confusus* Darlington, Scaphinotus 212  
*confusus* LeConte, Anisodactylus 1021  
*confusus* LeConte, Calathus 1164  
*confusus* LeConte, Dicaelus 1001  
*confusus* LeConte, Notiophilus 189  
*congener* Casey, Brennus 224  
*congener* Casey, Elaphropus 670  
*congener* Casey, Tachyura 670  
*congener* LeConte, Bradycellus 1066  
*congener* LeConte, Chlaenius 969  
*congener* LeConte, Geobaenus 1066  
*congesta* Mannerheim, Loricera 370  
*congesta* Ménétériés, Feronia 837  
*congestus* Casey, Tachys 683  
*congestus* Ménétériés, Pterostichus 837  
*congruens* Casey, Bembidion 627  
*congruens* Casey, Discoderus 1149  
*conjugens* Notman, Elaphropus 670  
*conjugens* Notman, Tachys 670  
*conjunctus* Say, Agonoleptus 1056, 1609  
*conjunctus* Say, Trechus 1056  
*conjungens* Germar, Rhysodes 145  
*conjungens* LeConte, Lebia 1336  
*connecta* Chaudoir, Aphelogenia 1337  
*connexus* Chaudoir, Poecilus 776  
*connivens* Casey, Anisotarsus 1018  
*connivens* LeConte, Bembidion 624  
*connivens* LeConte, Ochthedromus 624  
*conquisita* Casey, Cicindela 331  
*consanguinea* Notman, Pseudomorpha 1374  
*consanguineum* Hayward, Bembidion 562  
*consanguineum* Hayward, Bembidium 562  
*consentanea* Dejean, Cicindela 355  
*consentaneus* LeConte, Ochthedromus 612  
*consessor* Casey, Bembidion 540  
*consimile* Gyllenhal, Agonum 1203, 1613  
*consimile* Hayward, Bembidion 620  
*consimile* Hayward, Bembidium 620  
*consimilis* Dejean, Acupalpus 1084  
*consimilis* Gyllenhal, Harpalus 1203  
*consimilis* Gyllenhal, Platynus 1180  
*consimilis* LeConte, Chlaenius 979  
*consimilis* LeConte, Platynus 1180  
*consobrinus* LeConte, Anisodactylus 1021  
*consobrinus* LeConte, Dyschirius 438  
*consors* Casey, Celia 915  
*consors* Casey, Stenolophus 1049  
*conspectus* Casey, Harpalus 1016  
*conspersum* Chaudoir, Bembidion 610  
*conspersum* Chaudoir, Bembidium 610  
*constricta* Casey, Rhadine 1185  
*constricta* Say, Feronia 882  
*constricticollis* Hayward, Bembidion 594  
*constricticollis* Hayward, Bembidium 594



- constrictum* LeConte, Bembidion 601  
*constrictus* Bates, Evarthrus 871  
*constrictus* Casey, Apristus 1307  
*constrictus* LeConte, Cychrus 219  
*constrictus* LeConte, Ochthedromus 601  
*constrictus* Say, Cyclotrachelus 882  
*constrictus* Valentine, Pseudanophthalmus 471  
*consueta* Fall, Amara 898  
*consuetum* Casey, Bembidion 610  
*contactus* Casey, Harpalus 1128  
*contaminatum* Sahlberg, Bembidion 596  
*contempta* LeConte, Acrodon 917  
*continens* Casey, Bembidion 612  
*continens* Casey, Cymindis 1284  
*continua* Knaus, Cicindela 289  
*continua* Knaus, Cylindera 289  
*continua* Sturm, Cicindela 1625  
*contractum* Say, Bembidion 601, 1598  
*contractum* Say, Bembidium 601  
*contractus* Casey, Celiomorphus 1137  
*contractus* Casey, Promecognathus 453  
*contractus* Casey, Selenophorus 1137  
*contractus* Eschscholtz, Metrius 728, 1600  
*contractus* LeConte, Pterostichus 837  
*contractus* Putzeys, Curtonotus 892  
*contristans* Casey, Bembidion 617  
*contristatus* Duftschmid, Carabus 1131  
*contumax* Casey, Loxandrus 756  
*convergens* Casey, Amara 934  
*convergens* Casey, Brennus 221  
*convergens* Casey, Tachistodes 1083  
*convexa* Casey, Pristodactyla 1172  
*convexa* LeConte, Amara 940  
*convexa* LeConte, Paraclivina 414  
*convexicollis* LeConte, Stenolophus 1050  
*convexicollis* Say, Feronia 775  
*convexior* Notman, Stenomorphus 1155  
*convexissima* Hieke, Amara 931  
*convexiusculum* Chaudoir, Agonum 1210  
*convexulum* Hayward, Bembidion 597  
*convexulum* Hayward, Bembidium 597  
*convexulus* Casey, Anisotarsus 1016  
*convexus* Casey, Triplectrus 1030  
*convexus* Chaudoir, Brachinus 745  
*convexus* LeConte, Clivina 414  
*convexus* LeConte, Dyschirius 452  
*convictor* Casey, Dianchomena 1322  
*convictor* Casey, Harpalus 1118  
*conviva* LeConte, Evarthrus 878  
*convivus* LeConte, Cyclotrachelus 878  
*convivus* LeConte, Harpalus 1100  
*coracina* Newman, Feronia 809  
*coracinum* Sturm, Agonum 1624  
*coracinus* LeConte, Anchomenus 1245  
*coracinus* Newman, Pterostichus 809, 1603  
*coracinus* Say, Abax 785  
*coracinus* Say, Myas 785  
*corallipes* Jedlička, Pterostichus 813  
*corax* LeConte, Feronia 881  
*corax* LeConte, Tachys 686  
*cordata* Putzeys, Clivina 411  
*cordatum* LeConte, Bembidion 610  
*cordatus* LeConte, Cratognathus 1105  
*cordatus* LeConte, Cychrus 218  
*cordatus* LeConte, Harpalus 1105  
*cordatus* LeConte, Ochthedromus 610  
*cordatus* LeConte, Scaphinotus 218  
*cordicollis* Barr, Pseudanophthalmus 485  
*cordicollis* Chaudoir, Galerita 1365  
*cordicollis* Dejean, Brachinus 737  
*cordicollis* Horn, Discoderus 1149  
*cordicollis* Kirby, Chlaenius 975, 1608  
*cordicollis* LeConte, Dromius 1309  
*cordicollis* LeConte, Geobaenus 1063  
*cordicollis* Motschulsky, Gonoderus 834  
*cordicollis* Putzeys, Calleida 1344  
*cordifer* Notman, Harpalus 1105  
*coriacea* Chevrolat, Apenes 1298  
*coriacea* Chevrolat, Cymindis 1298  
*cornelli* Sokolov & Carlton, Anillinus 701  
*cornicula* Casey, Anchomenus 1184  
*cornix* Casey, Bembidion 607  
*coronadina* Casey, Sericoda 1202  
*corpulentus* Casey, Brennus 220  
*corpulentus* Casey, Glanodes 1129  
*corpulentus* Casey, Harpalus 1129  
*corpulentus* Casey, Promecognathus 453  
*corpulentus* LeConte, Pasimachus 393  
*corpuscula* Rumpff, Cicindela 361  
*corrusculus* LeConte, Pterostichus 789  
*corruscus* LeConte, Tachys 694  
*corrusculus* Csiki, Pterostichus 789  
*corruscus* Bates, Tachys 694  
*corvallis* Casey, Nebria 169  
*corvina* Casey, Celia 908  
*corvina* Dejean, Feronia 797  
*corvina* LeConte, Pristodactyla 1172  
*corvina* Putzeys, Clivina 405  
*corvinus* Dejean, Anchomenus 1251  
*corvinus* Dejean, Pterostichus 797, 1603  
*corvus* Fall, Cychrus 199  
*corvus* Fall, Scaphinotus 199  
*corvus* LeConte, Agonum 1231  
*corvus* LeConte, Platynus 1231

- corvus* LeConte, *Poecilus* 774, 1602  
*corvus* LeConte, *Pterostichus* 774  
*costatus* LeConte, *Dicaelus* 1000  
*costatus* Ménétriés, *Lyperopherus* 814  
*costatus* Ménétriés, *Pterostichus* 814  
*costifer* LeConte, *Pasimachus* 394  
*costipennis* Motschulsky, *Brachinus* 740  
*costipennis* Motschulsky, *Brachynus* 740  
*costulatus* Motschulsky, *Batenus* 1179  
*couleensis* Graves, *Cicindela* 361  
*couleensis* Hatch, *Harpalus* 1107  
*coweensis* Barr, *Trechus* 522  
*coxendix* Say, *Bembidion* 544, 1598  
*coxendix* Say, *Bembidium* 544  
*crassicollis* Horn, *Discoderus* 1150  
*crassicollis* LeConte, *Platynus* 1216  
*crassicornis* Casey, *Amerizus* 529  
*crassicornis* Van Dyke, *Nebria* 154  
*crassiscapus* Lindroth, *Trechus* 508  
*crassispina* LeConte, *Amara* 930  
*crassus* Casey, *Pasimachus* 398  
*crassus* LeConte, *Anisodactylus* 1031  
*crassus* LeConte, *Promecognathus* 453  
*craterense* Hatch, *Platysma* 839  
*craterensis* Hatch, *Pterostichus* 839  
*crenatellus* Casey, *Harpalus* 1121  
*crenatus* Duftschmid, *Carabus* 789  
*crenatus* LeConte, *Dicaelus* 1001  
*crenatus* LeConte, *Loxandrus* 759  
*crenatus* Motschulsky, *Cychrus* 218  
*crenatus* Motschulsky, *Scaphinotus* 218  
*crenicollis* LeConte, *Pterostichus* 838  
*crenistriatum* LeConte, *Agonum* 1239  
*crenistriatus* LeConte, *Platynus* 1239  
*crenulata* Casey, *Celia* 917  
*crenulatum* LeConte, *Agonum* 1237  
*crenulatus* Chaudoir, *Loxandrus* 760  
*crenulatus* LeConte, *Platynus* 1237  
*crenulatus* LeConte, *Schizogenius* 418  
*crestonensis* Brown, *Chlaenius* 987  
*cribrata* LeConte, *Cymindis* 1289  
*cribricollis* Dejean, *Cymindis* 1286  
*cribrilaterus* Motschulsky, *Notiophilus* 188  
*cribripennis* Casey, *Omus* 274  
*cribrulum* Netolitzky, *Bembidion* 565  
*cribrum* Casey, *Cicindela* 319  
*criddlei* Casey, *Cicindela* 341  
*criddlei* Fall, *Dyschirius* 443  
*crinicollis* Barr, *Rhadine* 1193  
*crinicornis* Casey, *Galerita* 1366  
*crinifrons* Casey, *Cicindela* 348  
*cristatus* Harris, *Cychrus* 219  
*cristatus* Harris, *Scaphinotus* 219  
*croceicollis* Ménétriés, *Calleida* 1341  
*croceicollis* Ménétriés, *Tecnophilus* 1341, 1616  
*cronkhitei* Horn, *Pseudomorpha* 1374  
*crossi* Will, *Diplocheila* 991  
*crucialis* Casey, *Pterostichus* 825  
*cruciger* Say, *Panagaeus* 961  
*crucigerus* Say, *Panagaeus* 961  
*cruralis* LeConte, *Ochthedromus* 586  
*cubanum* Darlington, *Agonum* 1227  
*cubanus* Chaudoir, *Diaphorus* 1359  
*cubanus* Chaudoir, *Pseudaptinus* 1359  
*cuculus* Casey, *Harpalus* 1120  
*cumatilis* LeConte, *Chlaenius* 971  
*cumatilis* LeConte, *Cicindela* 321  
*cumberlandus* Barr, *Trechus* 510  
*cumberlandus* Valentine, *Pseudanophthalmus* 464  
*cunctipeps* Ball, *Harpalus* 1130  
*cuneata* Casey, *Nebria* 161  
*cuneatulus* Casey, *Pterostichus* 838  
*cuneatus* Casey, *Tachys* 692  
*cupidus* Casey, *Pterostichus* 853  
*cupiens* Casey, *Harpalus* 1097  
*cuprascens* LeConte, *Cicindela* 292  
*cuprascens* LeConte, *Ellipsoptera* 292  
*cuprascens* Roeschke, *Calosoma* 229  
*cuprea* Chaudoir, *Stenocrepis* 958  
*cupreolata* Putzeys, *Amara* 930, 1606  
*cupreolatus* Casey, *Harpalus* 1119  
*cupreolucens* Casey, *Agonum* 1217  
*cupreolus* Casey, *Selenophorus* 1141  
*cupreonitens* Blaisdell & Reynolds, *Omus* 277  
*cupreonitens* Sturm, *Poecilus* 1627  
*cuprescens* Sturm, *Harpalus* 1626  
*cupreum* Dejean, *Agonum* 1216  
*cupreus* Chaudoir, *Oodes* 958  
*cupreus* Motschulsky, *Peryphus* 630  
*cuprinus* Dejean, *Selenophorus* 1138  
*cupripenne* Gemminger & Harold, *Bembicidium* 631  
*cupripenne* Say, *Agonum* 1217, 1613  
*cupripennis* Boheman, *Lebia* 1621  
*cupripennis* Casey, *Brennus* 220  
*cupripennis* Say, *Feronia* 1217  
*curiosum* Casey, *Bembidion* 612  
*currens* Casey, *Celiamorphus* 1138  
*cursitans* Casey, *Loxandrus* 754  
*cursitans* LeConte, *Cicindela* 286  
*cursitans* LeConte, *Cylindera* 286, 1591  
*cursitor* LeConte, *Poecilus* 774  
*cursor* Chevrolat, *Chlaenius* 971  
*cursor* Müller, *Carabus* 182  
*cursorius* LeConte, *Poecilus* 774

- curtatus* Mannerheim, Harpalus 1110  
*curticeps* Casey, Celia 917  
*curticollis* Casey, Bradycellus 1060  
*curticollis* Casey, Glycerius 1060  
*curticollis* Casey, Stenolophus 1075  
*curticornis* Casey, Harpalus 1106  
*curtipennis* Casey, Acupalpus 1081  
*curtipennis* Casey, Blechrus 1304  
*curtipennis* Casey, Microlestes 1304  
*curtipennis* Motschulsky, Brachystylus 837  
*curtulata* Casey, Nebria 156  
*curtulum* Casey, Bembidion 632  
*curtum* Heyden, Asaphidion 534  
*curtus* Casey, Bradytus 901  
*curtus* Heyden, Tachypus 534  
*curvispinus* Putzeys, Dyschirius 448  
*cuyama* Liebherr, Tanystoma 1197  
*cyanea* Dejean, Lebia 1331  
*cyanea* Motschulsky, Calleida 1349  
*cyanella* LeConte, Cicindela 288  
*cyanellus* Motschulsky, Lamprias 1333  
*cyanescens* Dejean, Myas 786, 1602  
*cyanescens* Motschulsky, Anchomenus 1228  
*cyaneus* Dejean, Dicaelus 1001  
*cyaneus* LeConte, Poecilus 776  
*cyanicolor* Chaudoir, Poecilus 776  
*cyanipennis* Chaudoir, Calleida 1346  
*cyanipennis* Dejean, Galerita 1364  
*cyanipennis* Dejean, Lebia 1330  
*cyanipennis* Say, Brachinus 742, 1600  
*cycanocephala* Varas Arangua, Cicindela 344  
*cycanocephalata* Eckhoff, Cicindela 344  
*cycanocephalonota* Eckhoff, Cicindela 344  
*cyanochroaticus* Erwin, Brachinus 738  
*cyanopis* Bates, Agonum 1225  
*cyanopis* Bates, Anchomenus 1225  
*cycloptera* LeConte, Calleida 1344  
*cyclopterus* LeConte, Brachinus 742  
*cyclifer* Bates, Agonum 1223  
*cyclifer* Bates, Anchomenus 1223  
*cylindrica* Casey, Pseudomorpha 1375  
*cylindrica* LeConte, Amara 897  
*cylindrica* Motschulsky, Amara 1624  
*cylindricus* Casey, Omus 272  
*cylindriformis* Say, Amblycheila 266, 1588  
*cylindriformis* Say, Manticora 266  
*cynica* Casey, Lebia 1331  
*cyrtonotoides* Notman, Harpalus 1106  
*czekanowskii* Poppius, Cryobius 867  
*daggyi* Sokolov & Carlton, Anillinus 702  
*dallasensis* Casey, Discoderus 1150  
*damnosum* Scudder, Bembidium 1573  
*danae* Scudder, Amara 1577  
*danmanni* Kavanaugh, Nebria 166  
*daphnis* Casey, Bembidion 619  
*darlingtoni* Barr, Pseudanophthalmus 487  
*darlingtoni* Fall, Dicaelus 1002  
*darlingtoni* Kavanaugh, Nebria 167  
*darlingtoni* Kult, Dyschirius 447  
*darlingtoni* Lindroth, Agonum 1204  
*darlingtoni* Valentine, Scaphinotus 210  
*darlingtoni* Valentine, Steniridia 210  
*daurica* Motschulsky, Amara 892  
*daurica* Motschulsky, Leja 561  
*dauricum* Motschulsky, Bembidion 561  
*dauricus* Chaudoir, Notiophilus 185  
*dauricus* Motschulsky, Leirus 892  
*davidae* Pierce, Bembidion 1573  
*davidsoni* Casey, Calosoma 242  
*daviesi* Bousquet, Platynus 1244  
*dawsoni* Dajoz, Callisthenes 244  
*dawsoni* Dajoz, Calosoma 244  
*debiliceps* Casey, Agonum 1231  
*debiliceps* Casey, Bembidion 611  
*debiliceps* Casey, Dicaelus 996  
*debiliceps* Casey, Lebia 1337  
*debiliceps* Casey, Omus 278  
*debiliceps* Casey, Stenolophus 1049  
*debilicollis* Casey, Bembidion 562  
*debilicollis* Casey, Tachyta 666  
*debilipes* Say, Acupalpus 1068  
*debilis* Bates, Cicindela 287  
*debilis* Bates, Coptodera 1281  
*debilis* Bates, Cylindera 287, 1591  
*debilis* Casey, Callisthenes 248  
*debilis* Casey, Promecognathus 454  
*debilis* LeConte, Anillodes 698  
*debilis* LeConte, Anillus 698  
*debilis* LeConte, Nomaretus 207  
*debilis* LeConte, Scaphinotus 207  
*decemnotata* Say, Cicindela 330, 1589  
*decempunctata* Eschscholtz, Loricera 369, 1592  
*decentis* Say, Feronia 1245  
*decentis* Say, Platynus 1245, 1614  
*decepta* Casey, Eumolops 884  
*deceptivum* LeConte, Agonum 1231  
*deceptivus* Barr, Pseudanophthalmus 465  
*deceptivus* LeConte, Platynus 1231  
*deceptor* Casey, Bembidion 654  
*deceptor* Darlington, Pseudaptinus 1359  
*deceptrix* Madge, Lebia 1316  
*deceptus* Casey, Bradytus 903  
*deceptus* Casey, Cyclotrachelus 884  
*decessus* Scudder, Patrobus 1574

- decipiens* Casey, Brennus 224  
*decipiens* Dejean, Bembidium 588  
*decipiens* Horn, Galerita 1363  
*decipiens* LeConte, Agonum 1238  
*decoloratum* Fall, Omophron 391  
*decoloratus* Casey, Dicheirus 1043  
*decoloratus* LeConte, Dicaelus 1002  
*decora* Fabricius, Calleida 1343, 1615  
*decora* Notman, Celia 907  
*decora* Say, Feronia 1226  
*decorum* Say, Agonum 1226  
*decorus* Casey, Bradycellus 1070  
*decorus* Casey, Stenocellus 1070  
*decorus* Fabricius, Carabus 1343  
*decrepitum* Casey, Bembidion 633  
*defecta* Casey, Celia 946  
*deficiens* Casey, Curtonotus 889  
*deficiens* Casey, Gastrellarius 781  
*definita* Casey, Celia 946  
*definitum* Casey, Bembidion 618  
*defixus* Walker, Harpalus 1121  
*deflexa* Sturm, Cicindela 1625  
*deflua* Sturm, Cicindela 1625  
*degener* Casey, Omus 274  
*deino* Will, Pterostichus 828  
*dejeanellus* Csiki, Cyclotrachelus 870  
*dejeanellus* Csiki, Pterostichus 870  
*dejeani* Putzeys, Curtonotus 894  
*dejeanii* Dejean, Cicindela 1625  
*dejeanii* Dejean, Dicaelus 996  
*dejeanii* Dejean, Pelophila 148  
*dejeanii* Putzeys, Dyschirius 438, 1595  
*dejeanii* Reiche, Omus 280, 1588  
*dejectum* Casey, Bembidion 605  
*delawarenses* Casey, Bembidion 645  
*delectans* Casey, Anomoglossus 967  
*delectum* Casey, Bembidion 650  
*delectum* Liebke, Zuphium 1356  
*deleta* Sturm, Cicindela 1625  
*delicatus* Casey, Omus 271  
*delicatus* Casey, Anisotarsus 1016  
*delicatus* Casey, Cryobius 856  
*delicatus* Valentine, Pseudanophthalmus 473  
*deludens* Casey, Harpalus 1097  
*delumbis* Casey, Hemisopalus 1135  
*demissum* Casey, Bembidion 589  
*demissus* Casey, Axinopalpus 1312  
*denikei* Brown, Cicindela 349, 1589  
*densicollis* Casey, Omus 277  
*densissima* Casey, Cicindela 352  
*dentatum* LeConte, Omophron 388  
*denticollis* Barr & Krekeler, Xenotrechus 503  
*denticollis* Chaudoir, Scarites 403  
*denticulata* Harris, Cicindela 342  
*denticulata* Hentz, Cicindela 342  
*denticulatus* Hatch, Axinopalpus 1312  
*dentiger* LeConte, Dyschirius 448  
*dentipes* Dejean, Clivina 405, 1595  
*denveranum* Casey, Bembidion 582  
*denverensis* Casey, Cicindela 331  
*deparca* Say, Amara 893  
*deparca* Say, Feronia 893  
*depicta* Horn, Lebia 1337  
*deplanatum* Ménétériés, Agonum 1219  
*deplanatus* Chaudoir, Anchomenus 1251  
*depletus* Scudder, Pterostichus 1575  
*depressa* LeConte, Triaena 950  
*depressicollis* Motschulsky, Harpalus 1021  
*depressula* Casey, Cicindela 359, 1589  
*depressulus* Casey, Hemisopalus 1147  
*depressus* Blatchley, Leptotrachelus 1271  
*depressus* Fabricius, Pasimachus 394  
*depressus* Fabricius, Scarites 394  
*depressus* Haldeman, Anchomenus 1245  
*depressus* Jeannel, Anillinus 702  
*depressus* Jeannel, Micranillodes 702  
*depressus* LeConte, Pogonus 713  
*depressus* LeConte, Schizogenius 419  
*depressus* Notman, Anisodactylus 1015  
*derisor* Casey, Bembidion 613  
*desertus* Fall, Dyschirius 445  
*desertus* Krekeler, Pseudanophthalmus 475  
*desertus* LeConte, Harpalus 1105  
*desertus* Van Dyke, Diplochaetus 713  
*desidiosus* LeConte, Pterostichus 790  
*desolata* Kavanaugh, Nebria 167  
*despecta* Sahlberg, Feronia 861  
*despectus* Sahlberg, Harpalus 945  
*destitutus* Scudder, Pterostichus 1576  
*destructus* Scudder, Pterostichus 1576  
*desuetus* Scudder, Platynus 1579  
*deutschii* Sahlberg, Harpalus 1078  
*devincta* Casey, Amara 936  
*devincta* Casey, Dianchomena 1322  
*devinctum* Casey, Bembidion 612  
*devinctus* Casey, Elaphrus 382  
*deyrollii* LaFerté-Sénéctère, Brachinus 735  
*diabolus* Casey, Pterostichus 853  
*diaphana* Casey, Polyderis 683  
*diaphanus* Casey, Tachys 683  
*dicaeloides* Ball, Dicaelus 1003  
*dichrous* Dejean, Harpalus 1156  
*dichrous* Dejean, Trichotichnus 1156, 1612  
*dietzii* Schaeffer, Calosoma 245

- difficilis* Casey, Omus 276  
*difficilis* Dejean, Acupalpus 1069  
*difficilis* LeConte, Amara 932  
*diffidens* Casey, Amara 939  
*diffinis* Chaudoir, Chlaenius 970  
*diffinis* LeConte, Percosia 906  
*diffracta* Casey, Cicindela 345  
*diffractus* Casey, Callisthenes 248  
*diffractus* Casey, Sphaeroderus 194  
*digitus* Valentine, Pseudanophthalmus 474  
*digressum* Casey, Bembidion 624  
*dilapidatus* Scudder, Platynus 1579  
*dilatatus* Dejean, Dicheirus 1042  
*dilatatus* Dejean, Harpalus 1042  
*dilatatus* LeConte, Cychrus 198  
*dilatatus* LeConte, Ochthedromus 555  
*dilatatus* LeConte, Poecilus 775  
*dilatatus* Say, Anisodactylus 1030  
*dilatatus* Say, Dicaelus 996, 1608  
*dilaticolle* Notman, Bembidium 588  
*dilatipennis* Motschulsky, Tarus 1291  
*diligenda* Chaudoir, Feronia 821  
*diligendus* Chaudoir, Pterostichus 821, 1603  
*diligens* Casey, Bembidion 629  
*dilleyanus* Casey, Anchomenus 1184  
*dilutipennis* Motschulsky, Europhilus 1207  
*dilutipennis* Putzeys, Clivina 414  
*dilutum* Casey, Bembidion 641  
*dilutus* Motschulsky, Pseudomaseus 1627  
*dimidiatus* Motschulsky, Chlaenius 1625  
*dimidiatus* Motschulsky, Chlaenius 985  
*diminuens* Casey, Omus 276  
*dimorphicus* Darlington, Patrobus 719  
*diplogma* Chaudoir, Feronia 861  
*diplophryus* Chaudoir, Poecilus 773  
*directa* Casey, Cymindis 1289  
*directus* Casey, Notiophilus 187  
*discipulus* Casey, Bradycellus 1070  
*discipulus* Casey, Stenocellus 1070  
*discoderoides* Schaeffer, Selenophorus 1141  
*discoideus* Dejean, Anisodactylus 1033, 1609  
*discoideus* LeConte, Plochionus 1340  
*discolor* Strum, Chlaenius 1625  
*discopunctatus* Dejean, Selenophorus 1137  
*discors* Kirby, Amara 909  
*discors* LeConte, Calosoma 245  
*discus* Fabricius, Blemus 503, 1596  
*discus* Fabricius, Carabus 503  
*discus* Klug, Cicindela 345  
*disjuncta* Lindroth, Lionepha 531  
*disjunctum* Lindroth, Bembidion 531  
*disparile* Casey, Bembidion 623  
*dissecta* LeConte, Rhadine 1185  
*dissectus* LeConte, Platynus 1185  
*dissensus* Casey, Anchomenus 1212  
*dissimilis* Blatchley, Clivina 415  
*dissimilis* Dejean, Stenolophus 1047, 1612  
*dissipatus* Scudder, Platynus 1579  
*dissolutus* Schaum, Cychrus 219  
*distans* Casey, Omus 271  
*distigma* Motschulsky, Tetragnoderus 1273  
*distincta* Casey, Anaferonia 876  
*distincta* Haldeman, Micrixys 962  
*distinctus* Haldeman, Panagaeus 962  
*distinctus* Haldeman, Scarites 401  
*distinguendus* Casey, Anchomenus 1248  
*distinguendus* Chaudoir, Brachinus 735  
*distinguendus* LeConte, Calathus 1164  
*distinguens* Valentine, Pseudanophthalmus 466  
*diversa* LeConte, Nebria 167  
*divisa* LeConte, Lebia 1318  
*dixianus* Zimmermann, Platynus 1627  
*docile* Casey, Bembidion 619  
*docilis* Casey, Celia 946  
*docwatsoni* Sokolov & Carlton, Anillinus 702  
*dohrni* Ehlers, Anillinus 702  
*dohrni* Ehlers, Anillus 702  
*dolens* Chaudoir, Calosoma 237  
*dolosus* Casey, Agonoleptus 1058  
*dolosus* Casey, Harpalus 1098  
*dolosus* Casey, Stenolophus 1058  
*dolosus* LeConte, Elaphropus 670  
*dolosus* LeConte, Tachys 670  
*domitor* Casey, Holciophorus 848  
*donaldsoni* Krekeler, Pseudanophthalmus 499  
*dormitans* Scudder, Pterostichus 1576  
*dorothea* Rumpff, Cicindela 356  
*dorsale* Say, Bembidion 603  
*dorsalis* Brullé, Diaphorus 1360  
*dorsalis* Brullé, Pseudaptinus 1360  
*dorsalis* Fabricius, Leptotrachelus 1272, 1615  
*dorsalis* Fabricius, Odacantha 1272  
*dorsalis* Horn, Plochionus 1340  
*dorsalis* LeConte, Agonoderus 1053  
*dorsalis* Say, Bembidium 603  
*dorsalis* Say, Cicindela 304  
*dorsalis* Say, Habroscelimorpha 304, 1592  
*dorsalis* Sturm, Olisthopus 1626  
*dowiana* Casey, Cicindela 329  
*dubia* LeConte, Galerita 1364  
*dubia* LeConte, Pristodactyla 1171  
*dubitans* LeConte, Bembidion 586  
*dubitans* LeConte, Ochthedromus 586  
*dubius* LeConte, Synuchus 1171



- dubius* Palisot de Beauvois, Cratacanthus 1160, 1610  
*dubius* Palisot de Beauvois, Harpalus 1160  
*dulcicollis* LaFerté-Sénectère, Anisodactylus 1028  
*dulcicollis* LaFerté-Sénectère, Harpalus 1028  
*dulciculus* Casey, Harpalus 1106  
*dulcis* Mannerheim, Anchomenus 1169  
*duluthiana* Casey, Lebia 1334  
*dunavani* Jeannel, Anillinus 709  
*dunavani* Jeannel, Serranillus 709  
*duncani* Knaus, Cicindela 367  
*dunni* Casey, Omus 274  
*duodecimguttata* Dejean, Cicindela 360, 1589  
*duodecimstriata* Chevrolat, Stenocrepis 958  
*duplicatus* Casey, Brennus 219  
*duplicatus* Fall, Dyschirius 432  
*duplicatus* LeConte, Pasimachus 394  
*durangoense* Bates, Bembidion 545  
*durangoense* Bates, Bembidium 545  
*durangoensis* Bates, Scarites 403  
*durescans* Casey, Harpalus 1132  
*durus* Casey, Curtonotus 898  
*duryi* Wright, Loxandrus 764  
*dux* Casey, Harpalus 1102  
*dyschirinum* LeConte, Bembidion 647  
*dyschirinum* LeConte, Bembidium 647  
*ebenina* Casey, Amara 940  
*ebenina* Dejean, Feronia 798  
*ebeninus* Dejean, Pterostichus 798  
*ecarinatus* Hatch, Pterostichus 839  
*echo* Casey, Cicindela 326  
*edax* LeConte, Tachys 691  
*edax* Notman, Amara 932  
*edentulus* Putzeys, Dyschirius 444  
*editum* Casey, Bembidion 617  
*edmontonense* Casey, Bembidion 596  
*edmontonensis* Carr, Cicindela 360  
*edolatum* Casey, Bembidion 646  
*edwardsi* Kavanaugh, Nebria 160  
*edwardsii* Crotch, Omus 273  
*effetum* Casey, Bembidion 632  
*effetus* Casey, Harpalus 1097  
*efficiens* Casey, Bembidion 612  
*egberti* Barr, Pseudanophthalmus 480  
*egens* Casey, Bembidion 589  
*egens* Casey, Dysidius 796  
*egregius* Casey, Harpalus 1113  
*ehrenbergii* Fischer von Waldheim, Carabus 256  
*eldorensis* Casey, Celia 946  
*eldorensis* Casey, Cicindela 336  
*electum* Casey, Bembidion 638  
*electus* Casey, Harpalus 1115  
*elegans* Calder, Cicindela 333  
*elegans* Chaudoir, Galerita 1626  
*elegans* LeConte, Badister 1005  
*elegans* LeConte, Cymindis 1287  
*elegans* LeConte, Nemotarsus 1354  
*elegans* LeConte, Oodes 959  
*elegans* LeConte, Stenocrepis 959  
*elegans* Stephens, Peryphus 564  
*elegans* Sturm, Bembidium 1624  
*elegantulum* Sahlberg, Bembidium 618  
*elegantulus* Casey, Europhilus 1206  
*elegantulus* Dejean, Chlaenius 968  
*elegantulus* Mannerheim, Lachnophorus 1261  
*elevatus* Fabricius, Carabus 197, 1279  
*elevatus* Fabricius, Scaphinotus 197, 1584  
*elevatus* Valentine, Pseudanophthalmus 471  
*elias* Motschulsky, Nebria 155  
*elizabethae* Hatch, Bembidion 624  
*ellipsis* Casey, Amara 921  
*ellipsis* Casey, Celia 921  
*ellipsis* LeConte, Harpalus 1121  
*ellipticum* Casey, Omophron 392  
*ellipticus* Dejean, Selenophorus 1138  
*ellipticus* LeConte, Anisodactylus 1028  
*elongata* Mannerheim, Pelophila 147  
*elongata* Randall, Clivina 406  
*elongatula* Motschulsky, Amara 1624  
*elongatum* Dejean, Agonum 1227  
*elongatum* Haldeman, Agonum 1203  
*elongatulus* Chaudoir, Brachinus 750  
*elongatulus* Chaudoir, Brachynus 750  
*elongatulus* Dejean, Acupalpus 1067  
*elongatulus* Dejean, Anchomenus 1227  
*elongatus* Bonelli, Dicaelus 995, 1608  
*elongatus* Casey, Omus 273  
*elongatus* Chaudoir, Anisodactylus 1028  
*elongatus* Fischer von Waldheim, Elaphrus 377  
*elongatus* Jeannel, Anillinus 703  
*elongatus* Krekeler, Pseudanophthalmus 475  
*elongatus* LeConte, Curtonotus 893  
*elongatus* LeConte, Gynandropus 1141  
*elongatus* LeConte, Pasimachus 396, 1594  
*elongatus* LeConte, Selenophorus 1141  
*elongatus* Motschulsky, Tachypus 1623  
*elongatus* Schaeffer, Pterostichus 828  
*elucens* Casey, Poecilus 775  
*elumbis* Casey, Hypherpes 850  
*elusa* Casey, Celia 920  
*emaciatulus* Bates, Diplochaetus 712  
*emaciatulus* Bates, Pogonus 712  
*emancipata* Lindroth, Amara 941  
*emarginatus* Herbst, Scarites 1622  
*emarginatus* Say, Chlaenius 967

- emersoni Krekeler, Pseudanophthalmus 462  
 emmonsii Scudder, Calosoma 1571  
 empetricola Dejean, Feronia 856  
 empetricola Dejean, Pterostichus 856  
 enervis Casey, Amara 930  
 engelhardti Barber, Anophthalmus 466  
 engelhardti Barber, Pseudanophthalmus 466  
 engelmani LeConte, Cyclotrachelus 877  
 engelmani LeConte, Evarthrus 877  
 engelmanni Freitag, Evarthrus 877  
 enodis Bousquet, Pterostichus 805  
 enodis Casey, Amblycheila 266  
 enormis Casey, Evarthrus 878  
 enormis Casey, Loxopeza 1315  
 enormis Casey, Platynidius 1250  
 ensenadae Mutchler, Tachys 689  
 enwaldi Sahlberg, Bradycellus 1079  
 enyo Will, Pterostichus 825  
 eocenicus Cockerell, Carabites 1581  
 eophilus Cockerell, Cicindelopsis 1571  
 ephialtus LeConte, Scarites 402  
 ephippiatum Say, Bembidium 681  
 ephippiatus Say, Pericompsus 681  
 ephippiger LeConte, Ochthedromus 628  
 ephippigerum LeConte, Bembidion 628  
 epipleuralis Sahlberg, Feronia 855  
 episcopus Drapiez, Harpalus 1174  
 erasa LeConte, Lionepha 532  
 erasum LeConte, Bembidium 532  
 erasus LeConte, Platynus 1201  
 erebeus Casey, Pterostichus 809  
 eremicola Fall, Calosoma 235  
 eremita Horn, Anophthalmus 470  
 eremita Horn, Pseudanophthalmus 470  
 eriensis Casey, Cicindela 329  
 erosus Motschulsky, Peryphus 572  
 errans Say, Agonum 1223, 1613  
 errans Say, Feronia 1223  
 erratica Dejean, Feronia 761  
 erratica Duftschmid, Amara 922, 1606  
 erraticus Casey, Omus 276  
 erraticus Dejean, Loxandrus 761  
 erraticus Duftschmid, Carabus 922  
 erraticus Say, Harpalus 1103, 1610  
 erro LeConte, Melanotus 1090  
 erro LeConte, Polpochila 1090  
 erronea Vaurie, Cicindela 306  
 erronea Vaurie, Habroscelimorpha 306  
 erwini Sokolov & Carlton, Anillinus 703  
 erythrocephala Dejean, Lebia 1325  
 erythrocerus LeConte, Dyschirius 444  
 erythrogaster Harris, Cicindela 1625  
 erythrogaster Harris, Cicindela 322  
 erythropum Kirby, Agonum 1223  
 erythropus Dejean, Feronia 788  
 erythropus Dejean, Harpalus 1097, 1610  
 erythropus Dejean, Platynus 1251  
 erythropus Germar, Chlaenius 971  
 erythropus Motschulsky, Miscodera 455  
 eschscholtzii Chaudoir, Leirus 896  
 eschscholtzii Mannerheim, Pelophila 147  
 eschscholtzii Ménétériés, Nebria 167  
 eschscholtzii Zoubkoff, Blethisa 373  
 essexense Casey, Bembidion 636  
 estancia Rumpff, Cicindela 326  
 estesiana Casey, Cicindela 352  
 esuriale Casey, Agonum 1217  
 esurialis Casey, Lebia 1324  
 esurialis Casey, Tachys 686  
 esuriens Casey, Calosoma 241  
 esuriens Casey, Pterostichus 839  
 eureka Fall, Cicindela 359  
 eurynota Panzer, Amara 941, 1606  
 eurynotus Panzer, Carabus 941  
 evanescens Casey, Anaferonia 884  
 evanescens Casey, Cymindis 1287  
 evanescens Casey, Liodicaelus 1003  
 evanescens Casey, Notiophilus 190  
 evanescens Casey, Pasimachus 396  
 evanida Casey, Celia 929  
 evansi Ball & Maddison, Amblygnathus 1134  
 everestae Pierce, Bembidion 1573  
 evidens Casey, Bembidion 611  
 evoluta Casey, Lebia 1333  
 ewersi Barr, Agonum 1191  
 ewersi Barr, Rhadine 1191  
 exanimus Scudder, Carabites 1581  
 exarata Dejean, Amara 901, 1607  
 exarata Dejean, Evolenes 953  
 exaratum Mannerheim, Agonum 1204, 1613  
 exaratus Casey, Callisthenes 248  
 exaratus Dejean, Oodes 953  
 exaratus LaFerté-Sénectère, Chlaenius 1625  
 exaratus LaFerté-Sénectère, Chlaenius 988  
 exaratus Lepeletier & Audinet-Serville, Rhysodes 146  
 exaratus Mannerheim, Anchomenus 1204  
 excatenatus Kraatz, Carabus 1625  
 excavatum Dejean, Agonum 1225  
 excisa Sturm, Cicindela 1625  
 excisus LeConte, Selenophorus 1145  
 exclusum Casey, Bembidion 616  
 excostatus Kraatz, Carabus 257  
 excrucians Kirby, Pseudomorpha 1375  
 excubans Casey, Harpalus 1096

- excursum* Casey, Bembidion 571  
*exiguiceps* Casey, Bembidion 567  
*exiguus* Casey, Dicheirus 1041  
*exiguus* Krekeler, Pseudanophthalmus 494  
*exile* Barr & Lawrence, Agonum 1191  
*exilis* Barr & Lawrence, Rhadine 1191  
*exitia* Scudder, Loricera 1572  
*exlineae* Minsk & Hatch, Amara 915  
*exochus* Whitehead, Dyschirius 435  
*exoleta* Casey, Cicindela 324  
*exoletum* Scudder, Bembidium 1573  
*exoticus* Krekeler, Pseudanophthalmus 476  
*expansa* Casey, Calosoma 240  
*expansa* Casey, Diplochila 992  
*expansa* Casey, Nebria 158  
*expansipenne* Casey, Bembidion 643  
*expertus* Casey, Acupalpus 1081  
*explanata* Horn, Anillaspis 710  
*explanatula* Casey, Celia 946  
*explanatus* Horn, Anillus 710  
*expletum* Scudder, Bembidium 1573  
*explodens* Bousquet & Goulet, Metrius 728  
*explosus* Erwin, Brachinus 741  
*exposita* Casey, Celia 946  
*expositum* Casey, Bembidion 613  
*exstans* Casey, Bradycellus 1070  
*exstans* Casey, Stenocellus 1070  
*extendus* Allen, Loxandrus 755  
*extensa* Casey, Percosia 906  
*extensa* Walker, Amara 1131  
*extensicolle* Say, Agonum 1227, 1613  
*extensicollis* Casey, Stenolophus 1047  
*extensicollis* Say, Feronia 1227  
*extensum* Casey, Bembidion 633  
*extenuata* Casey, Cicindela 323  
*exterminatus* Scudder, Platynus 1579  
*externefoveata* Hieke, Amara 942  
*externum* Say, Calosoma 237, 1585  
*externus* Say, Carabus 237  
*extimum* Lieberr, Agonum 1228  
*extorpesens* Scudder, Cymindis 1580  
*extraneus* Casey, Anisotarsus 1016  
*extrema* Liebke, Colliuris 1270  
*extricatum* Casey, Bembidion 612  
*faber* Germar, Cyclotrachelus 869  
*faber* Germar, Molops 869  
*fabrum* Casey, Bembidion 653  
*faceta* Casey, Cicindela 312  
*facile* Casey, Bembidion 538  
*facilis* Casey, Dicheirus 1043  
*facilis* Casey, Europhilus 1207  
*falciger* LeConte, Dyschirius 449  
*fallaciosus* Casey, Cyclotrachelus 869  
*fallax* Dejean, Bembidium 589  
*fallax* Dejean, Feronia 816  
*fallax* Dejean, Pterostichus 816  
*fallax* LeConte, Amara 933  
*fallax* LeConte, Harpalus 1126  
*fallax* Roeschke, Brennus 221  
*falli* Darlington, Colpodes 1255  
*falli* Darlington, Platynus 1255  
*falli* Hayward, Tachys 665  
*falli* Hayward, Tachyta 665  
*falli* Notman, Pseudomorpha 1375  
*falli* Van Dyke, Pterostichus 831  
*falli* Whitehead, Schizogenius 419  
*fallianus* Leng, Platynus 1219  
*falsum* Blaisdell, Bembidion 633  
*falsum* Blaisdell, Bembidium 633  
*famelica* Casey, Tachyura 678  
*famelicum* Ménétriés, Agonum 1220  
*familiaris* Duftschmid, Amara 942, 1607  
*familiaris* Duftschmid, Carabus 942  
*famulus* Casey, Selenophorus 1141  
*fanaticus* Casey, Harpalus 1110  
*farallonica* Casey, Celia 929  
*farcta* LeConte, Amara 922, 1607  
*farctus* Casey, Omus 277  
*farrarae* Hatch, Bembidion 640  
*farrelli* Barr, Pseudanophthalmus 495  
*fasciata* Haldeman, Coptodera 1273  
*fasciata* Putzeys, Clivina 414  
*fasciata* Putzeys, Paraclivina 414  
*fasciatus* Haldeman, Tetragonoderus 1273  
*fasciatus* Say, Panagaeus 961  
*fascinans* Casey, Cicindela 309  
*fascinans* Casey, Eunota 309  
*fastidiosum* Casey, Bembidion 585  
*fastidiosus* Mannerheim, Cryobius 855  
*fastidita* Dejean, Feronia 781  
*fastigatus* Barr, Pseudanophthalmus 466  
*fatua* Casey, Tachyura 671  
*fatuus* Casey, Elaphropus 671  
*fatuus* LeConte, Evarthrus 881  
*fatuus* LeConte, Harpalus 1142  
*fatuus* Mannerheim, Cryobius 865  
*faunus* Say, Harpalus 1100  
*fausta* Casey, Anaferonia 876  
*favicollis* Erwin, Brachinus 742  
*feildenianus* Heer, Carabites 1581  
*feisthamelii* LaFerté-Sénectere, Chlaenius 1625  
*felix* Bell, Pentagonica 1266  
*felixianum* Heer, Bembidium 649  
*feminalis* Casey, Cicindela 316

- femoralis* Chaudoir, Oodes 960  
*femoralis* Horn, Amara 945  
*femoralis* Kirby, Argutor 790  
*femoralis* Kirby, Pterostichus 790, 1603  
*femoralis* Motschulsky, Harpalus 1110  
*femoralis* Motschulsky, Nebria 157  
*femorata* Motschulsky, Lia 1321  
*femorata* Motschulsky, Nebria 157  
*femoratum* Dejean, Agonum 1238  
*femoratum* Gyllenhal, Bembidium 564  
*femoratum* Sturm, Bembidion 565, 1598  
*femoratum* Sturm, Bembidium 565  
*femoratus* Dejean, Harpalus 1039  
*femoratus* Motschulsky, Myosodus 1621  
*fenderi* Hacker, Pterostichus 824  
*fenderi* Hatch, Bembidion 569  
*fenderi* Hatch, Bradycellus 1062  
*fenestratus* Fabricius, Carabus 1302  
*fenestratus* Fabricius, Dromius 1302  
*fenisex* Casey, Bembidion 616  
*fenisex* Casey, Harpalus 1097  
*fennica* Csiki, Amara 925  
*fenyesi* Csiki, Pterostichus 824  
*fera* Chevrolat, Cicindela 310  
*fernquisti* Cockerell, Calosoma 1571  
*fernquisti* Wickham, Pterostichus 1576  
*feroculus* Casey, Harpalus 1096  
*ferrea* LeConte, Clivina 415  
*ferrea* LeConte, Paraclivina 415  
*ferreum* Casey, Bembidion 554  
*ferreum* Haldeman, Agonum 1224  
*ferruginea* Casey, Amara 919  
*ferruginea* LeConte, Helluomorpha 1368  
*ferrugineum* Dejean, Bembidium 671  
*ferrugineus* Bousquet, Dyschirius 435  
*ferrugineus* Dejean, Badister 1007  
*ferrugineus* Dejean, Elaphropus 671  
*ferrugineus* Dejean, Leistus 151  
*ferrugineus* LeConte, Helluomorphoides 1368  
*ferrugineus* Linnaeus, Carabus 151  
*ferrugineus* Linnaeus, Leistus 151, 1583  
*ferrugineus* Putzeys, Schizogenius 421  
*ferruginosum* Dejean, Agonum 1201  
*ferruginosus* Dejean, Anchomenus 1201  
*ferruginosus* Mannerheim, Leistus 151  
*festinans* Casey, Bembidion 601  
*festinans* Casey, Bradycellus 1070  
*festinans* Casey, Stenocellus 1070  
*festinans* Dejean, Dromius 1626  
*festiva* Dejean, Coptodera 1282  
*festivum* Casey, Bembidion 655  
*fidele* Casey, Agonum 1231  
*fidele* Casey, Bembidion 605  
*fidelis* Casey, Stenolophus 1046  
*fidelis* LeConte, Brachinus 745  
*filicorne* Casey, Bembidion 659  
*filicornis* Casey, Diplous 717  
*filicornis* Casey, Olisthopus 1175  
*filicornis* Casey, Platidius 717  
*filiformis* LeConte, Dyschirius 449  
*fimbriata* Bates, Calleida 1344  
*fimbriatus* Sturm, Carabus 1625  
*finitima* Casey, Celia 923  
*finitimus* Casey, Elaphrus 382, 1593  
*finitimus* Haldeman, Carabus 260  
*firmus* Casey, Dicheirus 1042  
*fissicollis* LeConte, Nomaretus 204  
*fissicollis* LeConte, Scaphinotus 204  
*fissipes* Putzeys, Clivina 405  
*flaccidus* Horn, Chlaenius 981  
*flammeus* Haldeman, Scaphinotus 197  
*flammulipennis* Motschulsky, Notaphus 608  
*flavicauda* Say, Mioptachys 663, 1599  
*flavicaudus* Say, Bembidium 663  
*flavicornis* Casey, Badister 1005  
*flavilimbus* Blatchley, Loxandrus 754  
*flavilimbus* LeConte, Philodes 1087  
*flavilimbus* LeConte, Stenolophus 1087  
*flavipes* Kirby, Trechus 1068  
*flavipes* LeConte, Badister 1005  
*flavipes* LeConte, Didetus 1266  
*flavipes* LeConte, Pentagonica 1266  
*flavipes* LeConte, Stenolophus 1048  
*flavipes* Motschulsky, Lorocera 1626  
*flavipes* Sturm, Calathus 1625  
*flaviventris* Motschulsky, Lebia 1326  
*flavodisca* Chaudoir, Coptodera 1282  
*flavolimbatus* Motschulsky, Olisares 1240  
*flavolineata* Motschulsky, Lebia 1336  
*flavopictus* Motschulsky, Emphanes 590, 1626  
*flavopunctata* Chevrolat, Cicindela 318  
*flavoviridis* Vaurie, Cicindela 341  
*flavovittata* Chevrolat, Lebia 1337  
*flebile* Casey, Bembidion 632  
*flebilis* Casey, Amara 949  
*flebilis* Casey, Triaena 949  
*flebilis* LeConte, Pterostichus 809  
*fletcheri* Criddle, Cicindela 350  
*flohri* Bates, Bembidion 621  
*flohri* Bates, Bembidium 621  
*flohri* Bates, Hybothecus 770  
*flohri* Bates, Ophryogaster 770  
*floricola* Harris, Lebia 1329  
*floridae* Csiki, Clivina 415

- floridana* Cartwright, Cicindela 313  
*floridana* Horn, Onota 1350, 1615  
*floridana* Leng & Mutchler, Tetracha 283  
*floridanus* Ball, Helluomorphoides 1370  
*floridanus* Casey, Anisotarsus 1018  
*floridanus* Casey, Pasimachus 398  
*floridanus* Casey, Stenolophus 1051  
*floridanus* Horn, Chlaenius 981  
*floridanus* LeConte, Loxandrus 756  
*floridanus* LeConte, Platynus 1227  
*floridanus* Leng, Scaphinotus 202  
*floridensis* Freitag, Cyclotrachelus 874  
*floridensis* Freitag, Evarthrus 874  
*florissantensis* Wickham, Bembidium 1573  
*florissantensis* Wickham, Cratacanthus 1578  
*florissantensis* Wickham, Platynus 1579  
*flumenalis* Casey, Tachys 684  
*fluminea* Casey, Celia 917  
*fluvialis* Casey, Pteropalus 1156  
*fluvialis* LeConte, Oodes 956, 1608  
*fluviaticus* Casey, Geopinus 1038  
*fluviatilis* Casey, Lebia 1326  
*fluviatilis* Valentine, Pseudanophthalmus 466  
*fluviatilis* Vaurie, Cicindela 295  
*fluviatilis* Vaurie, Ellipsoptera 295  
*fockii* Hummel, Bembidion 682  
*folkerti* Sokolov & Carlton, Anillinus 703  
*fontinale* Casey, Omophron 388  
*fontinalis* Casey, Celia 946  
*fontinalis* Casey, Pterostichus 845  
*fontinaria* Casey, Cicindela 320  
*formale* Casey, Bembidion 613  
*formalis* Casey, Celia 923  
*formalis* Casey, Nebria 168  
*formosa* Say, Cicindela 350, 1589  
*formosum* Sturm, Agonum 1624  
*forreri* Bates, Carabus 261  
*forreri* Bates, Galerita 1364  
*forreri* Géhin, Calosoma 235  
*forsteri* Turton, Carabus 973  
*fortestriata* Motschulsky, Omala 627  
*fortestriatum* Motschulsky, Bembidion 627  
*fortestriatus* Poppius, Cryobius 862  
*fortis* Horn, Anillinus 703  
*fortis* Horn, Anillus 703  
*fortis* LeConte, Amara 905  
*fortistriatum* Mannerheim, Bembidium 627  
*fortunatum* Casey, Bembidion 652  
*fossifrons* Eschscholtz, Patrobus 719  
*fossifrons* Eschscholtz, Platysma 719  
*fossiger* Dejean, Agonum 1219  
*fossor* Linnaeus, Clivina 407, 1595  
*fossor* Linnaeus, Tenebrio 407  
*fossulatus* Dejean, Selenophorus 1139  
*foveata* Casey, Diplocheila 992  
*foveata* LeConte, Loricera 369  
*foveatus* Casey, Omus 280  
*foveatus* LeConte, Myas 786  
*foveatus* Pierce, Elaphrus 1572  
*foveiceps* Notman, Platynus 1220  
*foveicollis* Chaudoir, Agonum 1240  
*foveicollis* Bates, Anisotarsus 1018  
*foveicollis* LeConte, Harpalus 1125  
*foveocollis* Eschscholtz, Patrobus 720, 1600  
*foveocollis* Eschscholtz, Platysma 720  
*foveolatum* Sturm, Agonum 1624  
*foveolatus* Illiger, Carabus 1180  
*foveum* Motschulsky, Bembidion 548, 1598  
*foveum* Motschulsky, Bembidium 548  
*fowlerae* Barr, Pseudanophthalmus 496  
*fracta* Casey, Tachyura 675  
*fractus* Casey, Anchomenus 1212  
*fractus* Casey, Harpalus 1121  
*fractus* Scudder, Pterostichus 1576  
*fractus* Wickham, Trechus 1572  
*fragariae* Kavanaugh, Nebria 174  
*fragilis* Casey, Celia 930  
*fragilis* Casey, Nebria 160  
*fragilis* LeConte, Platynus 1243  
*fragilis* Mäklin, Feronia 855  
*fragilis* Mannerheim, Anchomenus 1203  
*fragilissimus* Casey, Platynomicrus 1201  
*fragmentum* Scudder, Bembidion 1573  
*franciscana* Casey, Cicindela 340  
*franciscanum* Casey, Bembidion 613  
*franciscanus* Casey, Carabus 262  
*frater* Casey, Omophron 391  
*frater* LeConte, Platynus 1230  
*fraterculus* Casey, Omus 274  
*fraterculus* LeConte, Platynus 1235  
*fraterna* Putzeys, Aspidoglossa 430  
*fraternum* LeConte, Bembidium 616  
*fraternus* LeConte, Harpalus 1111  
*fraternus* Say, Poecilus 775  
*frechini* Leffler, Cicindela 358  
*fredericki* Nunenmacher, Zacotus 457  
*freitagii* Bousquet, Cyclotrachelus 869  
*fretus* Casey, Blechrus 1306  
*frigida* Chaudoir, Lebia 1326  
*frigida* Dejean, Feronia 861  
*frigida* Sahlberg, Nebria 155  
*frigidulus* Casey, Anchomenus 1212  
*frigidum* Kirby, Calosoma 230, 1585  
*frigidus* Barr, Pseudanophthalmus 482



- frigidus* Mannerheim, Dyschirius 436  
*frigidus* Scudder, Patrobus 1574  
*frontale* LeConte, Bembidion 624  
*frontalis* Casey, Lebia 1329  
*frontalis* Hayward, Tachys 682  
*frontalis* LeConte, Clivina 424  
*frontalis* LeConte, Ochthedromus 624  
*frosti* Casey, Europhilus 1208  
*frosti* Fall, Tachycellus 1076  
*frosti* Hippius, Elaphrus 378  
*frosti* Varas Arangua, Cicindela 324  
*frostii* Carr, Chlaenius 989  
*frugale* Casey, Bembidion 590  
*frugalis* Casey, Celia 941  
*frugalis* Casey, Lebia 1328  
*fucatus* Freitag, Cyclotrachelus 873  
*fucatus* Freitag, Evarthrus 873  
*fuchsi* Horn, Omus 273  
*fuchsi* Roeschke, Scaphinotus 201  
*fuchsi* Schaeffer, Pterostichus 825  
*fuchsianus* Rivers, Cychrus 225  
*fuchsi* Blaisdell, Bembidion 589  
*fuchsi* Blaisdell, Bembidium 589  
*fugax* Casey, Leptoferonia 825  
*fugax* LeConte, Bembidion 657  
*fugax* LeConte, Ochthedromus 657  
*fugiens* Csiki, Pterostichus 825  
*fugitans* Casey, Bembidion 620  
*fugitans* Casey, Harpalus 1122  
*fulcratus* LeConte, Patrobus 716  
*fulgens* Casey, Loxandrus 760  
*fulgens* Csiki, Harpalus 1158  
*fulgens* Csiki, Trichotichnus 1158  
*fulgiceps* Newman, Chlaenius 982  
*fulgida* Dejean, Calleida 1344  
*fulgida* Say, Cicindela 331, 1589  
*fulgoris* Casey, Cicindela 306  
*fulgoris* Casey, Habroscelimorpha 306, 1592  
*fuliginosus* Dejean, Stenolophus 1048  
*fuliginosus* Duftschmid, Carabus 1126  
*fuliginosus* Say, Elaphrus 380, 1593  
*fulleri* Horn, Cychrus 220  
*fulleri* Valentine, Pseudanophthalmus 467  
*fulminatus* Erwin, Brachinus 738  
*fulva* Müller, Amara 902, 1607  
*fulvicollis* Newman, Amphasia 1040  
*fulvilabris* Mannerheim, Harpalus 1112  
*fulvipennis* Motschulsky, Harpalus 1131  
*fulvipes* Putzeys, Curtonotus 895  
*fulvipes* Sturm, Amara 1624  
*fulvus* LeConte, Epaphius 506  
*fulvus* Mannerheim, Patrobus 719  
*fulvus* Marsham, Carabus 1062  
*fulvus* Müller, Carabus 902  
*fumans* Fabricius, Brachinus 742  
*fumans* Fabricius, Carabus 742  
*fumorum* Darlington, Pterostichus 821  
*funaroi* Rotger, Cicindela 327  
*funnebris* Casey, Celia 923  
*funnebris* Casey, Tachys 686  
*funnebris* LeConte, Anchomenus 1183, 1614  
*funnebris* LeConte, Platynus 1183  
*funerarius* Csiki, Harpalus 1114  
*funereum* LeConte, Bembidium 641  
*funestus* LeConte, Harpalus 1114  
*furcata* LeConte, Lebia 1337  
*furcatus* Fabricius, Carabus 1055  
*furtiva* Say, Amara 901  
*furtivus* Krekeler, Pseudanophthalmus 494  
*furtivus* LeConte, Cyclotrachelus 880  
*furtivus* LeConte, Evarthrus 880  
*furtivus* LeConte, Harpalus 1105  
*furviculus* Casey, Harpalus 1132  
*furvus* Dejean, Dicaelus 997  
*furvus* LeConte, Anisodactylus 1022  
*fuscata* Dejean, Cymindis 1294  
*fuscata* Dejean, Lebia 1324  
*fuscatus* Dejean, Stenolophus 1048  
*fusciceps* Casey, Micratopus 679  
*fusciceps* Casey, Tachistodes 1084  
*fusciceps* LeConte, Axinopalpus 1312  
*fuscicollis* Motschulsky, Planesius 1294  
*fuscicornis* Casey, Amerinus 1077  
*fuscicornis* Chaudoir, Elaphropus 672  
*fuscicornis* Chaudoir, Tachys 672  
*fuscicornis* Dejean, Chlaenius 972  
*fuscicrus* Motschulsky, Peryphus 565  
*fuscipalpis* Sturm, Harpalus 1131  
*fuscipennis* Casey, Anisotarsus 1018  
*fuscipennis* LeConte, Stenolophus 1048  
*fuscipennis* Motschulsky, Apristus 1308  
*fuscipennis* Motschulsky, Patrobus 722  
*fuscipes* Goeze, Calathus 1162, 1612  
*fuscipes* Goeze, Carabus 1162  
*fuscoaeneus* Chaudoir, Omaseus 865  
*fuscus* Valentine, Pseudanophthalmus 471  
*fusiformis* Van Dyke, Nebria 1626  
*futilis* Casey, Harpalus 1127  
*gabbii* Horn, Cicindela 307  
*gabbii* Horn, Habroscelimorpha 307  
*gagates* Bonelli, Scarites 1622  
*gagates* Dejean, Anchomenus 1245  
*gagatinus* Dejean, Selenophorus 1142  
*galvestonicum* Casey, Agonum 1204

- galvestonicus* Casey, Europhilus 1204  
*garmani* Jeannel, Pseudanophthalmus 476  
*gaspesiana* Kavanaugh, Nebria 156  
*gaudens* Casey, Anchomenus 1228  
*gaudens* Casey, Tachyura 675  
*gebhardis* Erwin, Brachinus 743  
*gebleri* Dejean, Nebria 174  
*gebleri* Motschulsky, Pelophila 147  
*gebleri* Motschulsky, Tarus 1291  
*gelatus* Scudder, Patrobus 1574  
*gelidus* LeConte, Ochthedromus 560  
*gelidus* Scudder, Loxandrus 1575  
*gemellus* Casey, Barytachys 669  
*gemellus* LeConte, Platynus 1210  
*geminatus* Haldeman, Dromius 1621  
*gemma* Casey, Omophron 390  
*gemmeum* Casey, Agonum 1217  
*gemmeus* Casey, Harpalus 1037  
*gener* Casey, Discoderus 1151  
*generosa* Dejean, Cicindela 350  
*geniculatus* Dejean, Brachinus 750  
*gentilis* Barr, Rhadine 1194  
*gentilis* Casey, Brennus 218  
*gentilis* Casey, Tachys 692  
*georgei* Kavanaugh, Nebria 168  
*georgei* Lindroth, Bradycellus 1075  
*georgiae* Barr, Pseudanophthalmus 462  
*georgiae* Csiki, Carabus 254  
*georgiae* Palisot de Beauvois, Scarites 753  
*georgiana* LeConte, Clivina 405  
*georgicum* Bell & Bell, Clinidium 144  
*germari* Chaudoir, Cychrus 210  
*germari* Chaudoir, Scaphinotus 210  
*gerstlensis* Ball, Pterostichus 860  
*gibba* LeConte, Amara 910  
*gibba* LeConte, Celia 910  
*gibbipennis* LeConte, Dyschirius 439  
*gibbsii* LeConte, Trachypachus 161, 1582  
*gibbsii* LeConte, Trachypachys 161  
*gibbus* Allen, Loxandrus 761  
*gibbus* Fabricius, Scarites 439  
*gibsoni* Brown, Cicindela 351  
*gigas* Casey, Cyclotrachelus 875  
*gigas* Casey, Megasteropus 875  
*gilae* LeConte, Omophron 389  
*gilae* Lindroth, Bembidion 545  
*gilensis* Casey, Chlaenius 975  
*gilvipes* Casey, Badister 1006  
*gilvipes* Casey, Curtonotus 892  
*gimmeli* Sokolov & Carlton, Anillinus 704  
*giulianii* Kavanaugh, Nebria 172  
*glabrata* Minsk & Hatch, Amara 950  
*glabrella* Motschulsky, Polyderis 1258  
*glabripennis* Chaudoir, Tectophilus 1342  
*glabripennis* LeConte, Brachinus 1625  
*glabriusculum* Motschulsky, Bembidium 1617  
*glabriusculum* Motschulsky, Bembidium 549  
*glacialis* Mannerheim, Amara 902  
*glacialis* Mannerheim, Bradytus 902  
*glacialis* Scudder, Loricera 1572  
*glaciatum* Scudder, Bembidion 1573  
*gladiator* Motschulsky, Carabus 263  
*glaucus* LeConte, Chlaenius 978  
*gliscans* Casey, Pterostichus 847  
*globiceps* Barr, Pseudanophthalmus 488  
*globicollis* Casey, Cicindela 309  
*globicollis* Casey, Eunota 309  
*globicollis* Csiki, Pterostichus 857  
*globosus* Herbst, Carabus 439  
*globosus* Herbst, Dyschirius 439, 1595  
*globulosa* Say, Clivina 439  
*globulosus* Say, Dyschirius 439, 1596  
*glomerosus* Bousquet, Dyschirius 439  
*glossema* Casey, Barytachys 672  
*gnara* Casey, Celia 915  
*gordoni* Lindroth, Bembidion 634  
*goryi* Dejean, Carabus 253, 1587  
*gouleti* Kavanaugh, Nebria 158  
*govanensis* Casey, Celia 930  
*govanica* Casey, Cymindis 1289  
*govanicum* Casey, Bembidion 582  
*gracilenta* Casey, Cicindela 335  
*gracilenta* Casey, Rhadine 1187  
*gracilentus* Beutenmüller, Platynus 1250  
*graciliforme* Hayward, Bembidion 651  
*graciliforme* Hayward, Bembidium 651  
*gracilior* Casey, Omus 275  
*gracilior* LeConte, Pterostichus 840  
*gracilior* Tschitschérine, Feronia 867  
*gracilis* Blatchley, Brachynus 738  
*gracilis* Casey, Dicheirus 1041  
*gracilis* Casey, Stenolophus 1051  
*gracilis* Géhin, Cychrus 220  
*gracilis* Valentine, Pseudanophthalmus 470  
*gracilitarsis* Casey, Agonoderus 1053  
*graecus* Laporte, Nomius 726  
*grahami* Hatch, Bembidion 548  
*grahami* Van Dyke, Scaphinotus 199  
*graminea* Schaupp, Cicindela 339  
*granarium* Dejean, Bembidium 672  
*granarius* Dejean, Elaphropus 672  
*granarius* Dejean, Selenophorus 1139  
*grandiceps* Casey, Badister 1008  
*grandiceps* Casey, Promecognathus 453

- grandiceps* Hayward, Bembidion 657  
*grandiceps* Hayward, Bembidium 657  
*grandiceps* LeConte, Stereocerus 823  
*grandicollis* Casey, Calathus 1166  
*grandicollis* LeConte, Ochthedromus 606  
*grandis* Gistel, Scaphinotus 202  
*grandis* Hentz, Lebia 1316, 1615  
*grandis* Valentine, Pseudanophthalmus 471  
*grandis* Van Dyke, Scaphinotus 218  
*granosus* Casey, Omus 277  
*granulatus* Linnaeus, Carabus 252, 1587  
*granulosus* Chaudoir, Sphaeroderus 193  
*grapeioides* Munster, Bembidion 580  
*graphicum* Casey, Bembidion 611  
*grapii* Gyllenhal, Bembidion 576, 1598  
*grapii* Gyllenhal, Bembidium 576  
*gratiosa* Guérin-Méneville, Cicindela 293  
*gratiosa* Guérin-Méneville, Ellipsoptera 293, 1592  
*gratiosum* Casey, Bembidion 634  
*gratiosum* Mannerheim, Agonum 1205, 1613  
*gratiosus* Mannerheim, Anchomenus 1205  
*gratiosus* Mannerheim, Elaphrus 381  
*gratuitum* Casey, Bembidion 590  
*gravesi* Freitag, Cyclotrachelus 875  
*gravesi* Freitag, Evarthrus 875  
*gravida* LeConte, Cicindela 361  
*gravidulus* Casey, Anchomenus 1227  
*gravidulus* Casey, Callisthenes 245  
*gravidulus* Jeannel, Trechus 508  
*gravidus* Casey, Bradytus 901  
*gravidus* Casey, Brennus 222  
*gravidus* Darlington, Patrobus 720  
*gravidus* Haldeman, Cyclotrachelus 885  
*gravidus* Haldeman, Evarthrus 885  
*gravidus* LeConte, Anisodactylus 1031  
*gravis* Casey, Anomoglossus 967  
*gravis* LeConte, Harpalus 1107  
*gravis* LeConte, Lophoglossus 778  
*greenei* Casey, Celia 912  
*gregale* Casey, Bembidion 586  
*gregalis* Casey, Pterostichus 837  
*gregaria* Fischer von Waldheim, Nebria 161  
*gregaria* Say, Feronia 1164  
*gregarius* Say, Calathus 1164, 1612  
*groenlandicus* Dejean, Carabus 255  
*grossa* Say, Amara 1092  
*grossum* Casey, Omophron 389  
*grossus* Say, Euryderus 1092, 1610  
*grubbsi* Reddell & Dupérré, Rhadine 1191  
*guadalupense* Casey, Agonum 1197  
*guadalupensis* Casey, Amara 905  
*guexiana* Chevrolat, Cicindela 321  
*guexii* Chaudoir, Bembidium 659  
*gulosum* Casey, Bembidion 652  
*guttifera* LeConte, Cicindela 365  
*guttula* LeConte, Lebia 1324  
*guyotii* LeConte, Cychrus 212  
*guyotii* LeConte, Scaphinotus 212  
*gyllenhali* Schönherr, Nebria 1583  
*gyllenhalii* Dejean, Ozaena 730  
*gyllenhalii* Dejean, Pachyteles 730  
*habile* Casey, Bembidion 627  
*habilis* Casey, Axinopalpus 1312  
*hadenocetus* Barr, Pseudanophthalmus 470  
*haematopus* Dejean, Feronia 783  
*haematopus* Dejean, Stereocerus 783, 1605  
*haemorrhoidalis* Dejean, Clivina 433  
*haemorrhoidalis* Dejean, Dyschirius 433  
*haemorrhoidalis* Harris, Cicindela 322  
*haemorrhoidalis* Hentz, Cicindela 322  
*haftorni* Lindroth, Pterostichus 859  
*hageni* Hayward, Bembidion 606  
*hageni* Hayward, Bembidium 606  
*haida* Kavanaugh, Nebria 162  
*haldemani* Casey, Celia 919  
*haldemani* Casey, Harpalus 1098  
*haldemani* LeConte, Lophoglossus 778  
*haldemanni* LeConte, Lophoglossus 778, 1601  
*haldemanni* LeConte, Lyperus 778  
*halffteri* Ogueta, Ozaena 733  
*halli* Scudder, Platynus 1579  
*halophilus* Lindroth, Tachys 686, 1599  
*hamata* Sturm, Cicindela 1625  
*hamatus* Harris, Omaseus 799  
*hamatus* LeConte, Omoglymmius 146  
*hamatus* LeConte, Rhysodes 146  
*hamiferum* Chaudoir, Bembidium 602  
*hamiltoni* Horn, Pterostichus 816  
*haoe* Barr, Trechus 525  
*haoeleadensis* Donabauer, Trechus 516  
*haplogonum* Chaudoir, Bembidium 572  
*haplomis* Chaudoir, Anisodactylus 1030  
*hardyi* Chaudoir, Miscodera 455  
*hardyi* LeConte, Platynus 1213  
*hardyi* Putzeys, Notiophilus 186  
*harpalina* LeConte, Amara 916  
*harpalinus* Audinet-Serville, Bradycellus 1062, 1610  
*harpalinus* Audinet-Serville, Trechus 1062  
*harpalinus* Eschscholtz, Chlaenius 987  
*harpaloides* LaFerté-Sénectère, Anisodactylus 1029  
*harpaloides* LaFerté-Sénectère, Gynandrotarsus 1029  
*harpaloides* Reiche, Selenophorus 1138  
*harpalonota* Hieke, Amara 910  
*harrisii* LeConte, Agonum 1232

- harrisii* LeConte, *Anisodactylus* 1024, 1609  
*harrisii* Leng, *Cicindela* 357  
*harttii* Scudder, *Platynus* 1579  
*haruspex* Casey, *Bembidion* 640  
*hastii* Sahlberg, *Bembidion* 630  
*hastii* Sahlberg, *Bembidium* 630  
*hatchi* Ball & Anderson, *Harpalus* 1101  
*hatchi* Beer, *Scaphinotus* 216  
*hatchi* Hacker, *Pterostichus* 827  
*hatchi* Leffler, *Cicindela* 340  
*haustum* Casey, *Bembidion* 608  
*haydeni* Horn, *Calosoma* 238, 1585  
*haywardi* Csiki, *Amara* 931  
*haywardi* Scudder, *Bembidium* 1574  
*haywardi* Wickham, *Tachys* 1574  
*hebes* Casey, *Anisotarsus* 1018  
*helleni* Müller, *Dyschirius* 440  
*helluonis* Say, *Aretharea* 1617  
*hemorrhagica* LeConte, *Cicindela* 313, 1589  
*hemphillii* Horn, *Cychrus* 195  
*henroti* Jeannel, *Neaphaenops* 501  
*henroti* Jeannel, *Pseudanophthalmus* 472  
*henshawi* Hayward, *Bembidium* 621  
*henshawi* Scudder, *Diplocheila* 1577  
*henshawi* Wickham, *Patrobus* 1574  
*hentzii* Dejean, *Cicindela* 322  
*herbivagus* Say, *Harpalus* 1125, 1610  
*herculaneus* Mannerheim, *Pterostichus* 842  
*hernandensis* Van Dyke, *Cyclotrachelus* 870  
*hernandensis* Van Dyke, *Evarthrus* 870  
*heros* Harris, *Scaphinotus* 202  
*heros* Say, *Cyclotrachelus* 875  
*heros* Say, *Feronia* 875  
*hesperia* Casey, *Amara* 933  
*hesperium* Fall, *Bembidion* 549, 1598  
*hesperium* Fall, *Bembidium* 549  
*hesperius* Casey, *Elaphrus* 382  
*hesperus* Barr, *Pseudanophthalmus* 467  
*hesperus* Casey, *Discoderus* 1151  
*hibernicus* Lindroth, *Carabus* 252  
*hicksi* Lindroth, *Amara* 910  
*hiemalis* Bousquet, *Dyschirius* 440  
*higginbothami* Valentine, *Pseudanophthalmus* 492  
*highlandensis* Choate, *Cicindela* 314  
*hilare* Casey, *Bembidion* 655  
*hilariola* Bates, *Apenes* 1298  
*hilaris* Casey, *Celia* 929  
*hindei* Scudder, *Platynus* 1579  
*hintoni* Kult, *Dyschirius* 433  
*hippislei* Casey, *Nebria* 169  
*hirsutus* Bates, *Brachinus* 749  
*hirsutus* Ménétériés, *Harpalus* 1042  
*hirsutus* Valentine, *Pseudanophthalmus* 474  
*hirta* LeConte, *Physea* 732  
*hirticollis* Say, *Cicindela* 362, 1589  
*hirtifrons* Willis, *Cicindela* 327  
*hirtilabris* LeConte, *Cicindela* 294  
*hirtilabris* LeConte, *Ellipsoptera* 294  
*hispidus* LeConte, *Dyschirius* 442  
*histrica* Casey, *Lebia* 1333  
*histricum* Casey, *Bembidion* 578  
*histrionica* Bates, *Lebia* 1335  
*hoegei* Bates, *Pseudaptinus* 1360  
*hoffmani* Barr, *Maronetus* 207  
*hoffmani* Barr, *Pseudanophthalmus* 490  
*hoffmani* Barr, *Scaphinotus* 207  
*högei* Bates, *Celia* 926  
*högei* Bates, *Diaphorus* 1360  
*högei* Bates, *Phloeoxena* 1277  
*holmbergi* Mannerheim, *Trachypachus* 142  
*holmbergi* Poppius, *Cryobius* 862  
*holmbergi* Putzeys, *Curtonotus* 897  
*holsingeri* Barr, *Pseudanophthalmus* 467  
*honesta* Say, *Feronia* 781  
*honestum* Say, *Bembidion* 556  
*honestum* Say, *Bembidium* 556  
*honestus* Say, *Gastrellarius* 781, 1601  
*hoodi* Casey, *Hartonymus* 1134  
*hoosieri* Mares, *Cicindela* 367  
*hoppingi* Lindroth, *Harpalus* 1111  
*hoppingi* Roeschke, *Brennus* 222  
*horiconensis* Leng, *Cicindela* 347  
*horni* Chaudoir, *Diaphorus* 1361  
*horni* Chaudoir, *Philopheuga* 1348  
*horni* Chaudoir, *Philophuga* 1348  
*horni* Chaudoir, *Pseudaptinus* 1361  
*horni* Csiki, *Amara* 947  
*horni* Csiki, *Elaphrus* 385  
*horni* Garman, *Anophthalmus* 476  
*horni* Garman, *Pseudanophthalmus* 476  
*horni* Hayward, *Bembidion* 655  
*horni* Hayward, *Bembidium* 655  
*hornianus* Horn, *Omus* 273  
*hornii* Hausen, *Platynus* 1213  
*hornii* LeConte, *Omus* 273  
*hornii* LeConte, *Pterostichus* 840  
*hornii* Schaupp, *Cicindela* 314, 1589  
*hortulanus* Barr, *Pseudanophthalmus* 490  
*hospes* Casey, *Calosoma* 235  
*hospes* Casey, *Celia* 920  
*houstoni* Casey, *Micragonum* 1237  
*houstoni* Casey, *Selenophorus* 1142  
*hoversoni* Gage, *Amblycheila* 267  
*howdeni* Barr & Lawrence, *Agonum* 1189

- howdeni* Barr & Lawrence, Rhadine 1189  
*howellae* Barr, Trechus 522  
*huachuca* Ball, Harpalus 1129  
*hubbardi* Barber, Anophthalmus 478  
*hubbardi* Barber, Pseudanophthalmus 478  
*hubbardi* Notman, Pseudomorpha 1375, 1616  
*hubbardi* Schwarz, Nomareetus 208  
*hubbardi* Schwarz, Scaphinotus 208, 1584  
*huberi* Johnson, Cicindela 356  
*hubrichti* Valentine, Pseudanophthalmus 480  
*hudsonica* Casey, Blethisa 373  
*hudsonica* Casey, Cicindela 360  
*hudsonica* Hayward, Amara 897  
*hudsonica* LeConte, Cymindis 1290  
*hudsonica* LeConte, Nebria 158  
*hudsonicus* LeConte, Pterostichus 860  
*hudsonicus* Motschulsky, Carabus 257  
*humboldtense* Blaisdell, Bembidion 537  
*humboldtensis* Blaisdell, Bembidium 537  
*humboldti* Casey, Pterostichus 852  
*humboldti* Van Dyke, Trechus 513  
*humboldtianus* Casey, Bradycellus 1070  
*humboldtianus* Casey, Stenocellus 1070  
*humeralis* Casey, Anisodactylus 1022  
*humeralis* Casey, Brennus 222  
*humeralis* Casey, Omus 271  
*humeralis* Chaudoir, Dyschirius 430  
*humeralis* Chevrolat, Cicindela 318  
*humeralis* Dejean, Cicindela 1625  
*humeralis* Motschulsky, Stenolophus 1051  
*humeralis* Paykull, Carabus 1291  
*humeralis* Valentine, Pseudanophthalmus 467  
*humeroplanatus* Horn, Omus 270  
*humidula* Van Dyke, Feronia 801  
*humidulus* Van Dyke, Pterostichus 801  
*humidus* Hamilton, Stenolophus 1049  
*humile* Casey, Agonum 1235  
*humilis* Casey, Amara 942  
*humilis* Casey, Pterostichus 825  
*humilis* Dejean, Acupalpus 1057  
*humilis* LaFerté-Sénectère, Oodes 958  
*humphreysi* Casey, Bradytus 903  
*hunteri* Crotch, Scaphinotus 202  
*hyalinus* Casey, Tachys 691  
*hydropica* Dejean, Cicindela 1625  
*hydropicus* Horn, Trechus 511  
*hydropicus* LeConte, Acupalpus 1082  
*hydropicus* LeConte, Stenolophus 1082  
*hylacis* Say, Harpalus 1142  
*hylacis* Say, Selenophorus 1142  
*hyperborea* Munster, Bembidion 634  
*hyperborea* Dejean, Amara 893  
*hyperborea* LeConte, Cicindela 363  
*hyperboreus* Dejean, Patrobus 722  
*hyperboreus* Mannerheim, Cryobius 866  
*hyperboreus* Motschulsky, Harpalus 1118  
*hyperboroides* Lindroth, Bembidion 637  
*hypertrichosis* Valentine, Pseudanophthalmus 472  
*hypherpiformis* Freitag, Cyclotrachelus 876  
*hypherpiformis* Freitag, Evarthrus 876  
*hypogeus* Barr, Pterostichus 823  
*hypolithos* Barr, Pseudanophthalmus 482  
*hypolithos* Say, Feronia 1251  
*hypolithos* Say, Platynus 1251, 1614  
*hyslopi* Casey, Agonum 1231  
*icarus* Will & Lieberr, Loxandrus 756  
*ichabodopsis* Erwin, Brachinus 738  
*idahoae* Csiki, Pterostichus 828  
*idahoana* Casey, Amara 916  
*idahoana* Casey, Celia 916  
*idahoanus* Casey, Monoferonia 831  
*idahoensis* Hatch, Anadaptus 1034  
*idahoensis* Hatch, Pterostichus 830  
*idahoensis* Webb, Cychrus 215  
*idoneum* Casey, Bembidion 611  
*idoneus* Casey, Agonoderus 1054  
*ignicinctus* Bates, Pasimachus 397  
*ignicollis* Casey, Calathus 1166  
*illectus* Casey, Axinopalpus 1313  
*illectus* Casey, Harpalus 1106  
*illex* Casey, Bembidion 644  
*illini* Casey, Bembidion 553  
*illini* Casey, Lebia 1328  
*illini* Casey, Lophoglossus 779  
*illinoensis* Mares, Cicindela 357  
*illinoisensis* Barr & Peck, Pseudanophthalmus 497  
*illustre* Casey, Omophron 388  
*illustris* LeConte, Pterostichus 846  
*imbelle* Casey, Bembidion 590  
*imitans* Notman, Agonum 1232  
*imitans* Notman, Platynus 1232  
*imitator* Casey, Bembidion 616  
*imitatrix* Horn, Amara 929  
*imitatrix* Tschitschérine, Feronia 784  
*immaculata* Dejean, Cymindis 1291  
*immaculipennis* Bates, Coptodera 1282  
*immaculosum* Hatch, Bembidion 582  
*immanis* Horn, Anisodactylus 1042  
*immaturum* Lindroth, Bembidion 651  
*immixtus* Casey, Harpalus 1099  
*immundus* Casey, Bradytus 951  
*immunis* Kirby, Trechus 1057  
*impedita* Casey, Amara 939  
*imperfecta* LeConte, Cicindela 289



- imperfecta* LeConte, *Cylindera* 289  
*imperfectus* Brown, *Curtonotus* 894  
*imperfectus* Horn, *Nomaretus* 208  
*imperfectus* Horn, *Scaphinotus* 208  
*imperialensis* Erwin, *Brachinus* 743  
*imperitum* Casey, *Bembidion* 609  
*impictus* Casey, *Anchomenus* 1226  
*impiger* LeConte, *Harpalus* 1103  
*impium* Casey, *Bembidion* 654  
*implicans* Casey, *Selenophorus* 1143  
*impolita* Casey, *Eumolops* 884  
*imporcitis* Erwin, *Brachinus* 744  
*impotens* Casey, *Bembidion* 590  
*impotens* LeConte, *Discoderus* 1150  
*impotens* LeConte, *Harpalus* 1150  
*impressa* Chevrolat, *Megacephala* 284  
*impressa* Chevrolat, *Tetracha* 284  
*impressa* LeConte, *Evolenes* 952  
*impresefrons* LeConte, *Clivina* 407, 1595  
*impressicollis* Dejean, *Diplocheila* 992, 1609  
*impressicollis* Dejean, *Rembus* 992  
*impressicollis* Motschulsky, *Amara* 939  
*impressipennis* Motschulsky, *Harpalus* 1113  
*impressus* Dejean, *Selenophorus* 1145  
*impressus* LeConte, *Dercylinus* 952  
*improvidens* Casey, *Bembidion* 640  
*improvisum* Casey, *Bembidion* 639  
*impunctata* Putzeys, *Celia* 908  
*impunctata* Say, *Feronia* 1171  
*impunctatus* Say, *Synuchus* 1171, 1613  
*impuncticollis* Say, *Amara* 932, 1607  
*impuncticollis* Say, *Feronia* 932  
*impunctifrons* Kirby, *Chlaenius* 982, 1608  
*impunctifrons* Say, *Chlaenius* 979  
*inaequale* Say, *Bembidion* 549, 1598  
*inaequalis* Kirby, *Amara* 927  
*inaequalis* Panzer, *Carabus* 1174  
*inaequalis* Say, *Bembidium* 549  
*inanis* Casey, *Curtonotus* 889  
*inanis* Horn, *Pterostichus* 828  
*inaudax* Casey, *Anisotarsus* 1016  
*incerta* Casey, *Nebria* 170  
*incerta* Chevrolat, *Cicindela* 318  
*incerta* Lapouge, *Acamegonia* 235  
*incertus* Casey, *Anisodactylus* 1023  
*incertus* Motschulsky, *Notaphus* 638  
*incidens* Casey, *Dicheirus* 1043  
*incipiens* Casey, *Brennus* 223  
*incipiens* Casey, *Scaphinotus* 223  
*incisa* LeConte, *Feronia* 876  
*incisus* Casey, *Anisodactylus* 1023  
*incisus* Casey, *Platidius* 717  
*incisus* LeConte, *Cyclotrachelus* 876  
*incitata* Casey, *Lebia* 1334  
*incitatus* Casey, *Stenolophus* 1058  
*incognitus* Poppius, *Cryobius* 862  
*incommodus* Mannerheim, *Calathus* 1164  
*incompletus* Fischer von Waldheim, *Carabus* 256  
*incompletus* Schwarz, *Nomaretus* 207  
*incompletus* Schwarz, *Scaphinotus* 207  
*incrassatus* Dejean, *Daptus* 1038  
*incrassatus* Dejean, *Geopinus* 1038, 1610  
*incrematum* LeConte, *Bembidion* 651  
*incrematum* LeConte, *Bembidium* 651  
*incultus* Casey, *Stenolophus* 1049  
*incurvum* Say, *Bembidium* 673  
*incurvus* Say, *Elaphropus* 673  
*indecentis* Liebherr & Will, *Platynus* 1246  
*indianae* Blatchley, *Cychrus* 193  
*indianae* Blatchley, *Sphaeroderus* 193  
*indianae* Jeannel, *Anillinus* 704  
*indianus* Csiki, *Harpalus* 1107  
*indigaceus* Casey, *Brachylobus* 986  
*indigena* Casey, *Bembidion* 590  
*indigena* Casey, *Calosoma* 243  
*indigena* Casey, *Harpalus* 1112  
*indistincta* Haldeman, *Amara* 948  
*indistincta* Mannerheim, *Celia* 945  
*indistinctum* Dejean, *Bembidion* 612  
*indistinctum* Dejean, *Bembidium* 612  
*indistinctum* LeConte, *Calosoma* 242  
*indistinctus* Dejean, *Acupalpus* 1083  
*indistinctus* Motschulsky, *Stenolophus* 1050  
*inducta* Casey, *Cicindela* 339  
*indutus* LaFerté-Sénectère, *Chlaenius* 1625  
*indutus* LaFerté-Sénectère, *Chlaenius* 979  
*inepta* LeConte, *Amara* 943  
*ineptus* Casey, *Anchomenus* 1208  
*inermis* Fall, *Pterostichus* 846  
*inermis* Motschulsky, *Trachypachus* 142, 1582  
*inerrans* Casey, *Anisotarsus* 1018  
*inexpectatus* Barr, *Pseudanophthalmus* 483  
*inexpectatus* Barr, *Trechus* 523  
*inexpectata* Goulet & Smetana, *Blethisa* 375  
*inexpectata* Hieke, *Amara* 949  
*infausta* LeConte, *Amara* 897  
*infernale* Barr & Lawrence, *Agonum* 1191  
*infernalis* Barr & Lawrence, *Rhadine* 1191  
*infernalis* Hatch, *Pterostichus* 829  
*inferus* Allen, *Loxandrus* 763  
*infidus* Rossi, *Carabus* 183  
*infima* Mäklin, *Feronia* 855  
*infimus* Bates, *Loxandrus* 763  
*infirma* Casey, *Galerita* 1365

- inflaticollis* Casey, Amara 931  
*inflatipennis* Casey, Evarthrinus 882  
*inflatula* Casey, Eumolops 885  
*inflatulus* Allen & Carlton, Scaphinotus 206  
*infuscatus* Dejean, Agonoderus 1054  
*infuscatus* Dejean, Stenolophus 1054  
*ingens* Casey, Calosoma 235  
*ingens* Casey, Euferonia 810  
*ingens* Casey, Pterostichus 810  
*ingens* Horn, Nebria 178  
*ingratus* Dejean, Calathus 1164, 1612  
*innatus* Casey, Hypherpes 852  
*innocuum* Casey, Bembidion 541  
*innocuus* LeConte, Harpalus 1122  
*innuens* Casey, Olisthopus 1176  
*innuitorum* Brown, Lyperopherus 814  
*inopina* Casey, Leptoferonia 829  
*inopinum* Casey, Bembidion 540  
*inopinus* Casey, Pterostichus 829  
*inornata* Say, Tachyta 665, 1599  
*inornatum* Say, Bembidium 665  
*inornatus* Bland, Pterostichus 845  
*inquietum* Casey, Bembidion 580  
*inquietus* Casey, Loxandrus 762  
*inquisitor* Barr, Pseudanophthalmus 464  
*inquisitor* Casey, Anchomenus 1247  
*inquisitor* Casey, Cicindela 299  
*inquisitor* Casey, Ellipsoptera 299  
*insculptipennis* Wickham, Platynus 1580  
*insignis* Dejean, Amara 905  
*insignis* Mannerheim, Broscodera 456  
*insignis* Mannerheim, Miscodera 456  
*insolita* Barr, Rhadine 1192  
*insomnis* Casey, Cicindela 294  
*insopitans* Casey, Bembidion 578  
*insperatus* Horn, Chlaenius 987  
*inspiciens* Casey, Cicindela 303  
*instructus* Casey, Harpalus 1113  
*insuetum* Casey, Agonum 1235  
*insulana* Jacquelin du Val, Stenocrepis 957  
*insulanus* Jacquelin du Val, Oodes 957  
*insularis* Barr, Pseudanophthalmus 464  
*insularis* Casey, Brennus 221  
*insularis* Casey, Dicheirus 1043  
*insularis* Casey, Patrobus 721  
*insularis* Horn, Amara 905  
*insularis* Jacquelin du Val, Dyschirius 414  
*insulata* Madge, Lebia 1325  
*insulatum* LeConte, Bembidion 613  
*insulatus* LeConte, Ochthedromus 613  
*insulicola* Poppius, Pterostichus 863  
*insulina* Casey, Sericoda 1180  
*insulsus* Casey, Bradycellus 1064  
*insulsus* Casey, Omus 278  
*insulsus* Casey, Stenocellus 1064  
*intactus* Casey, Harpalus 1122, 1127  
*intectus* Casey, Hypherpes 845  
*integer* Casey, Brennus 220  
*integer* Fabricius, Carabus 1143  
*integer* Fabricius, Selenophorus 1143  
*integer* LeConte, Dyschirius 438  
*integrum* Casey, Bembidion 557, 1598  
*intercepta* Chaudoir, Stolonis 768  
*interfector* Newman, Feronia 834  
*interglacialis* Scudder, Platynus 1580  
*interior* Fall, Dyschirius 451  
*interior* Lindroth, Cymindis 1288  
*interitus* Scudder, Platynus 1580  
*intermedia* Casey, Galerita 1365  
*intermedia* Valentine, Steniridia 213  
*intermedia* Van Dyke, Nebria 154  
*intermediopronotalis* Horn, Omus 275  
*intermedium* Kirby, Bembidion 614  
*intermedium* Poppius, Bembidium 574  
*intermedius* Fall, Bradycellus 1060  
*intermedius* Fall, Glycerius 1060  
*intermedius* Kirby, Elaphrus 381  
*intermedius* Kirby, Notaphus 614  
*intermedius* LeConte, Scarites 401  
*intermedius* Leng, Omus 279  
*intermedius* Lindroth, Notiophilus 187, 1626  
*intermedius* Valentine, Neaphaenops 484  
*intermedius* Valentine, Pseudanophthalmus 484  
*interpunctatus* Kirby, Harpalus 1027  
*interruptus* Herbst, Carabus 403  
*interruptus* Horn, Chlaenius 988  
*interruptus* Ménétriés, Cychrus 219  
*interruptus* Ménétriés, Scaphinotus 219  
*interruptus* Say, Carabus 254  
*intersectum* Germar, Bembidion 1274  
*intersectus* Barr, Pseudanophthalmus 478  
*intersectus* Germar, Tetragnoderus 1274  
*interstitialis* Dejean, Amara 925  
*interstitialis* Hubbard, Anophthalmus 489  
*interstitialis* Motschulsky, Limodromus 1252  
*interstitialis* Say, Amphasia 1040, 1609  
*interstitialis* Say, Feronia 1040  
*interventor* Lindroth, Bembidion 646  
*intrepidus* Barr, Pseudanophthalmus 492  
*intricata* Motschulsky, Cymindis 1291  
*intricatus* LeConte, Dicaelus 998  
*intricatus* Ménétriés, Lyperopherus 814  
*invalidum* Casey, Agonum 1203  
*inversus* Casey, Callisthenes 245

- invidiosa* Casey, Sericoda 1179  
*invidiosum* Casey, Bembidion 623  
*inyo* Fall, Cicindela 347  
*iowana* Casey, Anaferonia 876  
*iowanus* Casey, Anchomenus 1245  
*iowensis* Casey, Galerita 1364  
*iowensis* Casey, Tachys 692  
*iowensis* Freitag, Cyclotrachelus 880  
*iowensis* Freitag, Evarthrus 880  
*iricolor* LeConte, Dicaelus 1001  
*iricolor* Say, Harpalus 1157  
*iridescent* Casey, Omophron 388  
*iridescent* LeConte, Bembidion 653  
*iridescent* LeConte, Ochthedromus 653  
*iridipenne* Bousquet & Webster, Bembidion 652  
*iridipennis* Motschulsky, Europhilus 1005  
*iripennis* LeConte, Selenophorus 1144  
*iripennis* Nicolay & Weiss, Euferonia 810  
*iripennis* Say, Amblygnathus 1135  
*iripennis* Say, Harpalus 1135  
*iripennis* Schaeffer, Harpalus 1159  
*iris* Motschulsky, Loxandrus 767  
*irkutensis* Fleischer, Dyschirius 445  
*irregulare* Schaeffer, Calosoma 250  
*irregulare* Walker, Calosoma 243  
*irregularis* Beutenmüller, Cychrus 203  
*irregularis* Beutenmüller, Scaphinotus 203  
*irregularis* Casey, Triaena 951  
*irregularis* Motschulsky, Dicheirus 1043  
*irregularis* Scudder, Elaphrus 1572  
*irruptus* Casey, Anchomenus 1226  
*isabellae* LeConte, Pterostichus 847  
*islandicum* Sharp, Bembidium 577  
*iterans* Casey, Olisthopus 1176  
*iuvenis* Freitag, Cyclotrachelus 869  
*iuvenis* Freitag, Evarthrus 869  
*ivy* Reddell & Cokendolpher, Rhadine 1192  
*jacinto* Casey, Celia 929  
*jacinto* Casey, Chlaenius 981  
*jacobianum* Casey, Bembidion 614  
*jacobina* LeConte, Amara 894  
*jacobinus* Casey, Pterostichus 847  
*janthinipennis* Dejean, Aptinus 739  
*janthinipennis* Dejean, Brachinus 739, 1600  
*janus* Fabricius, Carabus 1364  
*janus* Fabricius, Galerita 1364, 1616  
*javalinopsis* Erwin, Brachinus 744  
*jeanneli* Barr, Serranillus 709  
*jeanneli* Krekeler, Pseudanophthalmus 498  
*jeanneli* Valentine, Amerodualius 504  
*jeffersoni* Scudder, Carabus 1571  
*jeffreyi* Kavanaugh, Nebria 162  
*jejuna* LeConte, Rhadine 1187  
*jejunus* Casey, Pterostichus 835  
*jejunus* LeConte, Platynus 1187  
*jemeljanovi* Lafer, Agonum 1211  
*jenisonii* Gistel, Cicindela 320  
*jenisseense* Sahlberg, Bembidium 550  
*jenisseiensis* Müller, Dyschirius 336  
*joannabaldensis* Donabauer, Trechus 516  
*joaquinensis* Knisley & Haines, Cicindela 346  
*johnsahlbergi* Csiki, Amara 898  
*johnsoni* Ulke, Pterostichus 818  
*johnsoni* Van Dyke, Scaphinotus 216  
*johnsonii* Fitch, Cicindela 304  
*johnsonii* Fitch, Habroscelimorpha 304  
*jonesi* Valentine, Nelsonites 501  
*jonesi* Barr, Agonum 1188  
*jonesi* Valentine, Pseudanophthalmus 485  
*jordai* Rotger, Cicindela 334  
*josephineum* Casey, Bembidion 647  
*juabitica* Casey, Pristodactyla 1171  
*jucunda* Csiki, Amara 909  
*jucundum* Horn, Bembidion 587  
*jucundum* Horn, Bembidium 587  
*juliae* Sokolov & Carlton, Anillinus 704  
*julii* LeConte, Blethisa 375, 1593  
*kaibabensis* Johnson, Cicindela 289  
*kaibabensis* Johnson, Cylindera 289  
*kalumae* Lindroth, Bembidion 634  
*kamtschatkensis* Putzeys, Trechus 506  
*kansanus* Casey, Hyphaerpes 852  
*kansanus* Knaus, Cicindela 357  
*kansanus* LeConte, Brachinus 749  
*kathleenae* Ball, Scaphinotus 200  
*katiae* Battoni, Harpalus 1102  
*kavanaughi* Erwin, Brachinus 744  
*kavanaughi* Hieke, Amara 949  
*keechelus* Hatch, Bembidion 648  
*keeneanum* Casey, Bembidion 632  
*keeni* Casey, Amara 933  
*keeni* Casey, Amerizus 529  
*kelloggi* Dury, Cychrus 199  
*kelloggi* Dury, Scaphinotus 199  
*kempi* Casey, Triplectrus 1031  
*kentuckensis* Barr, Pterostichus 822  
*kentuckensis* Valentine, Darlingtonia 504  
*kincaidi* Cockerell, Carabites 1581  
*kincaidi* Hatch, Bembidion 633  
*kincaidi* Minsk & Hatch, Amara 950  
*kincaidi* Schwarz, Nebria 176  
*kingii* Scudder, Euryderus 1578  
*kingii* Scudder, Nothopus 1578  
*kirbyi* Casey, Cymindis 1286

- kirbyi Casey, Tachyta 666  
 kirbyi Horn, Bradycellus 1076  
 kirbyi Horn, Tachycellus 1076  
 kirbyi LeConte, Cicindela 346  
 kirbyi Lindroth, Anisodactylus 1027, 1609  
 klahowyaee Perrault, Scaphinotus 217  
 klamathea Larson, Philophuga 1349  
 klamathensis Casey, Callisthenes 251  
 klugii Putzeys, Clivina 414  
 knausii Leng, Cicindela 297  
 knausii Leng, Ellipsoptera 297  
 koepkei Barr, Agonum 1192  
 koepkei Barr, Rhadine 1192  
 kotzebuei Ball, Pterostichus 860  
 kovariki Sokolov & Carlton, Anillinus 704  
 krameri Krekeler, Pseudanophthalmus 476  
 krekeri Barr, Pseudanophthalmus 472  
 kryzhanovskii Lindroth, Pterostichus 784  
 kuntzeni Bänninger, Goniotropis 731, 1600  
 kuntzeni Csiki, Chlaenius 970  
 kuprianovii Mannerheim, Bembidion 641  
 kuprianovii Mannerheim, Bembidium 641  
 kurnakovi Budarin & Kryzhanovskij, Amara 895  
 kurnakowi Hieke, Amara 894  
 labiatum Fabricius, Omophron 389  
 labiatus Fabricius, Scolytus 389  
 labonteii Kavanaugh, Nebria 172  
 laborans Casey, Pterostichus 842  
 labradorensis Casey, Curtonotus 898  
 labradorensis Chaudoir, Feronia 858  
 labradorensis Johnson, Cicindela 364  
 labradorica Casey, Nebria 155  
 labradorinus Casey, Calathus 1165  
 labradorinus Casey, Patrobus 723  
 lacerata Chaudoir, Cicindela 293  
 lacerata Chaudoir, Ellipsoptera 293  
 lacertosus Casey, Anisodactylus 1024  
 lacertus Casey, Omus 276  
 lacertus Casey, Pterostichus 840  
 lachnophoroides Darlington, Bembidion 560  
 lachrymosa Newman, Feronia 809  
 lachrymosus Newman, Pterostichus 809, 1603  
 lacunarium Zimmermann, Bembidion 577  
 lacunarius Zimmermann, Ochthedromus 577  
 lacustre Casey, Agonum 1233  
 lacustre Casey, Omophron 388  
 lacustre LeConte, Bembidium 549  
 lacustrina Casey, Amara 933  
 lacustrinus Casey, Chlaenius 965  
 lacustris Casey, Euferonia 810  
 lacustris Casey, Harpalus 1124  
 lacustris Casey, Nebria 158, 1583  
 lacustris Darlington, Platypatrobus 724, 1600  
 lacustris LeConte, Amara 895  
 lacustris Motschulsky, Patrobus 723  
 laesus LeConte, Harpalus 1143  
 laesus LeConte, Selenophorus 1143  
 laetifica Casey, Tachyura 677  
 laetula LeConte, Calybe 1263  
 laetula LeConte, Ega 1263  
 laetulus LeConte, Pericompsus 681  
 laetulus LeConte, Poecilus 774  
 laetulus LeConte, Pterostichus 774  
 laetus Dejean, Anisodactylus 1037  
 laeva Say, Polyderis 683, 1599  
 laeviceps Casey, Patrobus 721  
 laevicollis Reiche, Lachnophorus 1262  
 laevifasciatus Horn, Dyschirius 442  
 laevigata Motschulsky, Pelophila 148  
 laevigatus Chaudoir, Tetraxonoderus 1274  
 laevigatus LeConte, Elaphrus 379, 1594  
 laevigatus LeConte, Trechus 1627  
 laevigatus Motschulsky, Planesius 1294  
 laevigatus Scudder, Pterostichus 1576  
 laevigatus Sturm, Harpalus 1626  
 laevilatus Notman, Pterostichus 865  
 laevipennis Kirby, Amara 925  
 laevipennis LeConte, Broscus 870  
 laevipennis LeConte, Cyclotrachelus 870  
 laevipennis LeConte, Dicaelus 1003  
 laevipes Zetterstedt, Harpalus 1113, 1611  
 laevis Horn, Omus 272  
 laevis LeConte, Pasimachus 394  
 laevis LeConte, Platynus 1231  
 laevis Liebke, Apenes 1298  
 laevis Stephens, Trechus 514  
 laevissimus Dejean, Eripus 454  
 laevissimus Dejean, Promecognathus 454, 1596  
 laevistriatus Putzeys, Bradytus 903  
 laevistriatus Sturm, Scarites 1627  
 laeviuscula Sahlberg, Feronia 862  
 laeviusculus Chaudoir, Anisotarsus 1013  
 laevum Say, Bembidium 683  
 lallemanti Jeannel, Pseudanophthalmus 492  
 lama Ménétériés, Feronia 848  
 lama Ménétériés, Pterostichus 848, 1603  
 lamarckensis Kavanaugh, Nebria 172  
 lampros Herbst, Bembidion 648, 1598  
 lampros Herbst, Carabus 648  
 lamprotus Bates, Stenolophus 1047  
 lanei Gray, Agonum 1187  
 lanei Gray, Rhadine 1187  
 lanei Hatch, Anilloferonia 831  
 lanei Hatch, Notiophilus 187

- lanei* Hatch, *Pterostichus* 831  
*lanei* Van Dyke, *Pterostichus* 803  
*lanellum* Gray, *Agonum* 1202  
*langdoni* Sokolov & Carlton, *Anillinus* 704  
*languida* Casey, *Helluomorpha* 1368  
*languidus* Horn, *Platynus* 1253  
*lantzi* Harris, *Cicindela* 330  
*lapidarius* LaFerté-Sénectère, *Panagaeus* 961  
*lapilayi* Laporte, *Carabus* 256  
*lapponicum* Thomson, *Bembidium* 550  
*lapponicum* Zetterstedt, *Bembidion* 550, 1598  
*lapponicum* Zetterstedt, *Bembidium* 550  
*lapponicus* Chaudoir, *Patrobus* 723  
*lapponicus* Gyllenhal, *Elaphrus* 377, 1594  
*lapponicus* Jedlička, *Pterostichus* 784  
*lapponicus* Sahlberg, *Harpalus* 914  
*lapponicus* Zetterstedt, *Harpalus* 1126  
*laqueatum* LeConte, *Calosoma* 249  
*laredoana* Casey, *Tachyura* 676  
*lariversi* Van Dyke, *Calosoma* 245  
*larochellei* Bousquet, *Dyschirius* 445  
*larvalis* Casey, *Leptoferonia* 825  
*larvalis* LeConte, *Rhadine* 1188  
*larvatus* Casey, *Bradycellus* 1071  
*larvatus* Casey, *Stenocellus* 1071  
*lascivum* Casey, *Bembidion* 532  
*lascivus* Casey, *Anchomenus* 1212  
*lascivus* Casey, *Harpalus* 1127  
*lassenensis* Kavanaugh, *Nebria* 156  
*lassenica* Casey, *Cicindela* 346  
*lassulum* Casey, *Bembidion* 611  
*lassulus* Casey, *Hypherpes* 849  
*lassulus* Casey, *Pterostichus* 849  
*latebricola* Casey, *Bembidion* 614  
*latebricola* Casey, *Bothriopterus* 793  
*latebricola* Casey, *Harpalus* 1123  
*latebrosus* LeConte, *Evarthrus* 884  
*latecincta* Gould, *Cicindela* 1625  
*latens* LeConte, *Apristus* 1308  
*latens* LeConte, *Dromius* 1308  
*lateralis* Casey, *Loxandrus* 768  
*lateralis* Casey, *Trichocellus* 1079  
*lateralis* Dejean, *Brachinus* 750  
*laterimaculatus* Motschulsky, *Notaphus* 608  
*laterisulcatus* Sturm, *Pasimachus* 1626  
*latescans* Casey, *Bothriopterus* 793  
*latescans* Casey, *Harpalus* 1098  
*latesignata* LeConte, *Cicindela* 334, 1589  
*laticeps* Blatchley, *Badister* 1005  
*laticeps* LeConte, *Bembidion* 661  
*laticeps* LeConte, *Harpalus* 1108  
*laticeps* LeConte, *Lymnaeum* 661  
*laticollis* Casey, *Bradycellus* 1060  
*laticollis* Casey, *Calosoma* 240  
*laticollis* Casey, *Glycerius* 1060  
*laticollis* Casey, *Omus* 276  
*laticollis* Chaudoir, *Megalostylus* 767  
*laticollis* Kirby, *Harpalus* 1025  
*laticollis* LeConte, *Apristus* 1308  
*laticollis* LeConte, *Curtonotus* 891  
*laticollis* LeConte, *Ochthedromus* 619  
*laticollis* LeConte, *Rembus* 992  
*laticollis* Motschulsky, *Stenolophus* 1050  
*laticollis* Say, *Chlaenius* 972, 1608  
*laticollis* Say, *Cymindis* 1288  
*laticollis* Sturm, *Anchomenus* 1624  
*laticornis* Dejean, *Helluo* 1369  
*latilabris* Willis, *Cicindela* 309  
*latior* Kirby, *Amara* 903  
*latior* Kirby, *Curtonotus* 903  
*latipenne* Horn, *Calosoma* 247  
*latipennis* Casey, *Agonoderus* 1053  
*latipennis* Casey, *Omus* 276  
*latipennis* Casey, *Platidius* 717  
*latipennis* LeConte, *Tetragonoderus* 1274  
*latipennis* Sahlberg, *Elaphrus* 384  
*latissima* Casey, *Percosia* 906  
*latitarsis* Casey, *Helluomorpha* 1368  
*latitarsis* Casey, *Helluomorphoides* 1368  
*latiusculum* Casey, *Agonum* 1222  
*latiusculum* Motschulsky, *Bembidium* 550  
*latiusculus* Chaudoir, *Patrobus* 719  
*lativentris* Motschulsky, *Cychnus* 225  
*lattini* LaBonte, *Pterostichus* 844  
*latus* Linnaeus, *Carabus* 1619  
*laurana* Casey, *Amara* 933  
*laurentii* Schaupp, *Cicindela* 352  
*lauta* Casey, *Celia* 922  
*lauta* Casey, *Cicindela* 340  
*lauta* Casey, *Philophuga* 1349  
*lawrenceana* Casey, *Triaena* 950  
*lawrencei* Hatch, *Omophron* 391  
*laxatum* Casey, *Bembidion* 642  
*laxicollis* Casey, *Bothriopterus* 794  
*laxicollis* Casey, *Celia* 945  
*laxicollis* Casey, *Tachys* 696  
*laxipennis* Casey, *Tachyura* 678  
*leachi* Casey, *Omus* 278  
*leachi* Cazier, *Cicindela* 338  
*lecontei* Casey, *Carabus* 260  
*lecontei* Casey, *Harpalus* 1111  
*lecontei* Chaudoir, *Agonoderus* 1054  
*lecontei* Chaudoir, *Anisodactylus* 1027  
*lecontei* Chaudoir, *Patrobus* 719, 720



- lecontei* Chaudoir, *Stenolophus* 1054, 1612  
*lecontei* Chaudoir, *Stenous* 958  
*lecontei* Crotch, *Elaphrus* 382, 1594  
*lecontei* Csiki, *Amara* 941  
*lecontei* Csiki, *Bembidion* 606  
*lecontei* Csiki, *Bradycellus* 1063  
*lecontei* Csiki, *Calosoma* 233  
*lecontei* Dejean, *Axinophorus* 1375  
*lecontei* Dejean, *Diaphorus* 1358  
*lecontei* Dejean, *Dicaelus* 1626  
*lecontei* Dejean, *Galerita* 1365, 1616  
*lecontei* Dejean, *Omophron* 392  
*lecontei* Dejean, *Pseudaptinus* 1358  
*lecontei* Dejean, *Sphaeroderus* 194, 1585  
*lecontei* Dejean, *Tetragonoderus* 1274  
*lecontei* Géhin, *Carabus* 257  
*lecontei* Gemminger & Harold, *Anisodactylus* 1034  
*lecontei* Haldeman, *Chlaenius* 969  
*lecontei* Haldeman, *Cicindela* 341  
*lecontei* Horn, *Omus* 272  
*lecontei* Horn, *Pogonus* 714  
*lecontei* LaFerté-Sénéctère, *Dicaelus* 1002  
*lecontei* LeConte, *Anchomenus* 1228  
*lecontei* LeConte, *Brachinus* 746  
*lecontei* Madge, *Lebia* 1317  
*lecontei* Motschulsky, *Brachynus* 745  
*leconteianum* Lutshnik, *Platysma* 788  
*lecontellus* Csiki, *Pterostichus* 850  
*lecta* Horn, *Lebia* 1327  
*lehmanni* Chaudoir, *Agonum* 1209  
*leiroides* Motschulsky, *Harpalobrachys* 1133  
*leiroides* Motschulsky, *Harpalus* 1133  
*lemniscata* LeConte, *Cicindela* 287  
*lemniscata* LeConte, *Cylindera* 287, 1591  
*lemnisticta* Smyth, *Cicindela* 1625  
*lemoulti* Bänninger, *Ozaena* 733  
*lenae* Csiki, *Bembidion* 574  
*lenensoides* Lindroth, *Bembidion* 635  
*lengi* Casey, *Omophron* 388  
*lengi* Darlington, *Sphaeroderus* 192  
*lengi* Horn, *Cicindela* 334, 335, 1589  
*lengi* Notman, *Bembidium* 652  
*lengi* Schaeffer, *Casnonia* 1269  
*lengi* Schaeffer, *Colliuris* 1269  
*lengi* Van Dyke, *Scaphinotus* 198  
*lenis* Mannerheim, *Anchomenus* 1169  
*lenum* Dejean, *Agonum* 1209  
*leoniae* Barr, *Pseudanophthalmus* 487  
*leonardii* Harris, *Cychrus* 203  
*leonardii* Harris, *Dicaelus* 999  
*lepida* Dejean, *Cicindela* 294  
*lepida* Dejean, *Ellipsoptera* 294, 1592  
*lepidum* LeConte, *Calosoma* 241, 1585  
*leptocerus* Chaudoir, *Brachinus* 737  
*lepusculus* Casey, *Bembidion* 567  
*lerdoensis* Bates, *Dicaelus* 1000  
*lescheni* Sokolov & Carlton, *Anillinus* 705  
*lesquereuxi* Scudder, *Plochionus* 1580  
*leucodactylus* LaFerté-Sénéctère, *Oodes* 958  
*leucoloma* Chaudoir, *Brachinus* 750  
*levettei* Casey, *Bembidion* 551, 1598  
*levettei* Casey, *Calosoma* 230  
*levettei* Casey, *Cicindela* 357  
*leviceps* Casey, *Amara* 938  
*leviceps* Casey, *Harpalus* 1124  
*levifaber* Freitag, *Cyclotrachelus* 869  
*levifaber* Freitag, *Evarthrus* 869  
*levigatum* Say, *Bembidion* 645  
*levigatum* Say, *Bembidium* 645  
*levipes* Casey, *Tachyura* 678  
*levis* Horn, *Omus* 275  
*lewisi* LeConte, *Harpalus* 1114  
*lexingtoni* Valentine, *Darlingtonia* 504  
*leydeni* Casey, *Amara* 939  
*lherminieri* Dejean, *Carabus* 261  
*libera* LeConte, *Amara* 903  
*librator* Dejean, *Brachinus* 735  
*licinoides* Motschulsky, *Evarthrus* 882  
*liebecki* Hayward, *Elaphropus* 673  
*liebecki* Hayward, *Tachys* 673  
*liebecki* Van Dyke, *Scaphinotus* 206  
*ligatus* Germar, *Carabus* 254  
*lilliputicus* Casey, *Evarthrinus* 871  
*limatus* Casey, *Loxandrus* 767  
*limbalis* Casey, *Celia* 917  
*limbalis* Klug, *Cicindela* 335, 1589  
*limbalis* LeConte, *Stenolophus* 1050  
*limbata* Dejean, *Cymindis* 1293  
*limbata* Say, *Cicindela* 364, 1590  
*limbata* Say, *Feronia* 1240  
*limbata* Schiødte, *Amara* 943  
*limbata* Waterhouse, *Casnonia* 1269  
*limbatum* Motschulsky, *Agonum* 1202  
*limbatus* Say, *Carabus* 253  
*limbatus* Zimmermann, *Pasimachus* 394  
*limbicollis* Motschulsky, *Lamprias* 1331  
*limbigera* Chaudoir, *Lebia* 1336  
*limbigera* Gemminger & Harold, *Cicindela* 364  
*limicola* Jeannel, *Pseudanophthalmus* 478  
*lincolniana* Casey, *Cicindela* 297  
*lincolniana* Casey, *Ellipsoptera* 297  
*lindrothellus* Erwin & Kavanaugh, *Bembidion* 532  
*lindrothellus* Erwin & Kavanaugh, *Lionepha* 532  
*lindrothi* Allen, *Neomyas* 786

- lindrothi* Barr, Rhadine 1186  
*lindrothi* Goulet, Elaphrus 380, 1594  
*lindrothi* Hieke, Amara 903  
*lindrothi* Kavanaugh, Nebria 156  
*lindrothi* Mateu, Microlestes 1304  
*lindrothi* Whitehead, Schizogenius 422  
*linearis* Horn, Cicindela 321  
*linearis* LeConte, Amerinus 1076  
*linearis* LeConte, Bomius 1305  
*linearis* LeConte, Bradycellus 1076  
*linearis* LeConte, Microlestes 1305  
*linearis* LeConte, Pterostichus 825  
*linearis* Mannerheim, Argutor 790  
*lineatopunctatus* Dejean, Carabus 258  
*lineatus* Casey, Bradycellus 1071  
*lineatus* Casey, Stenocellus 1071  
*lineatus* Forster, Carabus 1055  
*lineola* Fabricius, Carabus 1055  
*lineola* Fabricius, Stenolophus 1055, 1612  
*lineolata* Say, Clivina 422  
*lineolatus* Say, Schizogenius 422, 1595  
*lineoscripta* Casey, Cicindela 304  
*liobasis* Chaudoir, Harpalus 1099  
*lioptera* Bates, Casnonia 1270  
*lioptera* Bates, Colliuris 1270  
*liquida* Casey, Celia 919  
*liratus* Casey, Aprius 1308  
*lissopterus* Chaudoir, Scarites 401  
*lithophilus* Say, Chlaenius 985  
*liticola* Casey, Circinalia 1239  
*litigiosus* Fall, Schizogenius 420  
*litigiosus* Motschulsky, Peryphus 630  
*litoralis* Casey, Tachys 686  
*litoreus* Casey, Cratacanthus 1160  
*littoralis* Dejean, Amara 933, 1607  
*littoralis* Olivier, Carabus 569  
*lituyae* Kavanaugh, Nebria 162  
*livida* LeConte, Nebria 167  
*lividulum* Casey, Bembidion 639  
*lividulus* Casey, Harpalus 1127  
*lixa* LeConte, Feronia 876  
*lobatus* Casey, Omus 274  
*lobatus* Hacker, Pterostichus 826  
*lobulata* LeConte, Lebia 1325  
*lodingi* Schaeffer, Anisodactylus 1024  
*lodingi* Valentine, Pseudanophthalmus 467  
*lodingi* Valentine, Scaphinotus 212  
*lodingi* Valentine, Steniridia 212  
*lodingi* Van Dyke, Cyclotrachelus 880  
*lodingi* Van Dyke, Evarthrus 880  
*loganensis* Barr, Pseudanophthalmus 491  
*lolo* Bergdahl, Pterostichus 803  
*longaeus* Scudder, Platynus 1580  
*longiceps* Barr, Pseudanophthalmus 485  
*longiceps* Jeannel, Anillinus 705  
*longiceps* Schaeffer, Platynus 1255  
*longiceps* Van Dyke, Rhadine 1190  
*longiceps* Van Dyke, Scaphinotus 227  
*longicollis* Lacordaire, Agonum 1209  
*longicollis* LeConte, Zuphium 1356  
*longicollis* Benedict, Rhadine 1190  
*longicollis* Casey, Discoderus 1150  
*longicollis* Casey, Irichroa 211  
*longicollis* Casey, Micromaseus 829  
*longicollis* Casey, Triplectrus 1030  
*longicollis* Chaudoir, Chlaenius 980  
*longicollis* Chaudoir, Galerita 1364  
*longicollis* Jeannel, Pseudanophthalmus 499  
*longicollis* LeConte, Harpalus 1098  
*longicollis* LeConte, Pterostichus 829  
*longicollis* Motschulsky, Brachystylus 840  
*longicollis* Motschulsky, Lirus 893  
*longicornis* Casey, Amerinus 530  
*longicornis* Say, Feronia 721  
*longicornis* Say, Patrobus 721, 1600  
*longilabris* Say, Cicindela 352, 1590  
*longior* Kirby, Harpalus 1099  
*longipalpus* Notman, Patrobus 718  
*longipenne* Dejean, Calosoma 237  
*longipennis* Casey, Amerinus 1077  
*longipennis* Casey, Leistus 152  
*longipennis* Putzeys, Schizogenius 423  
*longipes* Casey, Amblychila 266  
*longipes* Casey, Pemphus 217  
*longipes* Casey, Rhadine 1186  
*longitarsis* Casey, Omus 275  
*longitarsis* Casey, Stenolophus 1050  
*longiusculus* Mannerheim, Acupalpus 1079  
*longiventris* Mannerheim, Patrobus 719  
*longula* LeConte, Amara 949  
*longula* LeConte, Nebria 171  
*longulum* Casey, Agonum 1216  
*longulum* Motschulsky, Agonum 1210  
*longulus* Casey, Calathus 1168  
*longulus* Dejean, Acupalpus 1087  
*longulus* Dejean, Philodes 1087  
*longulus* LeConte, Dyschirius 440  
*longulus* LeConte, Ochthedromus 537  
*longulus* LeConte, Pterostichus 850  
*lorquinii* Chaudoir, Bembidion 551, 1598  
*lorquinii* Chaudoir, Bembidium 551  
*louiseae* Kavanaugh, Nebria 163  
*louisella* Maddison, Bembidion 556  
*louisinus* Casey, Poecilus 775

- loweae* Sokolov & Carlton, *Anillinus* 705  
*lubrica* Casey, *Celia* 919  
*lubricum* Casey, *Bembidion* 532  
*lubricus* LeConte, *Pterostichus* 801  
*lucens* Casey, *Goniolophus* 1087  
*lucens* Chaudoir, *Loxandrus* 765  
*lucidicollis* Casey, *Omus* 274  
*lucidula* Dejean, *Amara* 937  
*lucidula* Dejean, *Apenes* 1298  
*lucidula* Dejean, *Cymindis* 1298  
*lucidula* Dejean, *Feronia* 767  
*lucidus* Casey, *Bradycellus* 1045  
*lucidus* LeConte, *Bomius* 1305  
*lucidus* LeConte, *Harpalus* 1105  
*lucidus* LeConte, *Microlestes* 1305  
*lucidus* LeConte, *Ochthedromus* 567  
*lucina* Casey, *Celia* 919  
*luctuosa* Dejean, *Feronia* 799  
*luctuosa* Germar, *Amara* 965  
*luctuosum* Dejean, *Agonum* 1179  
*luctuosus* Dejean, *Anisodactylus* 1023  
*luctuosus* Dejean, *Pterostichus* 799, 1603  
*lucublanda* Say, *Feronia* 775  
*lucublandus* Say, *Poecilus* 775, 1602  
*luculenta* Erichson, *Coptodera* 1281  
*luculentum* Casey, *Bembidion* 602  
*luculentum* Casey, *Micragonum* 1238  
*luculentus* Barr, *Trechus* 517  
*luczotii* Dejean, *Feronia* 792  
*ludibunda* Casey, *Euferonia* 810  
*ludoviciana* Casey, *Circinalia* 1240  
*ludoviciana* Casey, *Lebia* 1328  
*ludoviciana* Leng, *Chlaenius* 988  
*ludoviciana* Leng, *Cicindela* 331  
*ludoviciana* Putzeys, *Clivina* 411  
*ludoviciana* Sallé, *Casnonia* 1271  
*ludoviciana* Sallé, *Colliuris* 1271  
*ludovicianus* Casey, *Loxandrus* 765  
*lugens* Zimmermann, *Amara* 926  
*lugubre* LeConte, *Bembidion* 570  
*lugubre* LeConte, *Bembidium* 570  
*lugubre* LeConte, *Calosoma* 233  
*lugubris* Casey, *Amara* 911  
*lugubris* Casey, *Celia* 911  
*lugubris* Casey, *Omus* 273  
*lugubris* Dejean, *Selenophorus* 1019  
*lugubris* Dejean, *Xestonotus* 1019, 1612  
*lugubris* Haldeman, *Acupalpus* 1051  
*lugubris* LeConte, *Bradycellus* 1076  
*lugubris* LeConte, *Geobaenus* 1076  
*lugubris* Motschulsky, *Chlaenius* 1625  
*lummi* Erwin & Kavanaugh, *Bembidion* 532  
*lummi* Erwin & Kavanaugh, *Lionepha* 532  
*lunalonga* Schaupp, *Cicindela* 287  
*lunalonga* Schaupp, *Cylindera* 287  
*lunicollis* Schiødte, *Amara* 942, 1607  
*lupus* Barr, *Pseudanophthalmus* 495  
*luridicollis* Casey, *Tachys* 687  
*luscus* Casey, *Hypherpes* 850  
*luscus* Casey, *Pterostichus* 850  
*lustralis* Casey, *Harpalus* 1118  
*lustrans* Casey, *Harpalus* 1106  
*lustrans* LeConte, *Pterostichus* 795  
*lustrellus* Casey, *Bradycellus* 1066  
*lustrellus* Casey, *Stenocellus* 1066  
*lutosa* Scudder, *Loricera* 1572  
*lutshnikianus* Basilewsky, *Carabus* 256  
*lutulentum* LeConte, *Agonum* 1206  
*lutulentus* LeConte, *Platynus* 1206  
*luxata* Say, *Calosoma* 247  
*luxatum* Say, *Calosoma* 247  
*luxatus* Casey, *Anchomenus* 1226  
*luxuriosa* Casey, *Cicindela* 350  
*lyelli* Van Dyke, *Nebria* 166  
*lymnaeoides* Bates, *Tachys* 687  
*lyncea* Casey, *Celia* 917  
*lynni* Pierce, *Elaphrus* 1572  
*lyratus* Casey, *Tachistodes* 1083  
*lyratus* Chaudoir, *Colpodes* 1255  
*lyratus* Chaudoir, *Platynus* 1255  
*lysholmi* Munster, *Bembidion* 562  
*maceratus* Wickham, *Harpalus* 1578  
*macilentus* Casey, *Harpalus* 1122  
*mackinacensis* Hatch, *Bembidion* 540  
*macra* LeConte, *Cicindela* 295  
*macra* LeConte, *Ellipsoptera* 295, 1592  
*macradyi* Valentine, *Pseudanophthalmus* 484  
*macrocephala* Motschulsky, *Nebria* 161  
*macrocephala* Motschulsky, *Nebria* 1621  
*macrovulum* Freitag, *Cyclotrachelus* 872  
*macrovulum* Freitag, *Evarthrus* 872  
*macrum* LeConte, *Calosoma* 237  
*maculatus* LeConte, *Agonoderus* 1055  
*maculatus* LeConte, *Badister* 1006  
*maculatus* LeConte, *Stenolophus* 1055  
*maculicolle* Dejean, *Agonum* 1197  
*maculicolle* Dejean, *Tanystoma* 1197, 1614  
*maculicollis* Chaudoir, *Phloeoxena* 1277  
*maculicornis* Chaudoir, *Harpalus* 1015  
*maculicornis* Chaudoir, *Notiobia* 1015  
*maculicornis* LeConte, *Lebia* 1328  
*maculifrons* Say, *Feronia* 1250  
*maculosa* Sturm, *Cicindela* 1626  
*madidus* Fabricius, *Pterostichus* 786

- madmeridianus* Erwin, Leistus 152  
*maeander* Fischer von Waldheim, Carabus 256, 1587  
*maehleri* Robinson, Cicindela 367  
*maeklini* Hayward, Bembidium 641  
*maeklini* LeConte, Bembidium 1624  
*maeklini* LeConte, Pterostichus 1627  
*maestus* Casey, Anisodactylus 1022  
*maga* LeConte, Cicindela 302  
*magazinensis* Sokolov & Carlton, Anillinus 705  
*magdalenae* LeConte, Cicindela 1619  
*magica* Casey, Lebia 1334  
*magister* Casey, Loxopeza 1316  
*magnum* Schaeffer, Zuphium 1356  
*major* Krekeler, Pseudanophthalmus 477  
*major* LeConte, Diplocheila 992  
*major* LeConte, Rembus 992  
*major* Lindroth, Microlestes 1305  
*majuscula* Chaudoir, Loxopeza 1316  
*makosika* Spomer, Cicindela 297  
*makosika* Spomer, Ellipsoptera 297  
*malacus* Casey, Harpalus 1106  
*malkini* Hatch, Anilloferonia 832  
*malkini* Hatch, Pterostichus 832  
*malkini* Van Dyke, Scaphinotus 227  
*mancus* LeConte, Evarthrus 821  
*mancus* LeConte, Pterostichus 821  
*mandibularis* Casey, Loxandrus 767  
*mandibularis* Kirby, Argutor 861  
*mandibularoides* Ball, Pterostichus 857  
*maneei* Casey, Celia 909  
*manhattanis* Casey, Harpalus 1019  
*manhattanis* Casey, Pterostichus 775  
*manitoba* Leng, Cicindela 350  
*manitobensis* Casey, Curtonotus 895  
*mannerheimii* Dejean, Anchomenus 1252  
*mannerheimii* Dejean, Platynus 1252, 1614  
*mannerheimii* Fischer von Waldheim, Nebria 169  
*mannerheimii* LeConte, Ochthedromus 572  
*mannerheimii* Sahlberg, Bradycellus 1077  
*mannerheimii* Sahlberg, Dicheirotichus 1077  
*mannii* Wickham, Scaphinotus 214, 1584  
*manningense* Lindroth, Bembidion 642  
*mansuetus* Casey, Harpalus 1110  
*marcidum* Casey, Bembidion 616  
*marcidus* Casey, Anchomenus 1201  
*marginale* Casey, Calosoma 233, 1586  
*marginalis* Casey, Calosoma 233  
*marginalis* Casey, Omus 277  
*marginalis* Fabricius, Cicindela 341  
*marginalis* Haldeman, Anchomenus 1251  
*marginata* Dejean, Calleida 1347  
*marginata* Fabricius, Cicindela 295  
*marginata* Fabricius, Ellipsoptera 295, 1592  
*marginata* Mannerheim, Pelophila 147  
*marginatella* Casey, Celia 923  
*marginatus* Casey, Triplectrus 1031  
*marginatus* Fabricius, Pasimachus 398  
*marginatus* Fabricius, Scarites 398  
*marginatus* Fischer von Waldheim, Cychrus 220  
*marginatus* Fischer von Waldheim, Scaphinotus 220, 1584  
*marginatus* Kirby, Cymindis 1286  
*marginatus* LeConte, Anchomenus 1248  
*marginatus* Ménétriés, Anchomenus 1244  
*marginella* Dejean, Lebia 1325  
*marginella* Sturm, Lebia 1626  
*marginellus* Dejean, Stenolophus 1627  
*marginellus* LeConte, Platynus 1211  
*marginellus* LeConte, Tachys 689  
*marginicollis* Dejean, Lebia 1331  
*marginicollis* Goulet, Elaphrus 383  
*marginicollis* Motschulsky, Bradycellus 1079  
*marginicollis* Motschulsky, Tachymenis 664  
*marginipennis* Chaudoir, Apenes 1299  
*marginipennis* Dejean, Cicindela 315  
*marginipennis* Putzeys, Clivina 415  
*marginipennis* Putzeys, Paraclivina 415  
*marginosum* Casey, Bembidion 552  
*maricopa* Leng, Cicindela 365  
*marinensis* Hacker, Pterostichus 826  
*marinianum* Casey, Bembidion 541  
*marinicum* Casey, Bembidion 572  
*marinus* LeConte, Akephorus 431, 1595  
*marinus* Nichols, Scarites 402  
*mariposae* Casey, Omus 276  
*maritimum* Casey, Micragonum 1237  
*maritimus* Casey, Omus 274  
*maritimus* Casey, Selenophorus 1144  
*maritimus* Motschulsky, Peryphus 565  
*maritimus* Van Dyke, Scaphinotus 225  
*marquettense* Casey, Agonum 1216  
*marquettense* Casey, Bembidion 544  
*marquettensis* Casey, Amara 943  
*marshalli* Mateu, Pentagonica 1266  
*marshii* Scudder, Galerita 1581  
*martini* Van Dyke, Harpalus 1125  
*marutha* Dow, Cicindela 299  
*marylandica* Casey, Amara 937  
*massiliensis* Fairmaire, Coptodera 1279  
*matthewsi* Böcher, Diacheila 1572  
*matthewsii* LeConte, Zacotus 457  
*mattolensis* Hacker, Pterostichus 826  
*maurum* Haldeman, Agonum 1233  
*maurus* Casey, Omus 279

- maurus* Haldeman, Selenophorus 1142  
*maurus* Motschulsky, Anchomenus 1247  
*maxillosus* Horn, Chlaenius 964  
*maxwellensis* Csiki, Amara 912  
*maxwellensis* Csiki, Harpalus 1107  
*maxwelli* Casey, Bradytus 912  
*maxwelli* Casey, Harpalus 1106  
*mayfieldensis* Krekeler, Pseudanophthalmus 498  
*mckenziei* Barr, Rhadine 1195  
*mckinleyi* Fall, Bembidion 573  
*meanyi* Van Dyke, Nebria 173  
*media* LeConte, Cicindela 305  
*media* LeConte, Habroscelimorpha 305  
*mediocre* Casey, Bembidion 616  
*mediosignatum* Ménétriés, Bembidium 1261  
*medius* Harris, Brachinus 744  
*megacephalus* Bousquet & Laplante, Diplochaetus 713  
*megacephalus* LeConte, Harpalus 1109  
*megacephalus* Lindroth, Stenolophus 1050  
*megalops* Bates, Colpodes 1255  
*megalops* Bates, Platynus 1255  
*megas* LeConte, Brachystylus 1625  
*megillus* Bates, Anchomenus 1229  
*megosteus* Barr, Pseudanophthalmus 495  
*melaena* Cartwright, Tetracha 283  
*melaena* Hatch, Lebia 1330  
*melanaria* Hatch, Nebria 175  
*melanarium* Dejean, Agonum 1233, 1613  
*melanarius* Illiger, Carabus 808  
*melanarius* Illiger, Pterostichus 808, 1603  
*melanarius* Sturm, Pangus 1626  
*melancholicus* Putzeys, Dyschirius 440  
*melanocephalus* Dejean, Anchomenus 1209  
*melanocephalus* Dejean, Dromius 1303  
*melanocephalus* Dejean, Philorhizus 1303, 1616  
*melanogastrica* Dejean, Amara 896  
*melanopus* Casey, Galerita 1366  
*melanopus* Haldeman, Anisodactylus 1026  
*melanopus* Haldeman, Harpalus 1026  
*melas* Gebler, Anchomenus 1252  
*melissisa* Ball, Diplocheila 993  
*mendax* LeConte, Tachys 677  
*menetriesii* LeConte, Pterostichus 849  
*ménétriesii* Motschulsky, Anophthalmus 488  
*menetriesii* Motschulsky, Pseudanophthalmus 488  
*mentalis* Casey, Cratocara 1090  
*mercedianus* Casey, Hyperperes 840  
*mercedianus* Casey, Pterostichus 840  
*mercurialis* Casey, Cicindela 295  
*merens* Casey, Bembidion 578  
*meridianus* Linnaeus, Acupalpus 1082, 1609  
*meridianus* Linnaeus, Carabus 1082  
*meridionalis* Barr, Neaphaenops 501  
*meridionalis* Valentine, Pseudanophthalmus 468  
*meriwetheri* Knisley & Kippenhan, Cicindela 330  
*merkelii* Horn, Cychrus 214  
*merkelii* Horn, Scaphinotus 214  
*merritti* Sokolov & Carlton, Anillinus 705  
*merula* Casey, Amara 911  
*merula* Casey, Celia 911  
*merula* Germar, Anisodactylus 1031, 1609  
*merula* Germar, Harpalus 1031  
*mescalero* Gaumer, Cicindela 1625  
*metallescens* Chaudoir, Callida 1345  
*metallescens* LeConte, Agonum 1233  
*metallescens* LeConte, Platynus 1233  
*metallica* Fischer von Waldheim, Nebria 173  
*metallicus* Waterhouse, Notiophilus 185  
*metlakatlae* Casey, Pterostichus 835  
*metuens* Casey, Anchomenus 1184  
*metuens* Casey, Harpalus 1107  
*metuens* Casey, Lebia 1324  
*mexicana* Bates, Polpochila 1088  
*mexicana* Chaudoir, Apenes 1299  
*mexicana* Chaudoir, Galerita 1366  
*mexicana* Chevrolat, Stenocrepis 959  
*mexicana* Dejean, Amara 915  
*mexicana* Dejean, Notiobia 1015  
*mexicana* Gray, Megacephala 282  
*mexicanum* Chaudoir, Zuphium 1357  
*mexicanum* Dejean, Bembidion 570  
*mexicanum* Dejean, Bembidium 570  
*mexicanum* Géhin, Calosoma 242  
*mexicanus* Bates, Amblygnathus 1135  
*mexicanus* Bates, Pogonodaptus 1088  
*mexicanus* Chaudoir, Harpalus 1099  
*mexicanus* Chaudoir, Oodiellus 954  
*mexicanus* Chaudoir, Poecilus 776  
*mexicanus* Chevrolat, Oodes 959  
*mexicanus* Dejean, Brachinus 745  
*mexicanus* Dejean, Harpalus 1015  
*mexicanus* Gray, Pasimachus 393  
*micans* Chaudoir, Loxandrus 764  
*micans* Chaudoir, Poecilus 772  
*micans* Fabricius, Cicindela 320  
*micans* LeConte, Badister 1008  
*micans* LeConte, Epaphius 506  
*micans* LeConte, Olisthopus 1175  
*micans* Ménétriés, Anchomenus 1183  
*micans* Notman, Bembidium 582  
*micantulum* Csiki, Agonum 1183  
*microamericanus* Erwin, Brachinus 737  
*microcephala* Casey, Amara 935  
*microcephala* Motschulsky, Celia 945



- microcephalus* Van Dyke, *Pseudaptinus* 1361  
*microcephalus* Van Dyke, *Thalpius* 1361  
*microreticulatum* Hatch, *Bembidion* 622  
*micros* LeConte, *Acupalpus* 1084  
*microsticta* Casey, *Calosoma* 242  
*militare* Casey, *Agonum* 1233  
*militare* Casey, *Bembidion* 577  
*militaris* Varas Arangua, *Cicindela* 336  
*mimica* Casey, *Celia* 946  
*mimus* Casey, *Omus* 274  
*mimus* Casey, *Pterostichus* 838  
*mimus* Goulet, *Elaphrus* 383  
*mimus* Hayward, *Bembidion* 591  
*mimus* Hayward, *Bembidium* 591  
*mimus* Horn, *Cychrus* 222  
*minax* Casey, *Bembidion* 588  
*minax* Casey, *Evarthrinus* 884  
*minnesotana* Casey, *Celia* 918  
*minor* Chaudoir, *Loxandrus* 761  
*minor* Chaudoir, *Megalostylus* 761  
*minor* Horn, *Cychrus* 1570  
*minor* Jeannel, *Pseudanophthalmus* 476  
*minor* Leng, *Cicindela* 348  
*minuatus* Rathvon, *Acupalpus* 1624  
*minuens* Casey, *Calathus* 1168  
*minuens* Casey, *Patrobus* 723  
*minusculus* Poppius, *Cryobius* 856  
*minuta* Dejean, *Anatrichis* 953  
*minutus* Allen, *Loxandrus* 757  
*minutus* Dejean, *Oodes* 953  
*minutus* Dejean, *Pogonus* 1622  
*minutus* Fabricius, *Carabus* 514  
*minutus* Harris, *Brachinus* 744  
*minutus* Jeannel, *Anillodes* 698  
*mirabilis* Casey, *Cicindela* 340  
*miranda* Horn, *Dianchomena* 1335  
*miranda* Horn, *Lebia* 1335  
*miscellus* Casey, *Pterostichus* 846  
*misellus* Dejean, *Acupalpus* 1057  
*misellus* LaFerté-Sénectère, *Tachys* 687  
*misera* Dejean, *Amara* 1624  
*missourianus* Casey, *Anchomenus* 1246  
*missuricus* Gistel, *Pasimachus* 397  
*mittchellensis* Barr, *Trechus* 511  
*mittchelli* Barr, *Rhadine* 1194  
*mixtum* LeConte, *Bembidium* 565  
*moapana* Casey, *Cicindela* 346  
*mobile* Casey, *Bembidion* 651  
*mobilensis* Casey, *Cymindis* 1287  
*mobilis* Casey, *Harpalus* 1124  
*mobilis* Casey, *Nebria* 180  
*mobilis* Erwin, *Brachinus* 739  
*modesta* Casey, *Diplocheila* 991  
*modesta* Dejean, *Cicindela* 342  
*modicus* Casey, *Omus* 278  
*modicus* Casey, *Tripectrus* 1028  
*modoc* Kavanaugh, *Nebria* 163  
*modocianum* Casey, *Bembidion* 581  
*modulata* Casey, *Celia* 939  
*modulata* Casey, *Irichroa* 211  
*modulatum* Casey, *Bembidion* 564  
*modulatus* Casey, *Harpalus* 1124  
*moerens* Dejean, *Agonum* 1234  
*moerens* Newman, *Feronia* 809  
*moesta* LeConte, *Lebia* 1331  
*moesta* LeConte, *Nebria* 155  
*moesta* Say, *Feronia* 820  
*moestus* Dejean, *Harpalus* 1626  
*moestus* Say, *Pterostichus* 820, 1604  
*mojavi* Cazier, *Cicindela* 303  
*mojavi* Cazier, *Habroscelimorpha* 303  
*molbis* Motschulsky, *Nebria* 157  
*molestus* LeConte, *Platynus* 1231  
*molle* Eschscholtz, *Agonum* 1169  
*mollis* Casey, *Amphasia* 1040  
*monachus* LeConte, *Chlaenius* 975  
*monedula* Germar, *Poecilus* 780  
*monedula* Newman, *Feronia* 809  
*mongolicus* Jedlička, *Harpalus* 914  
*moniliatum* LeConte, *Calosoma* 249  
*moniliatus* LeConte, *Callisthenes* 249  
*monilicornis* Latreille, *Harpalus* 753  
*monilicornis* Latreille, *Morion* 753, 1601  
*monongahelae* Leng, *Scaphinotus* 213  
*monostigma* Jedlička, *Amara* 892  
*monstratum* Casey, *Bembidion* 616  
*montana* Hentz, *Cicindela* 356  
*montana* Horn, *Lebia* 1330  
*montana* LeConte, *Cicindela* 354  
*montana* Valentine, *Steniridia* 209  
*montanellus* Poppius, *Pterostichus* 862  
*montanicus* Casey, *Brennus* 221  
*montanicus* Casey, *Carabus* 262  
*montanus* Barr, *Pseudanophthalmus* 472  
*montanus* Casey, *Bradycellus* 1071  
*montanus* Casey, *Omus* 273  
*montanus* Casey, *Stenocellus* 1071  
*montanus* LeConte, *Dyschirius* 448  
*montanus* LeConte, *Harpalus* 1108  
*montanus* Van Dyke, *Evarthrus* 879  
*montereyanus* Casey, *Calathus* 1168  
*montereyensis* Casey, *Brennus* 218  
*montevolans* Knisley & Kippenhan, *Cicindela* 331  
*montezumae* Csiki, *Harpalus* 1099

- monti* Vaurie, Cicindela 293  
*monti* Vaurie, Ellipsoptera 293  
*monticola* Casey, Calosoma 250  
*monticola* Casey, Elaphropus 673  
*monticola* Casey, Sericoda 1178  
*monticola* Casey, Tachyura 673  
*monticola* Casey, Trichocellus 1079  
*monticola* Dejean, Amara 945  
*montuosus* Csiki, Harpalus 1108  
*moquinus* Casey, Stenolophus 1057  
*mora* Casey, Celia 926  
*morbillosus* Casey, Anchomenus 1183  
*mordax* Casey, Agonum 1232  
*mordax* LeConte, Tachys 687  
*morio* Dejean, Clivina 412  
*morio* Dejean, Cymindis 1620  
*morio* Dejean, Feronia 870  
*morio* Gebler, Anchomenus 1252  
*morio* LeConte, Pasimachus 394  
*morionides* Chaudoir, Feronia 849  
*morionides* Chaudoir, Pterostichus 849  
*mormon* Hayward, Bembidion 606  
*mormon* Hayward, Bembidium 606  
*mormonella* Casey, Cicindela 365  
*mormonicus* Casey, Harpalus 1099  
*morosa* Dejean, Feronia 795  
*morosum* Casey, Bembidion 538  
*morosum* Dejean, Agonum 1213  
*morrisoni* Jeannel, Pseudanophthalmus 498  
*morrisonii* Horn, Calosoma 241  
*morula* LeConte, Clivina 412  
*morulum* LeConte, Bembidion 597  
*morulum* LeConte, Bembidium 597  
*moseleyae* Sokolov & Carlton, Anillinus 706  
*motschoulskyanus* Schauburger, Harpalus 1113  
*motschulskyi* Mäklin, Pterostichus 793  
*muelleri* Herbst, Agonum 1212, 1613  
*muii* Liebherr, Agonum 1221  
*mülleri* Herbst, Carabus 1212  
*multicarinatus* Darlington, Sphaeroderus 192  
*multiplex* Casey, Dicheirus 1042  
*multipunctata* Linnaeus, Blethisa 1593  
*mundula* Casey, Cicindela 292  
*mundum* LeConte, Bembidion 655  
*mundus* Casey, Loxandrus 755  
*mundus* LeConte, Ochthedromus 655  
*municeps* Casey, Celiomorphus 1139  
*municeps* Casey, Selenophorus 1139  
*munifica* Casey, Cicindela 304  
*murrayae* Sokolov & Carlton, Anillinus 706  
*muscula* Hayward, Bembidion 598  
*muscula* Hayward, Bembidium 598  
*musculus* Say, Amara 916, 1607  
*musculus* Say, Feronia 916  
*mustus* Casey, Selenophorus 1145  
*muta* Say, Feronia 795  
*mutabilis* Casey, Irichroa 211  
*mutabilis* Casey, Scaphinotus 211  
*mutabilis* Haldeman, Ophonus 1125  
*mutans* Darlington, Loxandrus 763  
*mutatum* Gemminger & Harold, Bembicidium 584  
*mutatum* Gemminger & Harold, Bembidion 584  
*mutatus* Gemminger & Harold, Agonum 1234  
*mutatus* Gemminger & Harold, Platynus 1234  
*muticus* LeConte, Pterostichus 1627  
*mutoides* Bousquet, Pterostichus 805  
*mutus* Say, Pterostichus 795, 1604  
*myops* Bousquet, Clivina 408  
*myrmecodes* Horn, Platynus 1190  
*myrmecodes* Horn, Rhadine 1190  
*mystica* Casey, Amara 933  
*nactum* Casey, Bembidion 569  
*nactus* Casey, Harpalus 1096  
*nainensis* Casey, Bradytus 902  
*nairica* Iablokoff-Khnzorian, Amara 898  
*nanellus* Casey, Acupalpus 1082  
*nantahala* Dajoz, Anillinus 706  
*nantahalae* Barr, Trechus 517  
*nantahalae* Valentine, Steniridia 210  
*nanula* Casey, Ferestria 871  
*nanulina* Casey, Loxopeza 1315  
*nanulus* Casey, Anomoglossus 968  
*nanulus* Casey, Calathus 1165  
*nanulus* Casey, Celiomorphus 1139  
*nanulus* Casey, Selenophorus 1139  
*navajo* Kavanaugh, Nebria 169  
*navajoensis* Van Dyke, Cicindela 366  
*nearctica* Cockerell, Pausisopsis 1575  
*nearcticus* Lindroth, Poecilus 777, 1602  
*nearcticus* Lindroth, Pterostichus 777  
*nebraskana* Casey, Amara 938  
*nebraskana* Casey, Cicindela 354, 355, 1590  
*nebraskense* LeConte, Bembidion 581  
*nebraskense* LeConte, Bembidium 581  
*nebraskensis* LeConte, Chlaenius 982  
*nebulosa* LeConte, Apenes 1299  
*nebulosus* Barr, Trechus 517  
*nebulosus* Chaudoir, Elaphropus 673  
*nebulosus* Chaudoir, Tachys 673  
*nebulosus* LeConte, Bradycellus 1066  
*neglecta* Haldeman, Cymindis 1288  
*neglectus* Jeannel, Pseudanophthalmus 495  
*neglectus* LeConte, Brachinus 745  
*neglectus* LeConte, Bradycellus 1064

- neglectus* LeConte, Geobaenus 1064  
*negligens* Casey, Bembidion 620  
*nelsoni* Barr, Pseudanophthalmus 493  
*nemoralis* Fall, Notiophilus 187  
*nemoralis* Müller, Carabus 258, 1587  
*nemoralis* Say, Chlaenius 980  
*neobrunneus* Lindroth, Pterostichus 844  
*neocoerulescens* Bousquet, Bembidion 642, 643  
*neojuvenilis* Vogt, Cicindela 316  
*neomexicana* Casey, Amara 904  
*neomexicana* Casey, Pristodactyla 1171  
*neomexicanus* Casey, Bradytus 904  
*neomexicanus* Van Dyke, Scaphinotus 198  
*neopulchellus* Lindroth, Badister 1007  
*neoscotica* Casey, Amara 931  
*neoscotica* LeConte, Loricera 370  
*neovalidus* Whitehead, Schizogenius 423  
*nephiana* Casey, Cicindela 365  
*nescium* Casey, Bembidion 531  
*nevadense* Ulke, Bembidion 563  
*nevadense* Ulke, Bembidium 563  
*nevadensis* Casey, Anchomenus 1183  
*nevadensis* Casey, Apristus 1309  
*nevadensis* Casey, Callisthenes 250  
*nevadiana* Casey, Cicindela 314  
*nevadica* Casey, Celia 909  
*nevadica* LeConte, Cicindela 297  
*nevadica* LeConte, Ellipsoptera 297, 1592  
*newberryi* Scudder, Brachinus 1574  
*newmanni* Waterhouse, Notiophilus 185  
*nexa* Casey, Amara 926  
*nexa* Casey, Celia 926  
*niagarensis* Laporte, Sphaeroderus 194  
*nickajackensis* Barr, Pseudanophthalmus 468  
*niger* Cazier, Omus 281  
*niger* Gory, Lachnophorus 1262  
*niger* Randall, Chlaenius 988, 1608  
*niger* Say, Bembidium 538  
*nigerrima* Leng, Cicindela 339  
*nigerrimoides* Hatch, Cicindela 1626  
*nigerrimus* Dejean, Anisodactylus 1025  
*nigerrimus* Dejean, Harpalus 1025  
*nigerrimus* Lindroth, Bradycellus 1067  
*nigricapitata* Madge, Lebia 1335  
*nigriceps* Dejean, Bembidium 1258  
*nigriceps* Dejean, Perigona 1258  
*nigriceps* LeConte, Agonum 1201, 1613  
*nigriceps* LeConte, Axinopalpus 1313  
*nigriceps* LeConte, Bradycellus 1064  
*nigricollis* LeConte, Philotecnus 1342  
*nigricornis* Darlington, Pentagonica 1267  
*nigricornis* Harward, Bembidion 536  
*nigricornis* Motschulsky, Dyschirius 441  
*nigrinus* Dejean, Bradycellus 1073  
*nigrinus* Dejean, Harpalus 1073  
*nigrinus* Mannerheim, Dromius 1306  
*nigrinus* Mannerheim, Microlestes 1306  
*nigrior* Schaupp, Cicindela 336  
*nigripennis* Casey, Celia 919  
*nigripennis* Dejean, Harpalus 1157  
*nigripennis* Dejean, Helluo 1369  
*nigripennis* Dejean, Helluomorphoides 1369  
*nigripennis* Dejean, Lebia 1325  
*nigripennis* Leng, Phloeoxena 1277  
*nigripennis* Roeschke, Pemphus 216  
*nigripennis* Van Dyke, Thalassotrechus 712  
*nigripes* Kirby, Bembidion 614  
*nigripes* Kirby, Notaphus 614  
*nigripes* LeConte, Dyschirius 438  
*nigrita* Davis, Cicindela 362  
*nigrita* Dejean, Anisodactylus 1027, 1609  
*nigritarsis* Sahlberg, Harpalus 1109  
*nigritula* Casey, Lecalida 1345  
*nigrivestis* Bousquet, Bembidion 598  
*nigrocaeruleus* Van Dyke, Pterostichus 850  
*nigrocoerulea* LeConte, Cicindela 315, 1590  
*nigrocoeruleum* Hayward, Bembidion 643  
*nigrocoeruleum* Hayward, Bembidium 643  
*nigrocoeruleus* Sturm, Chlaenius 1625  
*nigroides* Hatch, Cicindela 1625  
*nigropiceum* Marsham, Bembidion 662  
*nigropiceus* Casey, Leistus 151  
*nigropiceus* Marsham, Carabus 662  
*nigrosignata* Bates, Lebia 1335  
*nigrovirens* Sturm, Chlaenius 1625  
*nigrum* Say, Bembidion 538  
*nimbosa* Casey, Nebria 171  
*nimius* Casey, Harpalus 1111  
*nimius* Motschulsky, Evarthrus 879  
*nimrod* Horn, Chlaenius 1619  
*nitens* Chaudoir, Omophron 390  
*nitens* LeConte, Bradycellus 1079  
*nitens* LeConte, Notiophilus 188  
*nitens* LeConte, Ochthedromus 576  
*nitescans* Casey, Harpalus 1106  
*nitescens* Casey, Episcopellus 1158  
*nitidicolle* Bousquet, Bembidion 595  
*nitidicollis* Guérin-Méneville, Sphaeroderus 193, 1585  
*nitidipennis* LeConte, Eurytrichus 1016  
*nitidipennis* LeConte, Notiobia 1016, 1611  
*nitidula* Buquet, Coptodera 1281  
*nitidula* Buquet, Lebia 1281  
*nitiduloides* Munster, Bembidion 577  
*nitidulum* Dejean, Agonum 1217

- nitidulum* Dejean, Bembidion 543  
*nitidulus* Chaudoir, Harpalus 1158  
*nitidulus* LeConte, Argutor 762  
*nitidulus* LeConte, Loxandrus 762  
*nitidum* Harris, Agonum 1233  
*nitidum* Kirby, Bembidion 646, 1598  
*nitidum* LeConte, Omophron 390, 1594  
*nitidus* Dejean, Acupalpus 1061  
*nitidus* Dejean, Bradycellus 1061  
*nitidus* Kirby, Isopleurus 919  
*nitidus* Kirby, Peryphus 646  
*nitidus* Kirby, Platyderus 788  
*nivalis* Casey, Harpalus 1128  
*nivalis* Horn, Anisodactylus 1033  
*nivalis* Horn, Platynus 1188  
*nivalis* Horn, Rhadine 1188  
*nivalis* Paykull, Carabus 157  
*nivalis* Paykull, Nebria 157, 1583  
*nivalis* Sahlberg, Feronia 857  
*nivalis* Sahlberg, Pterostichus 857  
*niveihamata* Frost, Cicindela 323  
*nobilis* Liebke, Pseudaptinus 1361  
*noctivaga* Barr, Rhadine 1192  
*nogahabarensis* Knisley, Cicindela 364  
*nogalesium* Casey, Bembidion 591  
*nonnitens* LeConte, Cyclotrachelus 878  
*nonnitens* LeConte, Evarthrus 878  
*nortoni* Barr, Pseudanophthalmus 468  
*norvegicus* Munster, Dyschirius 441  
*notatus* Haldeman, Badister 1006  
*notmani* Casey, Bembidion 636  
*novaculosus* Barr, Trechus 517  
*novascotiae* Vaurie, Cicindela 367  
*novaterrae* Leng, Cicindela 354  
*novellum* Casey, Bembidion 597  
*novellus* Casey, Pterostichus 835  
*novellus* Stehr, Bradytus 904  
*novemstriatus* LeConte, Notiophilus 188, 1584  
*novus* Straneo, Pterostichus 811  
*nubicollis* Casey, Stenocellus 1067  
*nubiculosa* Chaudoir, Coptodera 1282  
*nubiculosum* Chaudoir, Bembidion 619  
*nubiculosum* Chaudoir, Bembidium 619  
*nubifer* Casey, Tachys 694  
*nubifer* LeConte, Bradycellus 1067  
*nubiferum* Casey, Bembidion 651  
*nudipenne* Lindroth, Bembidion 595  
*nugator* Casey, Celia 917  
*nugax* Casey, Harpalus 1106  
*nunenmacheri* Horn, Omus 275  
*nupera* Casey, Diplochila 993  
*nupera* Horn, Amara 911  
*nuperum* Casey, Bembidion 554  
*nuperus* Scudder, Harpalus 1578  
*nupta* Casey, Celia 920  
*nutans* Say, Agonum 1238  
*nutans* Say, Feronia 1238  
*nyensis* Rumpp, Cicindela 312  
*nympha* Casey, Cicindela 364  
*oasis* Kavanaugh, Nebria 165  
*obconicus* Haldeman, Anchomenus 1259  
*obductum* Scudder, Bembidium 1574  
*oberleitneri* Gistel, Cicindela 342  
*oberthueri* Hayward, Bembidion 604  
*oberthuri* Hayward, Bembidium 604  
*obesa* Say, Amara 906, 1607  
*obesa* Say, Feronia 906  
*obesulus* Casey, Calathus 1166  
*obesulus* LeConte, Elaphropus 674  
*obesulus* LeConte, Harpalus 1131  
*obesulus* LeConte, Pterostichus 805  
*obesulus* LeConte, Tachys 674  
*obesus* Bates, Acupalpus 1057  
*obesus* Casey, Pasimachus 393  
*obesus* LeConte, Akephorus 431  
*obesus* LeConte, Dyschirius 431  
*obispinus* Casey, Blechrus 1306  
*oblatum* Casey, Bembidion 539  
*oblectans* Casey, Bembidion 652  
*obligata* Casey, Celia 946  
*obliqua* Casey, Amara 951  
*obliqua* Casey, Cymindis 1286  
*obliqua* Casey, Galerita 1364  
*obliqua* LeConte, Nebria 170  
*obliquata* Dejean, Cicindela 347  
*obliquata* Putzeys, Ardistomis 428  
*obliquelunatus* Motschulsky, Peryphus 560  
*obliquulum* Casey, Bembidion 647  
*obliquulus* Casey, Agonoderus 1053  
*obliquulum* LeConte, Bembidion 646  
*obliquulum* LeConte, Bembidium 646  
*obliquus* Casey, Tachys 692  
*obliquus* Horn, Harpalus 1130  
*obliquus* LeConte, Cychrus 221  
*obliquus* LeConte, Scaphinotus 221  
*obliteratum* Horn, Omophron 390  
*obliteratus* Mannerheim, Elaphrus 377  
*oblitus* Casey, Tachys 692  
*oblitus* LeConte, Harpalus 1111  
*obliviosa* Casey, Cicindela 334  
*obliviosum* Casey, Bembidion 653  
*oblonga* Casey, Diplochila 992  
*oblonga* Horn, Anatrachis 953  
*oblongiformis* Casey, Amara 940

- oblongipennis* Casey, Anchomenus 1245  
*oblongipennis* Casey, Chlaenius 972  
*oblongiuscula* Motschulsky, Platysma 793  
*oblongonotata* Say, Feronia 792  
*oblongopunctata* Chevrolat, Agra 1352  
*oblongula* Casey, Amara 938  
*oblonguloides* Lindroth, Amerizus 529  
*oblonguloides* Lindroth, Bembidion 529  
*oblongulus* Mannerheim, Amerizus 529  
*oblongulus* Mannerheim, Trechus 529  
*oblongus* Casey, Harpalus 1132  
*oblongus* Casey, Pasimachus 399  
*oblongus* Casey, Triplectrus 1032  
*oblongus* Fabricius, Carabus 1198  
*obnixus* Casey, Harpalus 1123  
*obrieni* Mateu, Calleida 1344  
*obscura* Casey, Cymindis 1294  
*obscura* Casey, Philophuga 1348  
*obscura* Casey, Pinacodera 1294  
*obscura* Laporte, Coptodera 1283  
*obscura* Say, Feronia 806  
*obscura* Valentine, Steniridia 212  
*obscuratus* Chaudoir, Anchomenus 1228  
*obscuratus* Fall, Notiophilus 190  
*obscurillum* Motschulsky, Bembidion 565  
*obscurillus* Motschulsky, Peryphus 565  
*obscuricornis* Motschulsky, Amara 922  
*obscurior* Kirby, Elaphrus 377  
*obscuripenne* Blaisdell, Bembidion 582  
*obscuripenne* Blaisdell, Bembidium 582  
*obscuripennis* Dejean, Harpalus 1040  
*obscuritarsis* Motschulsky, Ophonus 1078  
*obscurumaculatum* Motschulsky, Bembidion 615  
*obscurumaculatus* Motschulsky, Notaphus 615  
*obscurus* Casey, Tachistodes 1083  
*obscurus* Fall, Notiophilus 190  
*obscurus* LeConte, Anchomenus 1226  
*obscurus* LeConte, Anisodactylus 1037  
*obscurus* LeConte, Calathus 1168  
*obscurus* LeConte, Chlaenius 984  
*obscurus* LeConte, Dicaelus 996  
*obscurus* Valentine, Scaphinotus 212  
*obsequens* Casey, Bembidion 612  
*obsidianus* Casey, Discoderus 1150  
*obsidianus* Casey, Pterostichus 835  
*obsolescens* Casey, Anisodactylus 1021  
*obsolescens* Casey, Bradytus 911  
*obsoleta* Say, Calosoma 242  
*obsoleta* Say, Cicindela 317, 1590  
*obsoleta* Say, Feronia 868, 1179  
*obsoleta* Say, Sericoda 1179, 1614  
*obsoletum* Say, Calosoma 242, 1586  
*obsoletus* LeConte, Chlaenius 984  
*obsoletus* LeConte, Pasimachus 396  
*obsoletus* Say, Acupalpus 1061  
*obtusa* LeConte, Amara 889  
*obtusa* LeConte, Diplocheila 993, 1609  
*obtusa* LeConte, Nebria 170  
*obtusangula* Motschulsky, Platysma 793  
*obtusangulum* LeConte, Bembidion 607  
*obtusangulum* LeConte, Bembidium 607  
*obtusidens* Fall, Bembidion 621  
*obtusiusculus* Chaudoir, Patrobus 721  
*obtusum* Audinet-Serville, Bembidion 661, 1598  
*obtusus* Bates, Pelmatellus 1044  
*obtusus* Casey, Nothopus 1092  
*obtusus* Erichson, Trechus 514, 1597  
*obtusus* Fall, Bradycellus 1061  
*obtusus* Fall, Glycerius 1061  
*obtusus* LeConte, Badister 1007  
*obtusus* LeConte, Dicheirus 1042  
*obtusus* LeConte, Rembus 993  
*obtusus* Sturm, Pasimachus 1627  
*ocalensis* Nichols, Scarites 402  
*occidentalis* Barr, Pseudanophthalmus 464  
*occidentalis* Chaudoir, Harpalus 1111  
*occidentalis* Dejean, Feronia 776  
*occidentalis* Dejean, Poecilus 776  
*occidentalis* Hieke, Amara 943  
*occidentalis* Horn, Euphorticus 1262  
*occipitalis* Casey, Galerita 1365  
*occlusa* Scudder, Nebria 1570  
*occultator* Casey, Tachys 687  
*occultator* Notman, Bembidion 643  
*occultator* Notman, Bembidium 643  
*occultum* Casey, Bembidion 588  
*occultus* Casey, Pterostichus 844  
*occultus* Casey, Stenocellus 1064  
*occultus* LeConte, Tachys 672  
*ocellata* Klug, Cicindela 318, 1590  
*ocellatum* Lapouge, Chrysostigma 240  
*ocellatus* Blatchley, Dicaelus 998  
*ochotica* Sahlberg, Pelophila 148  
*ochropeza* Say, Feronia 1050  
*ochropezus* Say, Stenolophus 1050  
*ochropus* Kirby, Harpalus 1122  
*ochropus* Lindroth, Bembidion 642  
*ochthrocephalus* Whitehead, Schizogenius 420  
*ocreatum* Haldeman, Agonum 1224  
*ocreatus* Say, Harpalus 1017  
*octocolus* Mannerheim, Anchomenus 1180  
*octofoveolatus* Mäklin, Anchomenus 1252  
*octopunctatum* Fabricius, Agonum 1239, 1613  
*ocularis* Casey, Badister 1010



- ocularis* Casey, Lachnophorus 1261  
*oculatus* Casey, Agonoderus 1053  
*ohioensis* Krekeler, Pseudanophthalmus 477  
*ohionis* Csiki, Pterostichus 796  
*ohlone* Freitag & Kavanaugh, Cicindela 337  
*olivacea* Chaudoir, Cicindela 300  
*olivaceus* Chaudoir, Microthylax 300  
*olivaceus* LeConte, Elaphrus 379, 1594  
*olmosa* Vaurie, Cicindela 298  
*olmosa* Vaurie, Ellipsoptera 298  
*olympia* Casey, Celia 923  
*olympiae* Van Dyke, Scaphinotus 216  
*olympica* Darlington, Gehringia 460, 1596  
*omissus* Casey, Tachys 687  
*ontariensis* Casey, Platynidius 1251  
*ontarionis* Casey, Anchomenus 1225  
*oodiformis* Casey, Amara 934  
*oodioides* Chaudoir, Harpalus 1124  
*oopterus* Chaudoir, Tachys 697  
*oowah* Kavanaugh, Nebria 161  
*opaca* LeConte, Apenes 1299  
*opacellus* Casey, Anchomenus 1183  
*opacellus* Casey, Omus 275  
*opaciceps* Casey, Bembidion 550  
*opacicollis* Casey, Brennus 221  
*opacipennis* Casey, Omus 276  
*opacipennis* Casey, Pasimachus 398  
*opacipennis* Haldeman, Harpalus 1124  
*opacipennis* Haldeman, Ophonus 1124  
*opaculus* Casey, Celiamorphus 1138  
*opaculus* LeConte, Anisodactylus 1029  
*opaculus* LeConte, Calathus 1165, 1612  
*opaculus* LeConte, Gynandrotarsus 1029  
*opaculus* LeConte, Platynus 1246  
*opacus* Casey, Harpalus 1025  
*opacus* Casey, Pemphus 217  
*opacus* Géhin, Callisthenes 248  
*opacus* LaFerté-Sénéctère, Dicaelus 999  
*opacus* Motschulsky, Scaphiodactylus 1183  
*opacus* Sturm, Chlaenius 1625  
*opalinus* LeConte, Harpalus 1144  
*opalinus* LeConte, Selenophorus 1144  
*operosum* Casey, Bembidion 616  
*ophryodera* Chaudoir, Feronia 805  
*ophryoderus* Chaudoir, Pterostichus 805  
*opicus* Casey, Harpalus 1110  
*opimus* Casey, Callisthenes 247  
*oppositum* Say, Bembidion 587  
*oppositum* Say, Bembidium 587  
*oppositus* Casey, Harpalus 1128  
*oppressum* Casey, Bembidion 635  
*optatum* Casey, Bembidion 578  
*orbata* Newman, Feronia 879  
*orbicollis* Say, Agonum 1240  
*orbus* Horn, Chlaenius 973  
*ordinarius* Casey, Pterostichus 853  
*oreada* Casey, Cicindela 331  
*oregona* Casey, Nebria 169  
*oregona* Chaudoir, Feronia 829  
*oregona* Fall, Clivina 408  
*oregona* Hatch, Diplocheila 994  
*oregona* Hatch, Rembus 994  
*oregona* LeConte, Amara 903  
*oregona* LeConte, Cicindela 366, 1590  
*oregonella* Casey, Cicindela 365  
*oregonense* Hatch, Bembidion 585  
*oregonensis* Casey, Harpalus 1121  
*oregonensis* Casey, Omus 270  
*oregonensis* Hatch, Trechus 509  
*oregonensis* LeConte, Blethisa 375  
*oregonensis* LeConte, Carabus 262  
*oregonis* Csiki, Pterostichus 830  
*oregonum* Casey, Bembidion 593  
*oregonum* Gidaspow, Calosoma 250  
*oregonus* Casey, Anisodactylus 1022  
*oregonus* Casey, Brennus 221  
*oregonus* Casey, Trachypachus 142  
*oregonus* Gidaspow, Callisthenes 250  
*oregonus* LeConte, Pterostichus 794  
*oreophilus* Rivers, Cychrus 222  
*oreophilus* Rivers, Scaphinotus 222  
*orientalis* Krekeler, Pseudanophthalmus 483  
*orientalis* Semenov, Elaphrus 384  
*orinomum* Stephens, Omaseus 792  
*orlindae* Barr, Pseudanophthalmus 491  
*ornata* Say, Lebia 1325  
*ornatellum* Casey, Bembidion 613  
*ornatus* Sturm, Argutor 1624  
*orthosulcatus* Valentine, Pseudanophthalmus 472  
*osculans* Casey, Bembidion 533  
*osculans* Casey, Lionepha 533  
*osculans* Casey, Pterostichus 821  
*oslari* Leng, Cicindela 352  
*ostenta* Casey, Cicindela 354  
*otariidinus* Casey, Cryobius 867  
*otiosa* Casey, Amara 934  
*otiosus* Casey, Selenophorus 1144  
*ovale* Horn, Omophron 390  
*ovalicauda* Casey, Agonum 1217  
*ovalipenne* Casey, Micragonum 1237  
*ovalipennis* Casey, Cicindela 366  
*ovalipennis* Casey, Pterostichus 848  
*ovalis* Dejean, Selenophorus 1138  
*ovalis* LeConte, Dicaelus 997

- ovalis* Motschulsky, Cychrus 224  
*ovalis* Sturm, Amara 1624  
*ovata* Fabricius, Amara 935, 1607  
*ovatulus* Bates, Anchomenus 1253  
*ovatulus* Bates, Platynus 1253  
*ovatus* Fabricius, Carabus 935  
*oviceps* Van Dyke, Pseudaptinus 1358  
*ovicollis* Schaeffer, Pterostichus 824  
*oviformis* Casey, Amara 940  
*ovipennis* Casey, Dicaelus 1000  
*ovipennis* Casey, Omus 279  
*ovipennis* Chaudoir, Tachys 671  
*ovipennis* LeConte, Brachinus 745  
*ovipennis* LeConte, Feronia 882  
*ovipennis* LeConte, Nebria 176  
*ovipennis* Mannerheim, Anchomenus 1247  
*ovipennis* Mannerheim, Platynus 1247  
*ovipennis* Motschulsky, Anchomenus 1244  
*ovipennis* Motschulsky, Lirus 893  
*ovipennis* Motschulsky, Peryphus 641  
*ovipennis* Motschulsky, Trechus 513  
*ovularis* Casey, Anisodactylus 1032  
*ovularis* Casey, Triplectrus 1032  
*ovulum* Chaudoir, Cyclotrachelus 872  
*ovulum* Chaudoir, Feronia 872  
*owen* Dajoz, Dyschiriodes 448  
*owen* Dajoz, Dyschirius 448  
*owena* Fall, Cicindela 347  
*oxygonus* Chaudoir, Brachinus 739  
*oxygonus* Chaudoir, Chlaenius 980  
*ozarkense* Maddison & Hildebrandt, Bembidion 659  
*ozarkensis* Sanderson & Miller, Rhadine 1188  
*ozarkensis* Whitehead, Schizogenius 425  
*pacatus* Casey, Anchomenus 1246  
*pacifica* Casey, Lebia 1324  
*pacifica* Chaudoir, Nebria 173  
*pacifica* Schaupp, Cicindela 313  
*pacificum* Casey, Agonum 1221  
*pacificus* Fall, Harpalus 1128  
*pacificus* Lindroth, Dyschirius 445  
*pacificus* Poppius, Cryobius 857  
*pacificus* Van Dyke, Pterostichus 801  
*packardi* Barr, Pseudanophthalmus 463  
*pactinullus* Allen, Loxandrus 763  
*paganica* Casey, Celia 910  
*paganicus* Casey, Anisodactylus 1022  
*paleomelas* Scudder, Nebria 1570  
*pallens* Fabricius, Carabus 1341  
*pallens* Fabricius, Plochionus 1341, 1616  
*pallescent* Casey, Agonoderus 1053  
*pallescent* Casey, Atranus 1259  
*pallescent* Casey, Tachys 695  
*pallescent* Casey, Trechus 507  
*palliatum* Dejean, Agonum 1240  
*palliatus* Fabricius, Carabus 1144  
*palliatus* Fabricius, Selenophorus 1144  
*palliatus* Motschulsky, Stenolophus 1627  
*pallida* Casey, Amara 918  
*pallida* Chevrolat, Goniotropis 731  
*pallida* Say, Clivina 408  
*pallidipennis* Csiki, Perigona 1259  
*pallidipes* Chevrolat, Apenes 1299  
*pallidipes* Chevrolat, Cymindis 1299  
*pallidissima* Casey, Nebria 168  
*pallidiusculus* Csiki, Tachys 695  
*pallidofemora* Acciavatti, Cicindela 307  
*pallidofemora* Acciavatti, Habroscelimorpha 307  
*pallidulus* Motschulsky, Leptotrachelus 1272  
*pallidum* Casey, Omophron 389  
*pallidum* Hatch, Bembidion 1625  
*pallidus* Barr, Pseudanophthalmus 486  
*pallidus* Chaudoir, Tachys 688  
*pallidus* Erwin, Brachinus 749, 1601  
*pallidus* Horn, Tetragnoderus 1275  
*pallidus* Motschulsky, Dichirus 1056  
*pallidus* Sturm, Cratacanthus 1626  
*pallipennis* LeConte, Perigona 1258  
*pallipennis* LeConte, Trechicus 1258  
*pallipennis* Say, Clivina 450  
*pallipennis* Say, Dyschirius 450  
*pallipes* Brullé, Oodes 960  
*pallipes* Fabricius, Agonum 1240, 1613  
*pallipes* Fabricius, Carabus 1198, 1240  
*pallipes* Horn, Elaphrus 386  
*pallipes* Kirby, Amara 950  
*pallipes* LeConte, Rhombodera 1627  
*pallipes* Say, Nebria 171, 1583  
*palmeri* Horn, Calosoma 228  
*palmi* Schaeffer, Pterostichus 800  
*palosverdes* Kavanaugh & Erwin, Bembidion 559  
*palpalis* Duftschmid, Carabus 515  
*palpalis* Motschulsky, Sphaeroderus 192  
*paludosum* Gyllenhal, Bembidium 515  
*palustre* Goulet, Agonum 1206  
*palustris* Duftschmid, Elaphrus 188  
*palustris* Duftschmid, Notiophilus 188, 1584  
*pamphila* LeConte, Cicindela 307  
*pamphila* LeConte, Habroscelimorpha 307  
*pantex* Casey, Anaferonia 884  
*panticulatus* Casey, Pterostichus 841  
*papago* Casey, Anaferonia 884  
*papago* Casey, Helluomorpha 1369  
*papago* Casey, Helluomorphoides 1369  
*papago* Casey, Lebia 1334

- papagonalis* Casey, Harpalus 1119  
*papagonis* Casey, Discoderus 1151  
*parabile* Casey, Bembidion 629  
*paradisi* Darlington, Nebria 159  
*paradoxus* Barr, Pseudanophthalmus 481  
*paradoxus* Haldeman, Harpalus 1026  
*paraenulum* Maddison, Bembidion 545  
*parafaber* Freitag, Cyclotrachelus 870  
*parafaber* Freitag, Evarthrus 870  
*parallellus* LeConte, Dicheirus 1043  
*parallela* Casey, Celia 923  
*parallela* Casey, Diplocheila 993  
*parallela* Casey, Tachyura 673  
*parallela* Casey, Triaena 950  
*parallela* Dejean, Apenes 1299  
*parallela* Dejean, Cymindis 1299  
*parallela* Say, Lachnocrepis 955, 1608  
*parallela* Van Dyke, Pseudomorpha 1375  
*parallelepipedus* Piller & Mitterpacher, Abax 886, 1601  
*parallelepipedus* Piller & Mitterpacher, Carabus 886  
*parallelocollis* Motschulsky, Peryphus 653  
*parallelonota* Casey, Cicindela 346  
*parallelum* Casey, Agonum 1216  
*parallelus* Casey, Anisotarsus 1018  
*parallelus* Casey, Evarthrus 878  
*parallelus* Casey, Loxandrus 756  
*parallelus* Casey, Stenomorphus 1155  
*parallelus* Chaudoir, Bradycellus 1068  
*parallelus* Goulet, Pematellus 1045  
*parallelus* Haldeman, Discoderus 1151  
*parallelus* Haldeman, Selenophorus 1151  
*parallelus* LeConte, Pogonus 713  
*parallelus* Motschulsky, Brachystylus 853  
*parallelus* Motschulsky, Limodromus 1626  
*parallelus* Say, Oodes 955  
*parasimilis* Ball, Pterostichus 861  
*parasodalis* Freitag, Cyclotrachelus 881, 1601  
*parasodalis* Freitag, Evarthrus 881  
*paratus* Casey, Harpalus 1097  
*parca* LeConte, Goniotropis 732  
*parca* LeConte, Pacheteles 732  
*pardalis* Zimmermann, Ochthedromus 619  
*parens* Casey, Pterostichus 846  
*parextimum* Liebherr, Agonum 1229  
*parilis* Casey, Discoderus 1152  
*parilis* Casey, Selenalius 1152  
*parisiana* Allen & Carlton, Scaphinotus 201  
*parkeri* Van Dyke, Scaphinotus 201  
*parmarginatus* Hamilton, Platynus 1248  
*parmata* Say, Feronia 1176  
*parmatus* Say, Olisthopus 1176, 1614  
*parowana* Casey, Celia 909  
*parowana* Casey, Cymindis 1290  
*parowana* Wickham, Cicindela 337, 1590  
*parowanum* Casey, Bembidion 566  
*parowanus* Casey, Callisthenes 248  
*parowanus* Casey, Harpalus 1110  
*partiarius* Say, Acupalpus 1083  
*partiarius* Say, Trechus 1083  
*particeps* Casey, Bembidion 603  
*parumpunctatus* Dejean, Selenophorus 1145  
*parumpunctatus* Fabricius, Carabus 1213  
*parviceps* Ball, Badister 1010  
*parviceps* Casey, Agonoleptus 1059  
*parviceps* Casey, Calosoma 236  
*parviceps* Hayward, Amara 931  
*parviceps* Van Dyke, Elaphrus 384  
*parvicolle* Fall, Calosoma 233  
*parvicollis* Casey, Loxandrus 759  
*parvicollis* Casey, Omus 279  
*parvicollis* Fall, Calosoma 233  
*parvicollis* Jeannel, Pseudanophthalmus 478  
*parvicornis* Notman, Tachyta 667  
*parvitorsalis* Valentine, Scaphinotus 211  
*parvitorsalis* Valentine, Steniridia 211  
*parvula* Sahlberg, Nebria 155  
*parvuliceps* Casey, Discoderus 1151  
*parvulicollis* Casey, Brennus 220  
*parvulum* Dejean, Bembidion 679  
*parvulum* Notman, Bembidion 639  
*parvulus* Casey, Anadaptus 1033  
*parvulus* Casey, Omus 270  
*parvulus* Chaudoir, Loxandrus 757  
*parvulus* Dejean, Elaphropus 679, 1599  
*parvus* Casey, Anchomenus 1183  
*parvus* Casey, Notiophilus 188  
*parvus* Krekeler, Pseudanophthalmus 483  
*parvus* LeConte, Dyschirius 439  
*pasquinelii* Kavanaugh, Nebria 181  
*patronus* Casey, Harpalus 1015  
*patruela* Dejean, Cicindela 356, 1590  
*patruele* Dejean, Bembidion 616  
*patruele* Dejean, Bembidion 616  
*patruelis* Dejean, Amara 927  
*patruelis* Dejean, Feronia 790  
*patruelis* Dejean, Pterostichus 790, 1604  
*patruelis* LeConte, Brachinus 746  
*patruelis* LeConte, Chlaenius 971  
*patruelis* LeConte, Dyschirius 452  
*patruelis* LeConte, Scarites 403  
*patula* Casey, Celia 907  
*patulicollis* Casey, Carabus 262  
*patulus* Casey, Cryobius 865  
*paulula* Casey, Celia 918

- paululus* Casey, Harpalus 1122  
*paulus* Barr, Pseudanophthalmus 474  
*paulus* Casey, Triplectrus 1029  
*pauperculus* Dejean, Acupalpus 1084  
*pavidus* Panzer, Carabus 1198  
*paynei* Barr, Pseudanophthalmus 496  
*pecki* Barr, Platynus 1243  
*pecki* Giachino, Anillinus 706  
*pectita* Horn, Lebia 1335  
*pedestris* Putzeys, Curtonotus 893  
*pedicellatum* LeConte, Bembidion 585  
*pedicellatum* LeConte, Bembidium 585  
*pedicularius* Dejean, Selenophorus 1145  
*peigani* Larson, Tenebrionidae 1342, 1616  
*pellax* Casey, Bembidion 591  
*pellax* Casey, Calosoma 244  
*pellax* Casey, Harpalus 1127  
*pembina* Johnson, Cicindela 304  
*pembina* Johnson, Habroscelimorpha 304  
*pemphredo* Will, Pterostichus 828  
*peninsularis* Van Dyke, Schizogenius 421  
*pennsylvanica* Hayward, Amara 895  
*pennsylvanicus* Casey, Anchomenus 1248  
*pennsylvanicus* Say, Chlaenius 982, 1608  
*pennsylvanica* Linnaeus, Colliuris 1269, 1615  
*pennsylvanicus* DeGeer, Carabus 1099  
*pennsylvanicus* DeGeer, Harpalus 1099, 1611  
*pennsylvanicus* Dejean, Cratacanthus 1160  
*pennsylvanicus* LeConte, Pterostichus 794, 1604  
*pennsylvanicus* Linnaeus, Attelabus 1269  
*perbrevicollis* Casey, Bembidion 583  
*perconcinnum* Blaisdell, Bembidium 599  
*peregrina* Morawitz, Amara 893  
*peregrinator* Guérin-Ménéville, Calosoma 235, 1586  
*peregrinum* Casey, Bembidion 627  
*peregrinus* Casey, Discoderus 1152  
*peregrinus* Casey, Stenolophus 1046  
*perforatus* LeConte, Platynus 1221  
*pergracilis* Casey, Hypherpes 841  
*pergracilis* Casey, Pterostichus 841  
*perita* Casey, Lebia 1332  
*peritus* Casey, Harpalus 1127  
*perlevis* Casey, Rhadine 1190  
*permunda* Say, Feronia 817  
*permundus* Say, Pterostichus 817, 1604  
*pernotum* Casey, Bembidion 571  
*peropacus* Casey, Calathus 1166  
*peropacus* Casey, Omus 277  
*peropacus* Casey, Triplectrus 1030  
*perpallida* Madge, Lebia 1326  
*perplexus* Dejean, Brachinus 746  
*perplexus* Dejean, Chlaenius 978  
*perpolitus* Casey, Selenophorus 1136  
*persephone* Barr, Rhadine 1193  
*perseverus* Motschulsky, Evarthrus 820  
*persimilis* Barr, Pseudanophthalmus 488  
*persolus* Casey, Harpalus 1122  
*perspecta* Casey, Amara 915  
*perspicuum* LeConte, Bembidion 571  
*perspicuus* Casey, Harpalus 1127  
*perspicuus* LeConte, Ochthedromus 571  
*pertenuis* Casey, Rhadine 1195  
*pertinax* Casey, Agonum 1220  
*pertinax* Casey, Bembidion 539  
*pertinax* Casey, Calosoma 233  
*pertinax* Casey, Chlaenius 983  
*perturbatum* Casey, Bembidion 647  
*perversus* Fall, Dyschirius 445  
*perviridis* LeConte, Chlaenius 973  
*perviridis* Schaupp, Cicindela 354  
*petersi* Roeschke, Scaphinotus 200  
*petrophila* Sumlin, Cicindela 319  
*petrosum* Gebler, Bembidion 566, 1599  
*petrosum* Gebler, Bembidium 566  
*petrunkevitchi* Valentine, Pseudanophthalmus 490  
*petulans* Casey, Bembidion 566  
*phaeocerus* Chaudoir, Brachinus 746  
*pholeter* Krekeler, Pseudanophthalmus 477  
*picea* Dejean, Coptodera 1282  
*picea* Fleutiaux & Sallé, Rhombodera 1266  
*picea* Putzeys, Clivina 417  
*piceata* Casey, Cyllindrocharis 823  
*piceola* Casey, Amara 941  
*piceolum* LeConte, Agonum 1212  
*piceolus* Casey, Calathus 1168  
*piceolus* Chaudoir, Loxandrus 757  
*piceolus* LeConte, Platynus 1212  
*piceonitens* Casey, Celia 919  
*piceum* LeConte, Agonum 1235  
*piceus* Casey, Discoderus 1152  
*piceus* Dejean, Dromius 1302, 1615  
*piceus* Harris, Calathus 1164  
*piceus* Horn, Pogonodaptus 1088  
*piceus* LeConte, Eurytrichus 1017  
*piceus* LeConte, Psydrus 727, 1600  
*piceus* Ménétériés, Dicheirus 1042  
*piceus* Ménétériés, Harpalus 1042  
*picicornis* Kirby, Omaseus 796  
*picicornis* LeConte, Platynus 1208  
*picicornis* Sturm, Scarites 1627  
*picicornis* Zetterstedt, Harpalus 723  
*picicornoides* Lindroth, Agonum 1207  
*picipenne* Kirby, Agonum 1209  
*picipes* Bonelli, Clivina 1620

- picipes* Casey, *Bradycellus* 1071  
*picipes* Casey, *Stenocellus* 1071  
*picipes* Kirby, *Peryphus* 576  
*picipes* Kirby, *Tachyta* 666  
*picipes* LeConte, *Oodes* 959  
*picipes* Motschulsky, *Leirus* 897  
*picipes* Motschulsky, *Olisares* 1240  
*picipes* Newman, *Feronia* 812  
*picipes* Sturm, *Angoleus* 1624  
*picipes* Sturm, *Dromius* 1626  
*picipes* Sturm, *Steropus* 1627  
*piciventris* LeConte, *Argutor* 757  
*piciventris* LeConte, *Loxandrus* 757  
*picolomini* Reiche, *Amblycheila* 267  
*picta* Chaudoir, *Casnonia* 1269  
*picticornis* Bates, *Pentagonica* 1267  
*picticornis* Newman, *Anchomenus* 1181  
*picticornis* Newman, *Tetraleucus* 1181, 1614  
*picturatus* Putzeys, *Tachys* 689  
*pictus* Casey, *Olisthopus* 1176  
*pictus* LeConte, *Ochthedromus* 590  
*pigmentosignata* Horn, *Cicindela* 351  
*pilatei* Chaudoir, *Bembidion* 602  
*pilatei* Chaudoir, *Bembidium* 602  
*pilatei* Chaudoir, *Casnonia* 1268  
*pilatei* Chaudoir, *Colliuris* 1268  
*pilatei* Chaudoir, *Tecnophilus* 1342  
*pilatei* Guérin-Méneville, *Dromochorus* 302  
*pilicornis* Fabricius, *Carabus* 370  
*pilicornis* Fabricius, *Loricera* 370, 1592  
*pilosa* Say, *Cymindis* 1288  
*pilosus* Barr, *Pseudanophthalmus* 489  
*pilosus* Horn, *Anisodactylus* 1041  
*pilosus* LeConte, *Dyschirius* 442  
*pilosus* Say, *Cymindis* 1288  
*pimalicus* Casey, *Chlaenius* 965  
*pimalicus* Casey, *Harpalus* 1113  
*pimalis* Casey, *Anaferonia* 882  
*pimalis* Casey, *Celia* 917  
*pimalis* Casey, *Lebia* 1316  
*pimalis* Casey, *Lecalida* 1345  
*pimalis* Casey, *Loxopeza* 1316  
*pimalis* Casey, *Omophron* 389  
*pimalis* Casey, *Pasimachus* 396  
*pimalis* Casey, *Poecilus* 773  
*pimanum* Casey, *Bembidion* 617  
*pimelioides* Walker, *Callisthenes* 247  
*pimeriana* LeConte, *Cicindela* 338, 1590  
*pinalicus* Casey, *Anchomenus* 1255  
*pinguedineus* Eschscholtz, *Poecilus* 861  
*pinguedineus* Eschscholtz, *Pterostichus* 861, 1604  
*pinguis* Casey, *Discoderus* 1152  
*pinguis* LeConte, *Anisodactylus* 1031  
*pinorum* Casey, *Celia* 908  
*pinorum* Casey, *Evarthrinus* 873  
*pinorum* Casey, *Micragonum* 1237  
*piperi* Casey, *Celia* 946  
*piperi* Casey, *Opadius* 1112  
*piperi* Van Dyke, *Nebria* 178  
*pisgahensis* Barr, *Trechus* 526  
*pitychrous* LeConte, *Anisodactylus* 1034  
*piute* Erwin & Ball, *Nebria* 179  
*placabile* Casey, *Bembidion* 610  
*placeranum* Casey, *Bembidion* 643  
*placerensis* Casey, *Cicindela* 354  
*placerensis* Casey, *Hypherpes* 844  
*placerum* Gidaspow, *Calosoma* 250  
*placerus* Gidaspow, *Callisthenes* 250  
*placida* Say, *Feronia* 1213  
*placidum* Say, *Agonum* 1213, 1613  
*placidus* Casey, *Harpalus* 1127  
*plagiatus* Zimmermann, *Bembidion* 563  
*plagiatus* Casey, *Agonoderus* 1054  
*plagiatus* Zimmermann, *Ochthedromus* 563  
*plana* Sahlberg, *Feronia* 863  
*planatum* LeConte, *Bembidion* 656  
*planatus* Horn, *Diplochaetus* 713  
*planatus* Horn, *Pogonus* 713  
*planatus* LeConte, *Ochthedromus* 656  
*planatus* Lindroth, *Dyschirius* 441  
*planatus* Van Dyke, *Metrius* 728  
*planctus* LeConte, *Pterostichus* 844  
*planicollis* LeConte, *Clivina* 408  
*planicollis* LeConte, *Dicaelus* 996  
*planicollis* Motschulsky, *Metallina* 577  
*planifer* Casey, *Abacidus* 817  
*planifer* Casey, *Calathus* 1165  
*planifer* Casey, *Poecilus* 775  
*planifera* Casey, *Cymindis* 1286  
*planifera* Casey, *Lebia* 1334  
*planipennis* LeConte, *Cymindis* 1289  
*planipennis* LeConte, *Ochthedromus* 659  
*planipennis* LeConte, *Selenophorus* 1146  
*planipennis* Motschulsky, *Agonothorax* 1229  
*planiusculum* Mannerheim, *Bembidion* 635  
*planiusculum* Mannerheim, *Bembidium* 635  
*planiusculus* Sturm, *Bradytus* 1625  
*planulata* Casey, *Diplochila* 992  
*planulata* LeConte, *Calleida* 1345  
*planulatus* LeConte, *Schizogenius* 425  
*planuloides* Whitehead, *Schizogenius* 425  
*planum* Haldeman, *Bembidion* 659  
*planus* Haldeman, *Peryphus* 659



- planus* Sahlberg, *Pterostichus* 863  
*platicollis* Say, *Cymindis* 1294  
*platicollis* Say, *Lebia* 1294  
*plattensis* Smyth, *Cicindela* 331  
*platti* Cazier, *Cicindela* 337  
*platyderum* Chaudoir, *Bembidium* 557  
*platyderum* Gemminger & Harold, *Bembicidium* 619  
*platyderus* Chaudoir, *Chlaenius* 970, 1608  
*platynoides* Hayward, *Bembidion* 578  
*platynoides* Hayward, *Bembidium* 578  
*platynoides* Horn, *Calleida* 1345  
*platynoides* Horn, *Callida* 1345  
*plebejus* Dejean, *Stenolophus* 1051  
*plectile* Casey, *Bembidion* 616  
*pleistocenicus* Wickham, *Platynus* 1580  
*plenalis* Casey, *Harpalus* 1123  
*plethorus* Darlington, *Pterostichus* 822  
*pleuritica* LeConte, *Lebia* 1332  
*pleuriticus* Kirby, *Harpalus* 1126  
*plicatipennis* Wickham, *Chlaenius* 1577  
*plottbalsamensis* Donabauer, *Trechus* 523  
*plumasensis* Casey, *Rhadine* 1187  
*plumbeus* Sturm, *Nothophilus* 1626  
*pluripunctatus* LeConte, *Schizogenius* 423  
*plutonica* Casey, *Cicindela* 338  
*plutonicus* Casey, *Pterostichus* 838  
*poculare* Bates, *Bembidion* 587  
*poculare* Bates, *Bembidium* 587  
*poeciloides* Heer, *Amara* 943  
*poeyi* Chevrolat, *Chlaenius* 978  
*polita* Dejean, *Clivina* 445  
*polita* Faldermann, *Blethisa* 372  
*polita* Faldermann, *Diacheila* 372, 1593  
*polita* LeConte, *Amara* 940  
*polita* Motschulsky, *Omala* 626  
*politissima* Casey, *Celia* 919  
*politissima* Casey, *Circinalia* 1239  
*politula* LeConte, *Cicindela* 319  
*politulum* Harris, *Agonum* 1233  
*politus* Casey, *Brennus* 219  
*politus* Casey, *Elaphrus* 379  
*politus* Dejean, *Dicaelus* 999, 1608  
*politus* Dejean, *Dyschirius* 445, 1596  
*politus* Fall, *Bradycellus* 1061  
*politus* Fall, *Glycerius* 1061  
*politus* Harris, *Omasseus* 795  
*politus* LeConte, *Elaphrus* 378  
*politus* Sturm, *Steropus* 1627  
*pollens* Casey, *Holciophorus* 848  
*pollens* Casey, *Omus* 278  
*polyphemus* Herbst, *Scarites* 1622  
*pomona* Casey, *Amara* 944  
*pomonae* Fall, *Trechus* 513  
*poncei* Will, *Harpalus* 1101  
*pontis* Barr, *Pseudanophthalmus* 493  
*poppiusianum* Jacobson, *Platysma* 863  
*porcatus* Casey, *Brennus* 223  
*porosus* Motschulsky, *Anisodactylus* 1034  
*porosus* Motschulsky, *Ophonus* 1034  
*porrectum* Casey, *Bembidion* 538  
*porrectus* Say, *Nothiophilus* 185  
*porsildi* Brown, *Trichocellus* 1078  
*postfasciatum* Hamilton, *Bembidium* 653  
*postica* LeConte, *Clivina* 417  
*postica* LeConte, *Paraclivina* 417  
*posticum* Haldeman, *Notaphus* 616  
*posticus* LeConte, *Chlaenius* 985  
*postremum* Say, *Bembidion* 575  
*postremum* Say, *Bembidium* 575  
*potomaca* Erwin, *Paratachys* 692  
*potomaca* Erwin, *Tachys* 692  
*potomaca* Valentine, *Pseudanophthalmus* 480  
*powellii* Scudder, *Amara* 1577  
*praecinctum* LeConte, *Bembidion* 586  
*praecinctum* LeConte, *Bembidium* 586  
*praedicta* Kavanaugh & Schoville, *Nebria* 179  
*praedicta* Rumpff, *Cicindela* 327  
*praestans* Casey, *Calosoma* 241  
*praestans* Casey, *Harpalus* 1111  
*praeteritum* Scudder, *Bembidium* 1574  
*praetermissa* Chaudoir, *Feronia* 788  
*praetermissus* Barr, *Pseudanophthalmus* 482  
*praetermissus* Chaudoir, *Pterostichus* 788  
*praetextata* LeConte, *Cicindela* 308  
*praetextata* LeConte, *Habroscelimorpha* 308  
*praeustus* Dejean, *Helluo* 1370  
*praeustus* Dejean, *Helluomorphoides* 1370  
*prasina* LeConte, *Cicindela* 317  
*prasinoides* Lindroth, *Bembidion* 637, 1599  
*prasinus* Dejean, *Chlaenius* 976, 1608  
*praticola* Lindroth, *Bembidion* 598  
*pratti* Hatch, *Axinopalpus* 1313  
*pravitubus* Allen, *Loxandrus* 767  
*primus* Darlington, *Pterostichus* 822  
*princeps* Barr, *Pseudanophthalmus* 492  
*privata* Barr, *Rhadine* 1192  
*privatus* Casey, *Nothopus* 1092  
*proba* Casey, *Celia* 929  
*probatum* Casey, *Bembidion* 532  
*probatum* Casey, *Harpalus* 1106  
*probus* Casey, *Pterostichus* 812  
*procax* Casey, *Bembidion* 614  
*procera* Casey, *Diplocheila* 992  
*procerus* Casey, *Brennus* 220

- procerus* Casey, Omus 279  
*prociduum* Casey, Bembidion 609  
*proditor* Casey, Celia 919  
*productus* Barr, Pseudanophthalmus 465  
*productus* Casey, Brennus 218  
*profuga* Casey, Tachyura 676  
*profuga* Casey, Triaena 950  
*profundus* Valentine, Pseudanophthalmus 468  
*prognathus* Van Dyke, Platynus 1252  
*prolixa* Casey, Cicindela 320  
*prominens* Casey, Eumolops 885  
*prominens* Casey, Lebia 1334  
*prominens* Casey, Nebria 155  
*prominens* LeConte, Calosoma 234  
*prominulus* Casey, Blechrus 1305  
*pronotalis* Casey, Omus 275  
*properans* Casey, Europhilus 1205  
*properans* Stephens, Bembidion 649, 1599  
*properans* Stephens, Tachypus 649  
*properus* Casey, Triliarthrus 1075  
*propinqua* Knaus, Cicindela 329  
*propinquum* Gemminger & Harold, Agonum 1235, 1613  
*propinquus* Casey, Omus 277  
*propinquus* Gemminger & Harold, Platynus 1235  
*prosperum* Casey, Bembidion 602  
*protensa* Putzeys, Amara 939  
*protensiformis* Casey, Hypherpes 841  
*protensiformis* Casey, Pterostichus 841  
*protensipennis* Casey, Hypherpes 841  
*protensus* LeConte, Pterostichus 811  
*proteus* Kirby, Cicindela 360  
*proteus* Paykull, Carabus 1117  
*protospiloptera* Cockerell, Lebia 1580  
*protractum* LeConte, Calosoma 237  
*protractus* Casey, Harpalus 1100  
*protractus* Casey, Triliarthrus 1076  
*protractus* LeConte, Platynus 1216  
*protractus* LeConte, Pterostichus 845  
*provensis* Casey, Cicindela 365  
*provensis* Casey, Harpalus 1121  
*provensis* Casey, Hypherpes 845  
*providens* Casey, Harpalus 1109  
*provoana* Casey, Amara 951  
*provoanum* Casey, Bembidion 618  
*provoensis* Casey, Bradycellus 1071  
*provoensis* Casey, Stenocellus 1071  
*proximum* Chandler, Homophron 388  
*proximum* Notman, Bembidium 542  
*proximus* Chaudoir, Loxandrus 760  
*proximus* Harris, Anchomenus 1624  
*proximus* LeConte, Harpalus 1110  
*proximus* Say, Bembidium 694  
*proximus* Say, Tachys 694  
*pruininus* Casey, Dromochorus 302, 1592  
*pseudagricola* Noonan, Anisodactylus 1026  
*pseudamericanum* Mateu, Zuphium 1357  
*pseudobarberi* Donabauer, Trechus 525  
*pseudobrunnea* Lindroth, Amara 918  
*pseudocautum* Lindroth, Bembidion 628  
*pseudoerasa* Lindroth, Lionepha 533  
*pseudoerasum* Lindroth, Bembidion 533  
*pseudoerronea* Rumpff, Cicindela 303  
*pseudoerronea* Rumpff, Habroscelimorpha 303  
*pseudonovaculosus* Donabauer, Trechus 518  
*pseudopiceus* Bousquet, Oodinus 954  
*pseudoproperans* Netolitzky, Bembidion 561  
*pseudosenilis* Horn, Cicindela 327  
*pseudosubtilis* Donabauer, Trechus 525  
*pseudowillistoni* Horn, Cicindela 333  
*psilogramma* Bates, Cicindela 325  
*pterostichina* Hayward, Amara 896  
*puberulus* Chaudoir, Brachinus 747  
*pubescens* Dejean, Anchomenus 1259  
*pubescens* Dejean, Atranus 1259, 1615  
*pubescens* Dejean, Cymindis 1289  
*pubescens* Dejean, Euphorticus 1262  
*pubescens* Dejean, Lachnophorus 1262  
*pubescens* Harris, Chlaenius 982  
*pubescens* Horn, Anophthalmus 492  
*pubescens* Horn, Pseudanophthalmus 492  
*pubescens* Klug, Helluo 1369  
*pubitarsis* Casey, Harpalus 1095  
*pudica* Casey, Anaferonia 882  
*puella* Casey, Philophuga 1348  
*puellum* Dejean, Agonum 1209  
*puellus* Putzeys, Selenophorus 1146  
*puetana* Casey, Celia 915  
*puetana* Casey, Cicindela 339, 1590  
*puetana* Casey, Nebria 168  
*puetana* Casey, Rhadine 1187  
*puetanum* Casey, Bembidion 586  
*puetanum* Fall, Bembidium 550  
*puetanus* Casey, Apristus 1309  
*puetanus* Casey, Pterostichus 838  
*puetensis* Hatch, Trechus 508  
*pugnax* Casey, Tachys 688  
*pulchella* Dejean, Lebia 1327  
*pulchellus* Blatchley, Brachynus 740  
*pulchellus* LaFerté-Sénéctère, Tachys 688  
*pulchellus* LeConte, Badister 1008  
*pulchellus* Marsham, Carabus 648  
*pulchra* Say, Cicindela 356, 1590  
*pulicarium* Dejean, Bembidium 679

- pulicarius* Dejean, Selenophorus 1139  
*pulla* Jedlička, Amara 898  
*pullatus* Casey, Omus 278  
*pullmani* Casey, Amara 934  
*pullula* Poppius, Amara 889  
*pullulum* Casey, Bembidion 591  
*pulvinatus* Hausen, Pterostichus 796  
*pumicatus* Panzer, Carabus 783  
*pumicatus* Panzer, Stomis 783, 1605  
*pumila* Dejean, Clivina 448  
*pumila* Dejean, Lebia 1328  
*pumilio* Casey, Harpalus 1127  
*pumilio* LeConte, Brachinus 739  
*pumilum* Dejean, Bembidium 694  
*pumilus* Casey, Pterostichus 829  
*pumilus* Dejean, Dyschirius 448  
*pumilus* Dejean, Tachys 694  
*pumilus* Lindroth, Acupalpus 1082  
*pumpellyi* Scudder, Pterostichus 1576  
*punctata* Dejean, Cymindis 1291  
*punctata* LeConte, Calleida 1345, 1615  
*punctata* Putzeys, Inna 1278  
*punctatissima* Randall, Feronia 814  
*punctatissimus* LeConte, Elaphrus 381  
*punctatissimus* Randall, Pterostichus 814, 1604  
*punctatostriata* Motschulsky, Amara 925  
*punctatostriatum* Say, Bembidion 552, 1599  
*punctatostriatum* Say, Bembidium 552  
*punctatostriatus* Sturm, Omaseus 1626  
*punctatosulcata* Sturm, Platysma 1627  
*punctatulus* Putzeys, Athrostictus 1136  
*punctatulus* Putzeys, Selenophorus 1136  
*punctatus* Casey, Omus 277  
*punctatus* Hatch, Monillipatrobus 727  
*punctatus* LeConte, Cychrus 222  
*punctatus* LeConte, Notiophilus 189  
*punctatus* LeConte, Scaphinotus 222  
*punctatus* Valentine, Pseudanophthalmus 493  
*puncticeps* Casey, Anchus 1200  
*puncticeps* Casey, Glanodes 1130  
*puncticeps* Casey, Harpalus 1130  
*puncticeps* Stephens, Ophonus 1094, 1611  
*puncticollis* Casey, Bradycellus 1071  
*puncticollis* Casey, Stenocellus 1071  
*puncticollis* Chaudoir, Anisodactylus 1023  
*puncticollis* Dejean, Clivina 429  
*puncticollis* Dejean, Semiardistomis 429  
*puncticollis* LeConte, Brachinus 1625  
*puncticollis* Motschulsky, Platysma 795  
*puncticollis* Sahlberg, Amara 925  
*punctifera* LeConte, Cymindis 1295  
*punctifera* LeConte, Lebia 1295  
*punctiforme* Say, Agonum 1240, 1614  
*punctiformis* Say, Feronia 1240  
*punctifrons* Casey, Omus 273  
*punctigera* LeConte, Clivina 409  
*punctigera* LeConte, Cymindis 1295  
*punctipennis* Casey, Chlaenius 989  
*punctipennis* Casey, Trichocellus 1079  
*punctiventris* Chaudoir, Feronia 806  
*punctiventris* Chaudoir, Pterostichus 806  
*punctulata* Chaudoir, Calleida 1346  
*punctulata* Dejean, Amara 922  
*punctulata* LeConte, Clivina 409  
*punctulata* Olivier, Cicindela 320, 1590  
*punctulatus* Haldeman, Pasimachus 397  
*punctulatus* Hatch, Acupalpus 1085  
*punctulatus* Horn, Chlaenius 1577  
*punctulatus* LeConte, Anisodactylus 1025  
*punctulicolle* Bates, Calosoma 238  
*purgatus* Casey, Bradycellus 1072  
*purgatus* Casey, Stenocellus 1072  
*puritana* Horn, Cicindela 296  
*puritana* Horn, Ellipsoptera 296, 1592  
*puritanum* Hayward, Bembidium 662  
*puritanus* Casey, Trechus 507  
*purpurans* Hausen, Elaphrus 386, 1594  
*purpurascens* Bates, Anisotarsus 1016  
*purpurascens* Bates, Notiobia 1016  
*purpurascens* LeConte, Ochthedromus 540  
*purpurascens* Motschulsky, Celia 945  
*purpurata* LeConte, Nebria 179  
*purpuratus* Beutenmüller, Cychrus 209  
*purpuratus* Bonelli, Dicaelus 1001, 1608  
*purpuratus* Harris, Chlaenius 989  
*purpuratus* LeConte, Pterostichus 796  
*purpurea* Olivier, Cicindela 341, 1590  
*purpurea* Say, Calleida 1346  
*purpureus* Chaudoir, Chlaenius 976  
*purpureus* Say, Cymindis 1346  
*purpuricollis* Randall, Chlaenius 989  
*pusilla* Say, Cicindela 291  
*pusilla* Schreber, Cicindela 185  
*pusillus* Barr, Pseudanophthalmus 496  
*pusillus* LeConte, Anchus 1199  
*pusillus* LeConte, Loxandrus 757  
*pusillus* LeConte, Oxypselaphus 1199, 1614  
*pusillus* Say, Chlaenius 968  
*pusillus* Sokolov & Carlton, Anillinus 706  
*pusio* Casey, Olisthopus 1177  
*pusio* Horn, Anophthalmus 493  
*pusio* Horn, Pseudanophthalmus 493  
*pusio* LeConte, Blechrus 1306  
*pusio* LeConte, Microlestes 1306

- pustulata* Dejean, Cymindis 1300  
*pustulosus* Casey, Callisthenes 248  
*pustulosus* Casey, Cychrus 196  
*putata* Casey, Circinalia 1241  
*puteanus* Krekeler, Pseudanophthalmus 483  
*putus* Casey, Pterostichus 806  
*putzeysi* Bates, Curtonotus 896  
*putzeysi* Fleutiaux & Sallé, Tachys 690  
*putzeysiana* Csiki, Amara 900  
*putzeysii* Horn, Amara 900  
*pygmaeus* Dejean, Helluo 1361  
*pygmaeus* Dejean, Morio 726  
*pygmaeus* Dejean, Nomius 726, 1600  
*pygmaeus* Dejean, Pseudaptinus 1361  
*pygmaeus* Van Dyke, Schizogenius 420  
*pygmea* Couper, Amara 900  
*quadrangularis* Sahlberg, Feronia 866  
*quadrata* Casey, Lebia 1328  
*quadraticollis* Mannerheim, Notaphus 615  
*quadratum* Notman, Bembidion 542  
*quadratum* Notman, Bembidium 542  
*quadratus* Barr, Pseudanophthalmus 481  
*quadratus* Dejean, Dicaelus 1626  
*quadratus* LeConte, Anchomenus 1184  
*quadratus* LeConte, Dicaelus 1002  
*quadratus* LeConte, Platynus 1184  
*quadriceps* Chaudoir, Scarites 401, 1595  
*quadricollis* Casey, Agonoderus 1053  
*quadricollis* Haldeman, Blethisa 376, 1593  
*quadricollis* Kirby, Chlaenius 980  
*quadricollis* LeConte, Calathus 1168  
*quadricollis* LeConte, Dromius 1302  
*quadricollis* LeConte, Feronia 1621  
*quadricollis* LeConte, Geobaenus 1073  
*quadricollis* Mannerheim, Cryobius 863  
*quadridens* Motschulsky, Dyschirius 452  
*quadrifera* Casey, Euferonia 812  
*quadriroveatus* Harris, Notiophilus 188  
*quadriroveolata* Motschulsky, Amara 1624  
*quadriroveolatum* Mannerheim, Bembidion 644  
*quadriroveolatum* Mannerheim, Bembidium 644  
*quadrifoveolatum* Horn, Agonum 1242  
*quadrifoveolatum* Linnaeus, Bembidion 1599  
*quadrifoveolatus* Horn, Platynus 1242  
*quadrifoveolatus* Lindroth, Dyschirius 450  
*quadrifoveolatus* Palisot de Beauvois, Scarites 413  
*quadrinotatus* Horn, Anchonoderus 1260  
*quadripennis* Casey, Cicindela 366  
*quadripennis* Dejean, Brachinus 747  
*quadripunctata* DeGeer, Sericoda 1180  
*quadripunctatus* Dejean, Harpalus 1113  
*quadripunctatus* Mannerheim, Stenolophus 1079  
*quadristriatus* Schrank, Carabus 514  
*quadristriatus* Schrank, Trechus 514, 1597  
*quadrivittata* Dejean, Lebia 1322  
*quadrulum* Casey, Micragonum 1224  
*quadrulum* LeConte, Bembidion 538  
*quadrulum* LeConte, Bembidium 538  
*quenseli* Schönherr, Amara 945, 1607  
*quenseli* Schönherr, Carabus 945  
*quileute* Kavanaugh, Nebria 166  
*quinquepunctatum* Motschulsky, Agonum 1221  
*quinquepunctatus* Motschulsky, Pseudocryobius 855  
*raiana* Frost, Cicindela 1626  
*rainieri* Hatch, Bembidion 642  
*rainieri* Van Dyke, Carabus 263  
*ramosa* Gistel, Cicindela 341  
*ramseyensis* Donabauer, Trechus 518  
*randalli* LeConte, Clivina 406  
*rapax* LeConte, Elaphropus 674  
*rapax* LeConte, Tachys 674  
*rapidum* LeConte, Bembidion 619  
*rapidus* Chaudoir, Loxandrus 759  
*rapidus* LeConte, Ochthedromus 619  
*rathvoni* LeConte, Nebria 175  
*raveni* Van Dyke, Nebria 178  
*readii* Curtis, Leiochiton 455  
*rebaptisata* Vaurie, Cicindela 287  
*rebaptisata* Vaurie, Cyllindera 287  
*recensus* Casey, Harpalus 1110  
*recisus* Casey, Harpalus 1127  
*reconditum* Casey, Bembidion 613  
*recta* Say, Feronia 767  
*rectangula* LeConte, Amara 912  
*rectangulus* Casey, Harpalus 1103  
*rectangulus* Chaudoir, Acupalpus 1088  
*rectangulus* Chaudoir, Philodes 1088  
*rectangulus* LeConte, Loxandrus 765  
*rectangulus* Notman, Tachys 695  
*recticolle* LeConte, Bembidion 539  
*recticolle* LeConte, Bembidium 539  
*recticollis* Casey, Amara 935  
*recticollis* Casey, Chlaenius 976  
*rectilatera* Casey, Calosoma 241  
*rectilatera* Chaudoir, Cicindela 318  
*rectilatus* Casey, Pterostichus 838  
*rectus* Casey, Agonoderus 1056  
*rectus* Casey, Platidius 717  
*rectus* Casey, Tachys 684  
*rectus* Say, Loxandrus 767  
*redivivus* Wickham, Harpalus 1578  
*reducta* Casey, Celia 927  
*reducta* Casey, Nebria 155  
*reductus* Casey, Calathus 1164

- reflexa* Casey, Irichroa 209  
*reflexa* LeConte, Cymindis 1286  
*reflexicollis* Motschulsky, Tachymenis 664  
*reflexus* Casey, Callisthenes 248  
*reflexus* Casey, Platidius 716  
*reflexus* LeConte, Badister 1010  
*reflexus* LeConte, Dicaelus 999  
*reflexus* LeConte, Loxandrus 768  
*reflexus* LeConte, Platynus 1248  
*reflexus* Putzeys, Curtonotus 897  
*regestum* Casey, Bembidion 553  
*regestus* Casey, Chlaenius 976  
*regressus* Casey, Glanodes 1130  
*regularis* Casey, Omus 274  
*regularis* LeConte, Chlaenius 974  
*regularis* LeConte, Cychrus 215  
*regularis* LeConte, Scaphinotus 215  
*reichardti* Ball & Nimmo, Galerita 1366  
*reichenbachii* Schaufuss, Sphodrus 1174  
*reichlei* Barr, Maronetus 207  
*reichlei* Barr, Scaphinotus 207  
*reiectus* LeConte, Pterostichus 833  
*rejectus* LeConte, Brachinus 742  
*relicta* Newman, Feronia 811  
*relictum* Casey, Bembidion 584  
*relictus* Casey, Bradytus 903  
*relictus* Horn, Cychrus 215  
*relictus* Horn, Scaphinotus 215  
*relictus* Newman, Pterostichus 811  
*religatus* Scudder, Stenolophus 1578  
*reliquum* Csiki, Bembidion 584  
*relucens* Mannerheim, Celia 945  
*remissus* Casey, Omus 277  
*remissus* Casey, Stenolophus 1049  
*remittens* Casey, Cicindela 337  
*remota* Zimmermann, Celia 945  
*remotestriata* Dejean, Amara 945  
*remotum* Casey, Bembidion 623  
*renoanum* Casey, Bembidion 575  
*renoanus* Casey, Anchomenus 1183  
*renoica* Casey, Tachyura 675  
*renoicus* Casey, Elaphropus 675  
*renoicus* Casey, Harpalus 1132  
*repanda* Dejean, Cicindela 367, 1590  
*repandum* Sahlberg, Bembidium 565  
*repandus* Poppius, Cryobius 862  
*repens* Casey, Bembidion 654  
*reperta* Casey, Lebia 1326  
*repressus* Scudder, Brachinus 1575  
*responsor* Casey, Hypherpes 852  
*restrictus* Casey, Hypherpes 850  
*restrictus* Casey, Pterostichus 850  
*retectum* Casey, Bembidion 570  
*reticulatus* Motschulsky, Cychrus 219  
*retractum* Casey, Bembidion 615  
*retractum* LeConte, Agonum 1207, 1614  
*retractus* Casey, Evarthrinus 882  
*retractus* LeConte, Harpalus 1103  
*reversus* Casey, Harpalus 1114  
*revocata* Scudder, Amara 1577  
*rewolinskii* Noonan, Harpalus 1128  
*reyesi* Reddell & Cokendolpher, Rhadine 1193  
*reynoldsi* Casey, Omus 277  
*rhodeana* Casey, Lebia 1329  
*rhodeanum* Casey, Agonum 1214  
*rhodeanus* Casey, Elaphrus 379  
*rhodeanus* Casey, Tachys 695  
*rhodensis* Calder, Cicindela 362  
*rhodensis* Casey, Trechus 507  
*rhodensis* Csiki, Tachys 673  
*rhodopus* Schwarz, Lebia 1328  
*rhombiceps* Casey, Galerita 1364  
*rhombiceps* Casey, Platynidius 1250  
*rhombifer* Bates, Nemotarsus 1355  
*rhytiderus* Chaudoir, Brachynus 751  
*richardsoni* Kirby, Opisthius 149, 1583  
*rickseckeri* Hayward, Bembidium 662  
*rickseckeri* Hayward, Phrypeus 662, 1599  
*rickseckeri* LeConte, Cychrus 196  
*ridingsii* Bland, Cychrus 213  
*ridingsii* Bland, Scaphinotus 213  
*riehlii* Schaum, Phymatocephalus 1090  
*rigefactus* Scudder, Myas 1575  
*rigidula* Casey, Circinalia 1241  
*rigidulum* Casey, Agonum 1241  
*riparia* Dejean, Feronia 865  
*riparius* Casey, Selenophorus 1146  
*riparius* Dejean, Pterostichus 865  
*ritteri* Bates, Cicindela 314  
*rittmanni* Krekeler, Pseudanophthalmus 494  
*rivalis* LeConte, Bradycellus 1069  
*riversi* Roeschke, Brennus 223  
*riversi* Roeschke, Scaphinotus 223  
*riversi* Van Dyke, Nebria 178  
*rivularis* Casey, Loxopeza 1316  
*rivularis* Casey, Stenolophus 1051  
*rivularis* Motschulsky, Tachys 666  
*rivulis* Dajoz, Trechus 525  
*roanica* Casey, Euferonia 810  
*roanicus* Barr, Trechus 511  
*robisoni* Sokolov & Carlton, Anillinus 707  
*robusta* Leng, Cicindela 316  
*robusticollis* Hayward, Bembidion 546  
*robusticollis* Hayward, Bembidium 546



- robustula* Horn, Amara 915  
*robustum* Horn, Omophron 391  
*robustus* Allen, Loxandrus 762  
*robustus* Casey, Omus 280  
*robustus* Casey, Pasimachus 399  
*robustus* Horn, Discoderus 1152  
*robustus* Motschulsky, Agonothorax 1220  
*robustus* Valentine, Pseudanophthalmus 495  
*rockcastlei* Valentine, Ameroduvalius 505  
*roeschkei* Van Dyke, Scaphinotus 200  
*rogator* Motschulsky, Chlaenius 984  
*rogersae* Barr, Pseudanophthalmus 486  
*roguensis* Harris, Cicindela 349  
*rolandi* Fall, Bembidion 660  
*roosevelti* Pic, Bembidion 599  
*roosevelti* Pic, Bembidium 599  
*rosenbergi* Barr, Trechus 518  
*rosenbergi* Bell, Clinidium 144  
*rossi* Allen, Loxandrus 757  
*rossi* Van Dyke, Rhadine 1186  
*rossi* Van Dyke, Stenomorphus 1154  
*rosslandicum* Lindroth, Bembidion 644  
*rostrata* Dejean, Clivina 429  
*rostrata* Newman, Feronia 823  
*rostratus* Newman, Pterostichus 823, 1604  
*rothfelsi* Maddison, Bembidion 556  
*rothi* Hatch, Anilloferonia 830  
*rothi* Hatch, Pterostichus 830  
*roticollis* Casey, Circinalia 1239  
*roticollis* Casey, Cyclotrachelus 869  
*rotundatus* LeConte, Agonoleptus 1057  
*rotundatus* LeConte, Evarthrus 873  
*rotundatus* LeConte, Stenolophus 1057  
*rotundatus* Valentine, Pseudanophthalmus 469  
*rotundiceps* Casey, Bembidion 591  
*rotundiceps* Casey, Celia 929  
*rotundicolle* Sturm, Agonum 1624  
*rotundicollis* Bates, Polpochila 1090  
*rotundicollis* Dejean, Dinodes 1621  
*rotundicollis* Haldeman, Acupalpus 1057  
*rotundicollis* Haldeman, Agonoleptus 1057  
*rotundicollis* Kirby, Harpalus 1119  
*rotundicollis* Mannerheim, Cryobius 857  
*rotundicollis* Motschulsky, Stenolophus 1050  
*rotundipennis* Motschulsky, Anchomenus 1247  
*rubens* Fabricius, Carabus 515  
*rubens* Fabricius, Trechus 515, 1597  
*rubicunda* Harris, Cicindela 298  
*rubicunda* Harris, Ellipsoptera 298, 1592  
*rubicunda* LeConte, Clivina 410  
*rubiginosum* LeConte, Bembidion 599  
*rubiginosum* LeConte, Bembidium 599  
*rubra* Barr, Rhadine 1186  
*rubrica* Haldeman, Amara 918  
*rubricauda* Casey, Elaphropus 675  
*rubricauda* Casey, Tachyura 675  
*rubricollis* Dejean, Calleida 1617  
*rubripennis* Casey, Curtonotus 889  
*rubripennis* Thomson, Patrobus 723  
*rubripes* Casey, Evarthrus 878  
*rubripes* Duftschmid, Carabus 1118  
*rubripes* Duftschmid, Harpalus 1118, 1611  
*rubripes* Motschulsky, Stereocerus 784  
*rubripes* Motschulsky, Steroderus 784  
*rubripes* Zimmermann, Platynus 1241  
*rubrum* Barr, Agonum 1186  
*rudis* LeConte, Anisodactylus 1035  
*rudis* LeConte, Nebria 148  
*rudis* LeConte, Pelophila 148  
*rufa* LeConte, Clivina 412  
*rufa* Van Dyke, Patroboidea 725  
*rufescens* Dejean, Clivina 408  
*rufibarbis* Fabricius, Carabus 1094  
*rufibarbis* Fabricius, Ophonus 1094, 1612  
*ruficauda* Chaudoir, Chlaenius 985  
*ruficollis* Casey, Pseudomorpha 1375  
*ruficollis* Dejean, Calathus 1168  
*ruficollis* LeConte, Lebia 1330  
*ruficollis* LeConte, Philotecnus 1342  
*ruficollis* Mannerheim, Cryobius 856  
*ruficollis* Van Dyke, Trechus 1623  
*ruficornis* Chaudoir, Coptodera 1281  
*ruficornis* DeGeer, Carabus 890  
*ruficornis* Fabricius, Carabus 1101  
*ruficornis* Goeze, Carabus 1199  
*ruficornis* LeConte, Platynus 1205  
*ruficornis* Sahlberg, Amara 897  
*ruficrus* Kirby, Trechus 1078  
*rufilabris* Dejean, Chlaenius 972  
*rufilabris* Motschulsky, Loricera 370  
*rufimanus* Kirby, Curtonotus 896  
*rufimanus* LeConte, Harpalus 1113  
*rufimanus* Motschulsky, Leirus 897  
*rufinum* Lindroth, Bembidion 635  
*rufipennis* LeConte, Anisodactylus 1024  
*rufipes* Curtis, Notiophilus 183  
*rufipes* DeGeer, Carabus 1101  
*rufipes* DeGeer, Harpalus 1101, 1611  
*rufipes* Dejean, Agonum 1241  
*rufipes* Dejean, Argutor 1624  
*rufipes* Dejean, Casnonia 1619  
*rufipes* Dejean, Chlaenius 972  
*rufipes* Goeze, Carabus 182  
*rufipes* LeConte, Patrobus 719

- rufipes* LeConte, *Stenomorphus* 1154  
*rufipes* Moltischulsky, *Harpalus* 1118  
*rufipes* Paykull, *Carabus* 648  
*rufipes* Vaurie, *Cicindela* 287  
*rufiscapus* Mannerheim, *Omaseus* 866  
*rufitarsis* Casey, *Brennus* 218  
*rufitarsis* Nicolay & Weiss, *Euferonia* 810  
*rufitarsis* Sturm, *Argutor* 1624  
*rufiventris* Dejean, *Cicindela* 323, 1591  
*rufiventris* LeConte, *Dyschirius* 449  
*rufiventris* Van Dyke, *Colpodes* 1255  
*rufiventris* Van Dyke, *Platynus* 1255  
*rufofemoralis* Van Dyke, *Pterostichus* 815  
*rufopiceus* Casey, *Harpalus* 1097  
*rufopleura* Schaeffer, *Lebia* 1332  
*rufopyga* Chaudoir, *Metabola* 1327  
*rufotestacea* Hayward, *Polyderis* 684, 1599  
*rufotestaceus* Hayward, *Tachys* 684  
*rufotinctum* Chaudoir, *Bembidion* 557  
*rufotinctum* Chaudoir, *Bembidium* 557  
*rufula* Buquet, *Lebia* 1283  
*rufulus* LeConte, *Enaphorus* 1361  
*rufulus* LeConte, *Pseudaptinus* 1361  
*rufus* Putzeys, *Dyschirius* 427  
*rufus* Putzeys, *Oxydrepanus* 427  
*rugata* Vaurie, *Cicindela* 342  
*rugiceps* Horn, *Cychrus* 223  
*rugiceps* Horn, *Scaphinotus* 223  
*rugiceps* Mannerheim, *Anchomenus* 1244  
*rugicollis* Haldeman, *Omaseus* 812  
*rugicollis* Horn, *Callida* 1346  
*rugicollis* LeConte, *Agonoderus* 1056  
*rugicollis* LeConte, *Stenolophus* 1056  
*rugicollis* Randall, *Diplous* 717, 1600  
*rugicollis* Randall, *Patrobus* 717  
*rugifera* Tschitscherine, *Feronia* 866  
*rugifrons* Dejean, *Cicindela* 342  
*rugipennis* Casey, *Omus* 270  
*rugipennis* Chaudoir, *Brachinus* 736  
*rugosipennis* Schaeffer, *Calosoma* 235  
*rugosostriatus* Mandl, *Carabus* 255  
*rugosus* LeConte, *Pasimachus* 399  
*rugulifer* Casey, *Anchomenus* 1247  
*rugulifera* Hieke, *Amara* 927  
*rugulosus* Motschulsky, *Steropus* 1623  
*rumppi* Knudsen, *Cicindela* 333  
*rupestris* Say, *Bradycellus* 1067, 1610  
*rupestris* Say, *Trechus* 1067  
*rupicola* Kirby, *Bembidion* 568  
*rupicola* Kirby, *Peryphus* 568  
*rupimontis* Casey, *Cymindis* 1286  
*rupimontis* Casey, *Dicheirus* 1043  
*ruscarius* Say, *Elaphrus* 383, 1594  
*russata* Newman, *Lebia* 1293  
*russelli* Barr, *Rhadine* 1193  
*russelli* Cockerell, *Carabites* 1581  
*rustica* Casey, *Amara* 938  
*rusticum* Casey, *Bembidion* 636  
*rusticus* Say, *Anisodactylus* 1032, 1609  
*rusticus* Say, *Harpalus* 1032  
*rutilinus* Casey, *Phrypeus* 663  
*rutilovirescens* Rumpff, *Cicindela* 351  
*rutilus* Chevrolat, *Diplochaetus* 713  
*rutilus* Chevrolat, *Pogonus* 713  
*saccisecundaris* Allen, *Loxandrus* 758  
*sachalinensis* Matsumura, *Harpalus* 1113  
*sagax* Casey, *Calosoma* 241  
*sagax* Casey, *Tachys* 695  
*sahlbergi* Poppius, *Amara* 891  
*sahlbergi* Zetterstedt, *Harpalus* 914  
*sahlbergii* Dejean, *Bembidium* 576  
*sahlbergii* Fischer von Waldheim, *Nebria* 163  
*sahlbergioides* Munster, *Bembidion* 580  
*saii* Kirby, *Omophron* 388  
*salebratum* LeConte, *Bembidion* 539  
*salebratus* LeConte, *Ochthedromus* 539  
*salinae* Vaurie, *Cicindela* 304  
*salinarium* Casey, *Bembidion* 629  
*salivagans* LeConte, *Dyschirius* 451  
*sallaei* Bates, *Bembidium* 570  
*sallaei* Bates, *Ega* 1264  
*sallaei* Bates, *Panagaeus* 961  
*sallei* Chaudoir, *Panagaeus* 961  
*sallei* Chevrolat, *Calybe* 1264, 1615  
*sallei* Chevrolat, *Ega* 1264  
*sallei* Csiki, *Bembidion* 570  
*sallei* LeConte, *Cyclotrachelus* 875  
*sallei* LeConte, *Evarthrus* 875  
*sallei* Putzeys, *Schizogenius* 424  
*saltuum* Sturm, *Agonum* 1624  
*saludae* Barr, *Trechus* 511  
*saludae* Valentine, *Steniridia* 210  
*sanantonialis* Casey, *Chlaenius* 975  
*sanctaecrucis* Fabricius, *Anisodactylus* 1035, 1610  
*sanctipauli* Barr, *Pseudanophthalmus* 481  
*sangamon* Wickham, *Carabus* 1571  
*sanjuanensis* Hatch, *Amara* 944  
*santaclarae* Bates, *Cicindela* 317  
*saphyrinus* Chaudoir, *Loxandrus* 767  
*saphyrinus* Chaudoir, *Megalostylus* 767  
*sapphicum* Casey, *Bembidion* 586  
*sapphirinus* Csiki, *Loxandrus* 768  
*sargentorum* Malkin & Hatch, *Agonum* 1256  
*sarpedon* Casey, *Bembidion* 572

- sasajii* Ball, Clivina 410  
*satanicus* Barr, Trechus 523  
*satelles* Casey, Bembidion 563  
*saturata* Casey, Tachyura 675  
*saturatum* Casey, Bembidion 639  
*saturatus* Casey, Elaphropus 675  
*saulyi* Guérin-Méneville, Cicindela 305  
*saulyi* Guérin-Méneville, Habroscelimorpha 305  
*saxatilis* Casey, Bothriopterus 793  
*saxatilis* Casey, Trechus 508  
*sayanella* Casey, Cicindela 291  
*sayanus* Csiki, Pterostichus 806  
*sayi* Blatchley, Anisodactylus 1017  
*sayi* Blatchley, Notiobia 1017, 1611  
*sayi* Brullé, Feronia 772  
*sayi* Dejean, Calosoma 229, 1586  
*scabrosa* Schaupp, Cicindela 323  
*scalpta* Bates, Lebia 1329  
*scandicum* Lindroth, Bembidion 574  
*scapula* Horn, Lebia 1329  
*scapularis* Casey, Cicindela 366  
*scapularis* Dejean, Lebia 1336  
*scenicum* Casey, Bembidion 626  
*scenicus* Casey, Pterostichus 842  
*schaefferi* Ball, Aztecarpalus 1159  
*schaefferi* Breuning, Calosoma 250  
*schaefferi* Csiki, Selenophorus 1147  
*schaefferi* Liebke, Anchonoderus 1261  
*schalleri* Lindroth, Bembidion 568  
*schaumi* Chaudoir, Oodes 1622  
*schaumii* Chaudoir, Sphaeroderus 194  
*schaumii* LeConte, Ardistomis 428  
*schauppii* Horn, Cicindela 324  
*scholasticus* Barr, Pseudanophthalmus 482  
*schotti* Casey, Celia 908  
*schtschegolewi* Poppius, Carabus 264  
*schwarzi* Beutenmüller, Nomaretus 208  
*schwarzi* Beutenmüller, Scaphinotus 208  
*schwarzi* Hayward, Amara 904  
*schwarzi* Horn, Amblycheila 267, 1588  
*schwarzi* Horn, Amblychila 267  
*schwarzi* Jeannel, Trechus 512  
*schwarzi* Notman, Pseudomorpha 1376  
*schwarzi* Van Dyke, Nebria 180, 1583  
*scintilla* Casey, Celia 918  
*scintillans* Bates, Bembidion 620  
*scintillans* Bates, Bembidium 620  
*scitula* Zimmermann, Amara 951  
*scitulus* Casey, Stenolophus 1058  
*scitulus* LeConte, Poecilus 773  
*scitulus* LeConte, Tachys 695  
*scitus* Casey, Loxandrus 756  
*scolopaceus* Casey, Gastrellarius 781  
*scolopaceus* Casey, Selenophorus 1147  
*scolopax* Casey, Celia 909  
*scolopax* Casey, Pristodactyla 1170  
*scolopax* Casey, Stenomorphus 1155  
*scopaeus* Whitehead, Schizogenius 420  
*scopulinum* Kirby, Bembidion 560  
*scopulinus* Kirby, Peryphus 560  
*scopulosus* Barr, Trechus 512  
*scripta* Sturm, Cicindela 1626  
*scrutator* Fabricius, Calosoma 231, 1586  
*scrutator* Fabricius, Carabus 231  
*scrutator* LeConte, Lophoglossus 778, 1602  
*scrutator* LeConte, Lyperus 778  
*scrutatum* Casey, Bembidion 577  
*scrutatus* Casey, Curtonotus 898  
*scudderi* LeConte, Bembidion 621  
*scudderi* LeConte, Bembidium 621  
*sculptifrons* Bates, Lachnophorus 1261  
*sculptifrons* Putzeys, Clivina 414  
*sculptile* Newman, Clinidium 145, 1582  
*sculptilis* Bates, Loxandrus 763  
*sculptilis* Casey, Omus 273  
*sculptilis* Newman, Rhysodes 145  
*sculptilis* Say, Dicaelus 998, 1608  
*sculptipennis* Casey, Brennus 222  
*sculpturatum* Motschulsky, Bembidion 546  
*sculpturatum* Motschulsky, Odontium 546  
*sculptus* Bousquet, Dyschirius 435  
*sculptus* LeConte, Pterostichus 818  
*scutellaris* LeConte, Pterostichus 835  
*scutellaris* Say, Cicindela 343, 1591  
*scutellaris* Say, Feronia 1233  
*scutellata* Bates, Lebia 1335  
*scutulus* Barr, Pseudanophthalmus 486  
*seclusum* Casey, Bembidion 581  
*seclusus* Barr, Pseudanophthalmus 486  
*seclusus* Blatchley, Badister 1011  
*seclusus* Casey, Harpalus 1110  
*secretus* Fall, Dyschirius 441  
*sectator* Casey, Elaphropus 675  
*sectator* Casey, Tachyura 675  
*secunda* Wickham, Pausopsis 1575  
*sedakowi* Poppius, Cryobius 867  
*sedalia* Smyth, Cicindela 336  
*sedecimpunctata* Klug, Cicindela 324, 1591  
*seductum* Casey, Bembidion 577  
*sedula* Casey, Tachyura 676  
*sedulum* Casey, Bembidion 578  
*sedulus* Casey, Chlaenius 982  
*sedulus* Casey, Elaphropus 676  
*segnis* Harris, Cicindela 287

- sejunctum* Casey, Bembidion 568  
*sejunctus* Casey, Bradycellus 1072  
*sejunctus* Casey, Harpalus 1132  
*sejunctus* Casey, Stenocellus 1072  
*sejungenda* Chaudoir, Feronia 836  
*sellatus* LeConte, Dyschirius 451  
*sellatus* LeConte, Pericompsus 681  
*semiaureum* Fall, Bembidion 569  
*semicinctum* Notman, Bembidion 599  
*semicinctum* Notman, Bembidium 599  
*semicuprea* Casey, Calosoma 244  
*semifulva* Bates, Pentagonica 1265  
*semilaeve* LeConte, Calosoma 242, 1586  
*semilucens* Casey, Omus 276  
*seminitidum* Kirby, Agonum 1216  
*semiopacum* Casey, Bembidion 617  
*semiopacus* Eschscholtz, Notiophilus 189  
*semiopacus* Snow, Selenophorus 1627  
*semipicta* Casey, Cicindela 304  
*semipubescens* Lindroth, Bradycellus 1074  
*semipunctata* Casey, Circinalia 1241  
*semipunctata* Eschscholtz, Loricera 370  
*semipunctatum* Donovan, Bembidion 617, 1599  
*semipunctatus* Donovan, Carabus 617  
*semipunctatus* Fabricius, Elaphrus 185  
*semipunctatus* LeConte, Anisodactylus 1023  
*semirubidus* Casey, Triplectrus 1032  
*semistriata* Haldeman, Leja 542  
*semistriatum* Haldeman, Bembidion 542  
*semistriatus* Say, Nothiophilus 189  
*semitinctus* Casey, Stenolophus 1047  
*semiviride* Casey, Micragonum 1237  
*semota* Casey, Celia 939  
*semotum* Casey, Bembidion 651  
*semotus* Casey, Anomoglossus 967  
*semotus* Casey, Callisthenes 248  
*senecae* Valentine, Pseudanophthalmus 480  
*senex* Scudder, Platynus 1580  
*senilis* Horn, Cicindela 324  
*septentrionalis* LeConte, Isopleurus 904  
*septentrionalis* Schiødte, Amara 922  
*septentrionis* Dejean, Patrobus 722, 1600  
*septentrionis* Sokolov & Carlton, Serranillus 710  
*sequax* LeConte, Tachys 696  
*sequoiae* Lindroth, Bembidion 533  
*sequoiae* Lindroth, Lionepha 533  
*sequoiarum* Casey, Agonum 1222  
*sequoiarum* Casey, Pterostichus 851  
*sequoiarum* Crotch, Omus 273  
*sequoyah* Barr, Pseudanophthalmus 469  
*sera* Say, Amara 935  
*serenum* Casey, Bembidion 531  
*serenus* Casey, Europhilus 1207  
*seriata* Hatch, Cymindis 1290  
*seriatus* Wiedemann, Carabus 263  
*sericatus* Casey, Anisodactylus 1023  
*sericea* Harris, Amphasia 1039  
*sericeus* Casey, Bothriopterus 793  
*sericeus* Casey, Dromochorus 301  
*sericeus* Forster, Carabus 973  
*sericeus* Forster, Chlaenius 973, 1608  
*sericeus* Harris, Harpalus 1039  
*sericeus* Rivers, Metrius 728  
*sericinitens* Chaudoir, Chlaenius 978  
*sericus* Barr, Pseudanophthalmus 474  
*seriepunctatus* Mannerheim, Pterostichus 792  
*serpens* LeConte, Cicindela 325  
*serpentina* Casey, Lebia 1323  
*serratus* Say, Carabus 258, 1587  
*serripes* LeConte, Holciophorus 851  
*serripes* LeConte, Pterostichus 851  
*serus* Scudder, Nomareetus 1570  
*serva* Casey, Tachyura 676  
*seticollis* Fall, Schizogenius 423  
*seticornis* Müller, Carabus 370  
*setosum* LeConte, Piosoma 1091  
*setosus* Hatch, Pterostichus 851  
*setosus* LeConte, Dyschirius 443  
*severa* LaFerté-Sénectère, Cicindela 308  
*severa* LaFerté-Sénectère, Habroscelimorpha 308  
*sevieri* Kavanaugh, Nebria 179  
*sexguttata* Fabricius, Cicindela 357, 1591  
*seximpressa* LeConte, Feronia 878  
*seximpressus* LeConte, Cyclotrachelus 878, 1601  
*sexpunctatus* LeConte, Ochthedromus 606  
*sexpunctatus* Mannerheim, Bothriopterus 793  
*sextoni* Bousquet, Dyschirius 449  
*sexualis* Casey, Eumolops 885  
*shantzi* Casey, Celia 916  
*shantzi* Casey, Cicindela 343  
*shastanica* Casey, Celia 923  
*shastanica* Casey, Sericoda 1202  
*shastanicum* Casey, Bembidion 564  
*shastanicus* Casey, Omus 275  
*shastanus* Casey, Bothriopterus 793  
*shelfordi* Graves, Cicindela 363  
*shermani* Casey, Cicindela 362  
*shermani* Casey, Pelophila 148  
*shermani* Casey, Triaena 950  
*shilohensis* Krekeler, Pseudanophthalmus 498  
*shoemakeri* Casey, Celia 917  
*shoemakeri* Leng, Scaphinotus 202  
*shulli* Hatch, Platysma 803  
*shulli* Hatch, Pterostichus 803

- sibirica* Csiki, Amara 922  
*sibiricum* Gebler, Agonum 1211  
*sibiricus* Csiki, Harpalus 1110  
*sibiricus* Motschulsky, Elaphrus 378  
*sidus* Barr, Pseudanophthalmus 469  
*siebkei* Müller, Bembidion 567  
*sierra* Leng, Cicindela 347  
*sierrablancae* Kavanaugh, Nebria 180  
*sierrae* Kavanaugh, Nebria 176  
*sierrae* Van Dyke, Loricera 370  
*sierranum* Casey, Agonum 1222  
*sierranus* Casey, Notiophilus 190  
*sierranus* Casey, Platidius 717  
*sierranus* Casey, Pterostichus 841  
*sierricola* Casey, Bembidion 636  
*sierricola* Casey, Chlaenius 974  
*sierricola* Casey, Omus 275  
*sigillare* Say, Bembidium 552  
*sigillata* Say, Feronia 879  
*sigillatus* Say, Cyclotrachelus 879  
*sigmoidea* LeConte, Cicindela 326  
*signata* Dejean, Cicindela 304  
*signata* Dejean, Coptodera 1277  
*signata* Dejean, Phloeoxena 1277  
*silphoides* Rossi, Licinus 1004  
*similatus* Casey, Anchomenus 1247  
*simile* Kirby, Agonum 1208  
*similis* Dejean, Poecilus 1627  
*similis* Kirby, Stereocerus 784  
*similis* Kirby, Trechus 1053  
*similis* LeConte, Anisodactylus 1023  
*similis* LeConte, Brachinus 748  
*similis* LeConte, Elaphrus 382  
*similis* Mannerheim, Pterostichus 863  
*similis* Say, Harpalus 1017  
*similis* Sturm, Brachinus 1625  
*simillimus* Chaudoir, Chlaenius 978  
*simiola* Casey, Ferestria 871  
*simoni* Heyden, Carabus 257  
*simplex* Barr, Pseudanophthalmus 496  
*simplex* Dejean, Dicaelus 995  
*simplex* Hayward, Bembidion 636  
*simplex* Hayward, Bembidium 636  
*simplex* LeConte, Calosoma 243  
*simplex* LeConte, Platynus 1226  
*simplex* LeConte, Pterostichus 853  
*simplex* LeConte, Schizogenius 423  
*simulans* Barr, Pseudanophthalmus 489  
*simulans* Sahlberg, Harpalus 894  
*simulator* Casey, Bembidion 608  
*simulator* Fall, Notiophilus 190  
*sinaloae* Darlington, Stenomorphus 1155  
*sinuata* Casey, Cymindis 1286  
*sinuata* Say, Apenes 1300  
*sinuaticollis* Jeannel, Anillinus 707  
*sinuaticollis* Notman, Selenophorus 1147  
*sinuatus* Ball, Dicaelus 997  
*sinuatus* Casey, Anisodactylus 1022  
*sinuatus* Casey, Brennus 219  
*sinuatus* Casey, Pasimachus 397  
*sinuatus* Dejean, Anchomenus 1245  
*sinuatus* Gyllenhal, Carabus 1145  
*sinuatus* Jeannel, Anillinus 707  
*sinuatus* Jeannel, Anillodes 707  
*sinuatus* LeConte, Elaphrus 381  
*sinuatus* Say, Cymindis 1300  
*sinuosa* Casey, Amara 919  
*sinuosa* Casey, Celia 920  
*sinuosus* Casey, Omus 277  
*sinuosus* Casey, Pelmatellus 1045  
*sinus* Freitag, Cyclotrachelus 879  
*sinus* Freitag, Evarthrus 879  
*siskiyouensis* Kavanaugh, Nebria 175  
*siticum* Casey, Bembidion 626  
*siuslawensis* Graves, Cicindela 363  
*slevini* Van Dyke, Trachypachus 142  
*smaragdiger* Motschulsky, Chlaenius 986  
*smaragdina* Dejean, Calleida 1346  
*smaragdinus* Chaudoir, Chlaenius 976  
*smaragdula* Dejean, Lebia 1333  
*smetanai* Bousquet, Pterostichus 802  
*smokiensis* Sokolov, Anillinus 707  
*smythi* Harris, Cicindela 300  
*smythi* Harris, Opilidia 300  
*snowbirdensis* Donabauer, Trechus 518  
*snowi* Casey, Bembidion 544  
*snowi* Casey, Cicindela 316  
*snowi* Casey, Poecilus 777  
*snowi* LeConte, Cychrus 200  
*snowi* LeConte, Scaphinotus 200  
*sociale* Casey, Bembidion 619  
*socius* Casey, Omus 271  
*socors* Casey, Harpalus 1106  
*soda* Dajoz, Dyschiriodes 449  
*soda* Dajoz, Dyschirius 449  
*sodalicia* Casey, Amara 927  
*sodalis* Casey, Celia 908  
*sodalis* Casey, Dicheirus 1043  
*sodalis* LeConte, Cyclotrachelus 881  
*sodalis* LeConte, Feronia 881  
*solea* Hentz, Lebia 1336  
*solidulum* Casey, Micragonum 1224  
*solidulus* Casey, Omus 271  
*solidum* Casey, Omophron 391



- solidus* Casey, Anisodactylus 1023  
*solita* Casey, Celia 923  
*solita* Casey, Tachyura 673  
*solitaris* Dejean, Harpalus 1126, 1611  
*solitarius* Say, Chlaenius 977  
*solivagus* Krekeler, Pseudanophthalmus 477  
*solodovnikovi* Barševskis, Notiophilus 189  
*solutum* Casey, Bembidion 656  
*solutus* Casey, Anchomenus 1226  
*solutus* Casey, Harpalus 1108  
*sommeri* Mannerheim, Cicindela 310  
*somnolentus* Putzeys, Curtonotus 897  
*somnulentus* Dejean, Harpalus 1126  
*sonoma* Casey, Cicindela 366  
*sonomae* Casey, Chlaenius 976  
*sonomae* Casey, Lebia 1337  
*sonorae* Casey, Omophron 390  
*sonorae* Kavanaugh, Nebria 166  
*sonorana* Casey, Cicindela 324  
*sonoricus* Casey, Calathus 1165  
*soperi* Ball, Pterostichus 864  
*sordens* Kirby, Agonum 1208  
*sordidulum* Chaudoir, Bembidium 593  
*sordidum* Kirby, Bembidion 575  
*sordidus* Kirby, Peryphus 575  
*sordidus* Marsham, Carabus 1198  
*soror* Casey, Tachyura 674  
*sospes* Casey, Tachyura 676  
*spadiceus* Casey, Curtonotus 892  
*spadiceus* Dejean, Harpalus 1115  
*spadix* Casey, Tachys 696  
*spaldingi* Casey, Bradytus 909  
*spaldingi* Casey, Cicindela 326  
*spaldingi* Casey, Harpalus 1098  
*sparsellus* Casey, Chlaenius 971  
*sparsellus* Casey, Omus 276  
*sparsus* Casey, Omus 278  
*sparsus* LeConte, Chlaenius 971  
*spathifer* Bousquet, Pterostichus 803  
*spatulata* Van Dyke, Nebria 177  
*speciosus* Casey, Dicaelus 1002  
*spectabilis* Mannerheim, Amerizus 529  
*spectabilis* Mannerheim, Trechus 529  
*specularis* Casey, Bradytus 907  
*specularis* Casey, Trachypachus 142  
*speculinum* Casey, Bembidion 648  
*speculum* Casey, Bembidion 533  
*specum* Barr, Agonum 1194  
*specum* Barr, Rhadine 1194  
*speokoites* Valentine, Horologion 711  
*sperata* LeConte, Cicindela 299  
*sperata* LeConte, Ellipsoptera 299  
*sphaericollis* Say, Clivina 446  
*sphaericollis* Say, Dyschirius 446, 1596  
*sphaeroderum* Bates, Bembidion 588  
*sphaeroderum* Bates, Bembidium 588  
*sphaerops* Casey, Celia 909  
*sphodrinus* LeConte, Pterostichus 831, 1604  
*spinilunatus* Allen, Loxandrus 758  
*spissicorne* Casey, Bembidion 622  
*spissicornis* Casey, Elaphrus 382  
*spissipes* Casey, Omus 279  
*spissitarsis* Casey, Cicindela 355  
*spissitarsis* Casey, Hypherpes 851  
*splendida* Haldeman, Amara 927  
*splendida* Hentz, Cicindela 344  
*splendida* Sahlberg, Feronia 862  
*splendidula* LeConte, Abaris 770  
*splendidulum* Motschulsky, Agonum 1617  
*splendidulus* LeConte, Pterostichus 770  
*splendidulus* Motschulsky, Stenolophus 1052  
*splendidum* Dejean, Calosoma 232  
*splendidus* Say, Dicaelus 1002, 1608  
*spoliata* Newman, Feronia 873  
*spoliatus* Newman, Cyclotrachelus 873  
*sponsa* Casey, Calosoma 236  
*sponsor* Casey, Curtonotus 891  
*sponsor* Casey, Pterostichus 842  
*spraguei* Horn, Aphelogenia 1337  
*spraguei* LeConte, Pterostichus 842  
*spreta* LeConte, Cicindela 335  
*spretus* Dejean, Stenolophus 1052  
*sprousei* Reddell & Cokendolpher, Rhadine 1194  
*spuria* Lindroth, Amara 912  
*st. crucis* Fabricius, Carabus 1035  
*stabile* LeConte, Bembidion 570  
*stantonensis* Ball, Pterostichus 859  
*stapedius* Hacker, Pterostichus 827  
*statenensis* Casey, Circinalia 1239  
*steensensis* Kavanaugh, Nebria 180  
*steevesi* Barr, Anillinus 707  
*steevesi* Barr, Pseudanophthalmus 469  
*stefanschoedli* Donabauer, Trechus 518  
*stellata* Casey, Calosoma 239  
*stenocephalus* LaFerté-Sénectère, Oodes 959  
*stenomus* Chaudoir, Brachinus 739  
*stenops* Bousquet & Skelley, Scarites 403  
*stenopus* Hausen, Pterostichus 796  
*stenostomus* Say, Cychrus 194  
*stenostomus* Weber, Cychrus 195  
*stenostomus* Weber, Sphaeroderus 195  
*stephani* Ball, Harpalus 1130  
*stephani* Sokolov & Carlton, Anillinus 708  
*stephensii* Crotch, Bembidion 579

- stephensii* Crotch, Bembidium 579  
*stephensii* Kirby, Harpalus 1119  
*sterilis* Scudder, Amara 1577  
*sterope* Casey, Cicindela 365  
*stevensoni* Hatch, Bembidion 608  
*stigmaticum* Dejean, Bembidium 552  
*stigmatosus* Germar, Harpalus 1144  
*stigmatosus* LeConte, Platynus 1180  
*stigmula* Putzeys, Clivina 417  
*stigmula* Putzeys, Paraclivina 417  
*stillaguamish* Hatch, Bembidion 637  
*stocktonensis* Casey, Carabus 262  
*stocktonensis* Casey, Harpalus 1132  
*stoicus* Casey, Hypherpes 835  
*stolidus* Casey, Omus 278  
*straneoi* Will & Liebherr, Loxandrus 764  
*strawberriensis* Kavanaugh, Nebria 1626  
*strenuus* Casey, Platidius 717  
*strenuus* Horn, Anisodactylus 1044  
*strenuus* Horn, Dicheirus 1044  
*strenuus* LeConte, Brachinus 735  
*strenuus* LeConte, Pasimachus 399, 1604  
*strenuus* LeConte, Pterostichus 779  
*strenuus* Panzer, Carabus 791  
*strenuus* Panzer, Pterostichus 791  
*striata* Breuning, Calosoma 1625  
*striata* Breuning, Calosoma 248  
*striata* Casey, Calleida 1344  
*striata* Dejean, Feronia 818  
*striatellus* LaFerté-Sénéctère, Oodes 958  
*striatius* Hatch, Calosoma 250  
*striatopunctata* Dejean, Clivina 417  
*striatopunctata* Dejean, Paraclivina 417  
*striatopunctata* LeConte, Diplocheila 994, 1609  
*striatopunctatum* Dejean, Agonum 1238, 1614  
*striatopunctatus* Chaudoir, Cychrus 224  
*striatopunctatus* Chaudoir, Scaphinotus 224  
*striatopunctatus* LeConte, Rembus 994  
*striatopunctatus* Putzeys, Selenophorus 1147  
*striatulum* LeConte, Calosoma 247  
*striatum* Dejean, Tanystoma 1197  
*striatus* Dejean, Anchomenus 1197  
*striatus* LeConte, Anisodactylus 1026  
*striatus* LeConte, Cychrus 218  
*striatus* Motschulsky, Anophthalmus 489  
*striatus* Motschulsky, Pseudanophthalmus 489  
*stricticollis* Jeannel, Pseudanophthalmus 498  
*strictus* Casey, Brennus 225  
*striga* LeConte, Cicindela 309  
*striga* LeConte, Habroscelimorpha 309  
*strigicollis* Mannerheim, Anchomenus 1179  
*strigicollis* Sahlberg, Feronia 784  
*strigosula* Casey, Euferonia 810  
*strigulosum* Casey, Bembidion 585  
*stringens* Casey, Cicindela 307  
*striola* LeConte, Bembidion 564  
*striola* LeConte, Ochthedromus 564  
*striolatus* Putzeys, Curtonotus 897  
*stupidida* LeConte, Amara 894  
*stupidus* LeConte, Harpalus 1126  
*stupkai* Barr, Trechus 519  
*stuxbergi* Mäklin, Feronia 861  
*stygalis* Casey, Bradytus 901  
*stygica* Say, Feronia 812  
*stygicornis* Say, Brachinus 747  
*stygicus* Chaudoir, Patrobus 720  
*stygicus* LeConte, Platynus 1252  
*stygicus* Say, Pterostichus 812, 1604  
*suavis* Casey, Bradycellus 1072  
*suavis* Casey, Stenocellus 1072  
*subacuta* Casey, Gastrosticta 806  
*subacutus* Casey, Pterostichus 806  
*subaenea* LeConte, Acrodon 920  
*subaenescens* Csiki, Amara 920  
*subaeneum* Chaudoir, Calosoma 251  
*subaeneus* LeConte, Anisodactylus 1037  
*subaeneus* LeConte, Ochthedromus 537  
*subaeneus* Mannerheim, Harpalus 1112  
*subaequalis* Casey, Euferonia 812  
*subaequalis* Valentine, Pseudanophthalmus 471  
*subaerarium* Casey, Bembidion 540  
*subaffinis* Casey, Lebia 1334  
*subangulata* Chaudoir, Aspidoglossa 430  
*subangulatus* Chaudoir, Dyschirius 430  
*subangustatum* Hayward, Bembidion 579  
*subangustatum* Hayward, Bembidium 579  
*subarctica* Casey, Amara 940  
*subarcticus* Kano, Cymindis 1292  
*subarcticus* Lindroth, Dyschirius 441  
*subarcuatus* LeConte, Pterostichus 834  
*subasperatum* Schaeffer, Calosoma 251  
*subcarinata* Casey, Cymindis 1295  
*subcarinata* Casey, Pinacodera 1295  
*subcaudatus* Mannerheim, Cryobius 866  
*subcordata* Chaudoir, Philopheuga 1348  
*subcordatus* Chaudoir, Bradycellus 1068  
*subcordatus* LeConte, Platynus 1223  
*subcordatus* LeConte, Poecilus 773  
*subcyaneus* Horn, Apristus 1308  
*subcyaneus* Illiger, Carabus 1174  
*subcylindricus* Nunenmacher, Omus 280  
*subdeletus* Casey, Apristus 1309  
*subdepressa* Casey, Celia 923  
*subdepressus* Casey, Brennus 224

- subdola* Madge, Lebia 1317  
*subenormis* Casey, Harpalus 1132  
*subexaratus* Mannerheim, Cryobius 866  
*subexiguum* Casey, Bembidion 617  
*subfigurata* Motschulsky, Lebia 1319  
*subgelidus* Wickham, Platynus 1580  
*subgibbus* Motschulsky, Pterostichus 863  
*subgracilis* Casey, Calosoma 236  
*subgrandis* Madge, Lebia 1317  
*subimpressum* Casey, Omophron 390  
*subinflatum* Casey, Agonum 1232  
*subinflatus* Motschulsky, Peryphus 567  
*sublaevis* Chaudoir, Brachinus 740  
*sublaevis* Motschulsky, Ophonus 1034  
*sublaevis* Palisot de Beauvois, Pasimachus 399  
*sublaevis* Palisot de Beauvois, Scarites 399  
*sublaevis* Putzeys, Dyschirius 449  
*sublaevis* Sahlberg, Feronia 815  
*sublaevis* Sahlberg, Pterostichus 815  
*sublimbata* Motschulsky, Lebia 1321  
*sublustris* Casey, Rhadine 1188  
*submarginata* Say, Feronia 780  
*submarginatus* Say, Piesmus 780, 1602  
*submarinus* Motschulsky, Badister 1011  
*submarinus* Motschulsky, Badistes 1011  
*submetallicus* Horn, Omus 281, 1588  
*subnitens* Calder, Cicindela 333  
*subnitens* Casey, Pasimachus 398  
*subnitidulus* Poppius, Cryobius 862  
*subopaca* Schaeffer, Lebia 1333  
*subopacus* Hopping, Zacotus 457  
*subovalis* Casey, Anisotarsus 1018  
*subovalis* Casey, Cratacanthus 1160  
*subparallelus* Casey, Omus 278  
*subpolaris* LeConte, Diachila 372  
*subpunctata* LeConte, Amara 939  
*subpunctatus* Blatchley, Tachys 669  
*subpunctatus* Harris, Omaseus 797  
*subpunctatus* Hatch, Dyschirius 446  
*subrectus* Casey, Acupalpus 1081  
*subrugosa* Chaudoir, Lebia 1327  
*subsericeus* Casey, Omus 276  
*subsericeus* LeConte, Platynus 1222  
*subsimilis* Casey, Celia 923  
*subsinuosa* Chaudoir, Feronia 861  
*substrenuus* Csiki, Lophoglossus 779  
*substrenuus* Csiki, Pterostichus 779  
*substriata* LeConte, Feronia 884  
*substriatus* Haldeman, Pasimachus 399  
*substriatus* Haldeman, Scarites 401  
*substriatus* LeConte, Cyclotrachelus 884  
*substriatus* Putzeys, Curtonotus 893  
*substrictus* LeConte, Ochthedromus 566  
*subsulcata* Sahlberg, Amara 889  
*subsulcatus* Dejean, Apristus 1309, 1615  
*subsulcatus* Dejean, Dromius 1309  
*subsulcatus* Say, Pasimachus 398  
*subterranea* Van Dyke, Comstockia 1195  
*subterranea* Van Dyke, Rhadine 1195  
*subterraneus* Fabricius, Scarites 403, 1595  
*subterreus* Bonelli, Scarites 403  
*subtilis* Barr, Trechus 525  
*subtilis* Casey, Curtonotus 890  
*subtilis* Sahlberg, Feronia 855  
*subtilis* Schaum, Cychrus 224  
*subtilis* Schaum, Scaphinotus 224  
*subtinctus* LeConte, Amblygnathus 1135  
*subtinctus* LeConte, Selenophorus 1135  
*subtropica* Vogt, Cicindela 316  
*subtropicus* Casey, Celiomorphus 1140  
*subtropicus* Casey, Dicaelus 1001  
*subtropicus* Casey, Selenophorus 1140  
*subtropicus* Casey, Tachys 688  
*subviolaceus* Casey, Discoderus 1153  
*subvirens* Casey, Anisotarsus 1018  
*sufflans* LeConte, Brachinus 742  
*sufflatum* Casey, Bembidion 554  
*sufflatus* Casey, Hypherpes 834  
*suffusum* Casey, Agonum 1222  
*suffusus* Casey, Dicaelus 1004  
*suffusus* Casey, Liodicaelus 1004  
*suffusus* Casey, Pterostichus 838  
*sulcata* Casey, Eumolops 882  
*sulcata* LeConte, Clivina 421  
*sulcatula* Casey, Cylindrocharis 823  
*sulcatula* Casey, Percosia 906  
*sulcatulum* Chaudoir, Bembidium 662  
*sulcatum* Dejean, Tanystoma 1198  
*sulcatum* Harris, Agonum 1624  
*sulcatus* Chevrolat, Stenocrepis 959  
*sulcatus* Dejean, Anchomenus 1198  
*sulcatus* Dejean, Pasimachus 1627  
*sulcatus* LeConte, Dyschirius 438  
*sulcatus* LeConte, Ochthedromus 596  
*sulcatus* Sturm, Omaseus 1626  
*sulcifrons* Putzeys, Schizogenius 421  
*sulcipenne* Horn, Agonum 1224, 1614  
*sulcipennis* Casey, Triplectrus 1031  
*sulcipennis* Horn, Platynus 1224  
*sulcipennis* Putzeys, Clivina 417  
*sulcipennis* Putzeys, Paraclivina 417  
*sulcipennis* Sahlberg, Feronia 862  
*sulfontis* Rumpp, Cicindela 328  
*superciliosa* Say, Feronia 820

- superciliosus* Say, *Pterostichus* 820, 1605  
*superioris* Lindroth, *Agonum* 1208  
*supplex* Casey, *Bradycellus* 1066  
*supplex* Casey, *Stenocellus* 1066  
*surgens* LeConte, *Pterostichus* 864  
*susanagreae* Kippenhan, *Cicindela* 291  
*susanagreae* Kippenhan, *Cylindera* 291  
*suspectum* Blaisdell, *Bembidium* 608  
*sustentus* LeConte, *Pterostichus* 834  
*suturale* Say, *Agonum* 1221  
*suturalis* Casey, *Loxandrus* 755  
*suturalis* Chaudoir, *Casnonia* 1269  
*suturalis* LeConte, *Acupalpus* 1066  
*suturalis* LeConte, *Agonoderus* 1054  
*suturalis* LeConte, *Nebria* 171  
*sybariticum* Casey, *Agonum* 1222  
*sycophanta* Linnaeus, *Calosoma* 230, 1586  
*sycophanta* Linnaeus, *Carabus* 230  
*sylvanus* Goulet, *Elaphrus* 381, 1593  
*sylvatica* Kavanaugh, *Nebria* 173  
*sylvaticus* Barr, *Pseudanophthalmus* 473  
*sylvaticus* Dejean, *Notiophilus* 190  
*sylvosus* Say, *Carabus* 261, 1588  
*symbolicus* Casey, *Discoderus* 1153  
*symetricus* Motschulsky, *Bradycellus* 1072  
*symetricus* Motschulsky, *Stenolophus* 1072  
*symmetricus* Casey, *Brennus* 225  
*symmetricus* Casey, *Europhilus* 1205  
*symmetricus* Casey, *Stenocellus* 1072  
*syracusensis* Hatch, *Anchomenus* 1624  
*tabasconus* Bates, *Brachinus* 743  
*tacomae* Casey, *Bembidion* 551  
*tacomae* Casey, *Omus* 271  
*tacomae* Casey, *Sericoda* 1179  
*tadorcus* Ball, *Harpalus* 1105  
*taedatus* Fabricius, *Carabus* 263, 1588  
*taeniatus* LeConte, *Loxandrus* 758  
*tahoense* Casey, *Agonum* 1217  
*tahoensis* Casey, *Bradycellus* 1061  
*tahoensis* Casey, *Elaphropus* 676  
*tahoensis* Casey, *Glycerius* 1061  
*tahoensis* Casey, *Lebia* 1328  
*tahoensis* Casey, *Pterostichus* 844  
*tahoensis* Casey, *Tachyura* 676  
*tahoensis* Casey, *Trechus* 507  
*tahoensis* Van Dyke, *Calosoma* 249  
*tahomae* Casey, *Celia* 946  
*talequah* Barr, *Trechus* 523  
*tanneri* Chandler, *Homophron* 388  
*tanneri* Knaus, *Cicindela* 368  
*tantillus* Dejean, *Acupalpus* 1069  
*tantillus* Dejean, *Bradycellus* 1069  
*taphrioides* Motschulsky, *Harpalus* 1131  
*tarda* Liebke, *Cymindis* 1287  
*tareumiut* Ball, *Pterostichus* 864  
*tarsalis* Casey, *Agonoderus* 1054  
*tarsalis* Casey, *Amara* 905  
*tarsalis* LeConte, *Cicindela* 292  
*tarsalis* LeConte, *Pterostichus* 851  
*tartareum* Casey, *Bembidion* 538  
*tartareus* Casey, *Curtonotus* 891  
*tartareus* Scudder, *Platynus* 1580  
*tartarica* Say, *Feronia* 779  
*tartaricus* Say, *Lophoglossus* 779  
*tascosaensis* Davis, *Cicindela* 321  
*tatumi* Motschulsky, *Carabus* 258  
*tauricus* Barr, *Trechus* 519  
*taurus* Van Dyke, *Evarthrus* 870  
*teewinot* Kavanaugh, *Nebria* 161  
*tegulatus* Casey, *Callisthenes* 248  
*tellkampfi* Erichson, *Anophthalmus* 502  
*tellkampfi* Erichson, *Neaphaenops* 502, 1597  
*tempeana* Casey, *Lebia* 1337  
*temperans* Casey, *Bembidion* 593  
*temperatus* Casey, *Omus* 275  
*tempestivus* Panzer, *Carabus* 514  
*templetoni* Valentine, *Pseudanophthalmus* 485  
*temporalis* Casey, *Tachys* 692  
*tenax* Casey, *Amara* 931  
*tenax* Casey, *Bembidion* 586  
*tencenti* Hatch, *Bembidion* 595  
*tenebricosa* Dejean, *Feronia* 869  
*tenebricosus* Gemminger & Harold, *Platynus* 1244  
*tenebricosus* Roeschke, *Scaphinotus* 198  
*tenebricus* Scudder, *Cyclotrachelus* 1575  
*tenebricus* Scudder, *Evarthrus* 1575  
*tenebrionella* Bates, *Amara* 928  
*tenebrionella* Bates, *Celia* 928  
*tenebroides* Notman, *Pseudomorpha* 1376  
*tenebrosa* Barr, *Rhadine* 1195  
*tenebrosum* Barr, *Agonum* 1195  
*tenebrosus* Chaudoir, *Omascus* 797  
*tenebrosus* Krekeler, *Pseudanophthalmus* 477  
*tenebrosus* LeConte, *Discoderus* 1153  
*tenebrosus* LeConte, *Selenophorus* 1153  
*tener* LeConte, *Acupalpus* 1086  
*tener* LeConte, *Stenolophus* 1086  
*tennesseensis* Barr, *Trechus* 519  
*tennesseensis* Valentine, *Pseudanophthalmus* 497  
*tenua* LeConte, *Agonum* 1235, 1614  
*tenuestriata* Baliani, *Amara* 898  
*tenuiceps* Casey, *Irichroa* 213  
*tenuicincta* Schaupp, *Cicindela* 345  
*tenuicollis* LeConte, *Anchomenus* 1248

- tenuicollis* LeConte, *Brachinus* 748  
*tenuicollis* LeConte, *Diaphorus* 1358  
*tenuicollis* LeConte, *Platynus* 1248  
*tenuicollis* LeConte, *Pseudaptinus* 1358  
*tenuicornis* Chaudoir, *Diaphorus* 1359  
*tenuiculus* Casey, *Omus* 276  
*tenuipes* Casey, *Nebria* 168  
*tenuipes* Casey, *Rhadine* 1187  
*tenuis* Casey, *Maronetus* 208  
*tenuis* Casey, *Omaseus* 799  
*tenuis* Casey, *Pterostichus* 799, 1605  
*tenuis* Casey, *Scaphinotus* 208  
*tenuis* Horn, *Anophthalmus* 499  
*tenuis* Horn, *Pseudanophthalmus* 499  
*tenuis* LeConte, *Platynus* 1235  
*tenuis* LeConte, *Pterostichus* 720  
*tenuis* Marsham, *Carabus* 783  
*tenuiscapus* Lindroth, *Trechus* 509  
*tenuisignata* LeConte, *Cicindela* 325, 1591  
*tenuispinus* Lindroth, *Dyschirius* 434  
*tenuistriatus* Casey, *Calathus* 1168  
*tenuitarsis* Casey, *Anisotarsus* 1015  
*tenuitarsis* Casey, *Platidius* 716  
*tepidum* LeConte, *Calosoma* 243  
*tepidus* Casey, *Anchomenus* 1227  
*teres* Notman, *Amara* 934  
*terminalis* LeConte, *Badister* 1006  
*terminata* Say, *Feronia* 1017  
*terminata* Say, *Notiobia* 1017, 1611  
*terminatus* LeConte, *Dyschirius* 434  
*termitiformis* Van Dyke, *Pterostichus* 782  
*termitiformis* Van Dyke, *Stomis* 782  
*terracense* Casey, *Agonum* 1234  
*terracense* Casey, *Bembidion* 594  
*terracensis* Casey, *Cicindela* 354  
*terracensis* Casey, *Hypherpes* 836  
*terrestris* LeConte, *Isopleurus* 945  
*terricola* Herbst, *Carabus* 1174  
*terricola* Herbst, *Laemostenus* 1174, 1613  
*terricola* Say, *Cicindela* 291  
*terricola* Say, *Cylindera* 291, 1591  
*tersum* Casey, *Bembidion* 626  
*tersus* Casey, *Anchomenus* 1247  
*tertiaria* Casey, *Lebia* 1328  
*tesselatus* LeConte, *Ochthedromus* 610  
*tessellatum* Say, *Omophron* 391, 1594  
*tessellatus* Say, *Omophron* 391  
*testacea* Casey, *Rhadine* 1186  
*testacea* LeConte, *Loxopeza* 1626  
*testacea* Van Dyke, *Anilloferonia* 832  
*testaceicollis* Casey, *Stenolophus* 1051  
*testaceipes* Casey, *Nebria* 170  
*testaceolimbata* Motschulsky, *Polyderis* 1258  
*testaceonotus* Hausen, *Platynus* 1226  
*testaceus* Casey, *Omaseus* 799  
*testaceus* Dejean, *Acupalpus* 1084  
*testaceus* Haldeman, *Harpalus* 1017  
*testaceus* Horn, *Pachyteles* 731  
*testaceus* LeConte, *Badister* 1087  
*testaceus* LeConte, *Pangus* 1107  
*testaceus* Van Dyke, *Pterostichus* 832  
*testatum* Casey, *Bembidion* 639  
*testeus* Scudder, *Cychrus* 1571  
*testeus* Scudder, *Neothanes* 1571  
*teter* Bonelli, *Dicaelus* 1000  
*tetonensis* Erwin & Ball, *Nebria* 181  
*tetracolum* Say, *Bembidion* 569, 1599  
*tetracolum* Say, *Bembidium* 569  
*tetraglyptus* Mannerheim, *Peryphus* 638  
*tetragonoderum* Chaudoir, *Bembidium* 539  
*tetraspilatus* Macleay, *Dromius* 1276  
*tetraspilatus* Macleay, *Mochtherus* 1276, 1615  
*tetricula* Casey, *Pterostichus* 834  
*tetricus* Casey, *Triliarthrus* 1075  
*texana* Casey, *Nebria* 171  
*texana* LeConte, *Cicindela* 318  
*texana* LeConte, *Clivina* 409  
*texana* LeConte, *Helluomorpha* 1370  
*texana* Putzeys, *Amara* 920  
*texana* Putzeys, *Celia* 920  
*texana* Schaeffer, *Inna* 1278  
*texanellus* Casey, *Chlaenius* 979  
*texanum* Casey, *Omophron* 388  
*texanum* Chaudoir, *Bembidion* 580  
*texanum* Chaudoir, *Bembidium* 580  
*texanum* LeConte, *Agonum* 1229  
*texanus* Casey, *Cratacanthus* 1160  
*texanus* Casey, *Discoderus* 1153  
*texanus* Casey, *Elaphrus* 383  
*texanus* Casey, *Harpalus* 1100  
*texanus* Chaudoir, *Brachinus* 751  
*texanus* Chaudoir, *Pogonus* 714  
*texanus* Chaudoir, *Scarites* 403  
*texanus* Horn, *Chlaenius* 983  
*texanus* LeConte, *Helluomorphoides* 1370  
*texanus* LeConte, *Oodes* 957  
*texanus* LeConte, *Platynus* 1229  
*texanus* LeConte, *Poecilus* 777  
*texanus* LeConte, *Pterostichus* 777  
*texanus* Motschulsky, *Evarthrus* 884  
*texanus* Schaeffer, *Anisodactylus* 1029  
*texanus* Wickham, *Euproctus* 1353  
*texensis* Freitag, *Cyclotrachelus* 872  
*texensis* Freitag, *Evarthrus* 872



- texicola* Csiki, Pterostichus 885  
*thalassina* Dejean, Cicindela 1626  
*thalassinus* Sturm, Chlaenius 1625  
*theatina* Rotger, Cicindela 368, 1591  
*thermarum* Motschulsky, Omala 560  
*thespis* Casey, Bembidion 589  
*thomasbarri* Donabauer, Trechus 519  
*thomasi* Barr, Pseudanophthalmus 487  
*thompsoni* Hatch, Dyschirius 448  
*thoracica* Casey, Celia 920  
*thoracica* Casey, Galerita 1365  
*thoracica* Hayward, Amara 896  
*thoracicus* Casey, Agonoleptus 1058  
*thoracicus* Casey, Apristus 1310  
*thoracicus* Casey, Omus 271  
*thoracicus* Casey, Stenolophus 1058  
*thoracicus* Dejean, Anchomenus 1226  
*thoracinus* Casey, Harpalus 1100  
*thoreyi* Dejean, Agonum 1209, 1614  
*thulensis* Sahlberg, Feronia 857  
*thunderheadensis* Donabauer, Trechus 523  
*tibialis* Chevrolat, Amara 959  
*tibialis* Chevrolat, Stenocrepis 959  
*tibialis* Kirby, Trechus 1073  
*tibialis* Whitehead, Schizogenius 425  
*tigrinum* LeConte, Bembidion 583  
*tigrinum* LeConte, Bembidium 583  
*tiliaceoradix* Ball, Pterostichus 860  
*timefactum* Casey, Bembidion 633  
*timidum* LeConte, Bembidion 593  
*timidus* Haldeman, Plochionus 1340, 1616  
*timidus* LeConte, Ochthedromus 593  
*timidus* Lindroth, Dyschirius 441  
*tioganus* Casey, Anisodactylus 1019  
*tiresias* Barr, Pseudanophthalmus 465  
*tishechkini* Sokolov & Carlton, Anillinus 708  
*tobiasi* Donabauer, Trechus 520  
*togata* LaFerté-Sénéctère, Cicindela 310  
*togata* LaFerté-Sénéctère, Eunota 310, 1592  
*tolerans* Casey, Bembidion 594  
*tomentosus* Say, Chlaenius 965, 1608  
*tomentosus* Say, Epomis 965  
*tonitru* Barr, Trechus 526  
*topekana* Casey, Cicindela 295  
*tormentarius* LeConte, Brachinus 735  
*torrescans* Casey, Tachys 687  
*torreyensis* Tanner, Elaphrus 378  
*torrida* Panzer, Amara 896  
*torridus* Panzer, Carabus 896  
*tortuosa* Dejean, Cicindela 1620  
*torvus* Casey, Omus 279  
*torvus* LeConte, Cyclotrachelus 885, 1601  
*torvus* LeConte, Evarthrus 885  
*townsendi* Casey, Carabus 261  
*townsendi* Casey, Nebria 167  
*toxawayi* Barr, Trechus 524  
*tractabile* Casey, Bembidion 582  
*trajecta* Casey, Lebia 1334  
*tranquebarica* Herbst, Cicindela 347, 1591  
*transberingensis* Hieke, Amara 928  
*transfluvialis* Barr, Pseudanophthalmus 490  
*translucens* Darlington, Tachys 688  
*transmarinus* Mannerheim, Dyschirius 438  
*transparens* Gebler, Bembidion 596  
*transparens* Gebler, Peryphus 596  
*transpunctatus* Bates, Anchomenus 1214  
*transversa* Casey, Calosoma 241  
*transversa* Casey, Nebria 168  
*transversa* Leng, Cicindela 335  
*transversale* Dejean, Bembidion 572  
*transversale* Dejean, Bembidium 572  
*transversicollis* Putzeys, Curtonotus 1620  
*transversus* Casey, Badister 1011  
*transversus* Casey, Harpalus 1119  
*transversus* Casey, Pasimachus 393  
*trapezicollis* Casey, Omus 276  
*trechiforme* LeConte, Bembidion 654  
*trechiformis* Hayward, Tachys 670  
*trechiformis* LeConte, Ochthedromus 654  
*trechoides* Csiki, Tachys 670  
*trepidus* Casey, Hemisopalus 1148  
*trepidus* Casey, Selenophorus 1148  
*trepidus* LeConte, Ochthedromus 596  
*triad* Kavanaugh, Nebria 165  
*triangularis* Buquet, Lebia 1281  
*tricarinata* Casey, Irichroa 213  
*tricarinatus* Casey, Scaphinotus 213  
*tricolor* Dejean, Chlaenius 980, 1608  
*tricolor* Say, Lebia 1317  
*tridens* Casey, Cicindela 357  
*tridentatus* LeConte, Dyschirius 452  
*trifaria* LeConte, Nebria 181, 1583  
*trifoveolatus* Beutenmüller, Platynus 1249  
*trigeminum* Lindroth, Agonum 1236  
*triguttata* Herbst, Cicindela 1620  
*trinarius* Casey, Anchomenus 1225  
*trinarius* Casey, Dysidius 796  
*trinarius* Casey, Pterostichus 796, 1605  
*trinitensis* Hacker, Pterostichus 826  
*triplicans* Casey, Cicindela 316  
*tripunctatum* Say, Bembidium 676  
*tripunctatus* Say, Elaphropus 676, 1599  
*triste* LeConte, Calosoma 239  
*tristiculum* Casey, Bembidion 552

- tristis* Dejean, *Anisodactylus* 1032  
*tristis* Dejean, *Feronia* 834  
*tristis* Dejean, *Pterostichus* 834, 1605  
*tristis* Fabricius, *Carabus* 648  
*tristis* Putzeys, *Curtonotus* 893  
*tristis* Sturm, *Dicaelus* 1626  
*tristoides* Fall, *Calosoma* 239  
*trisulcata* Sturm, *Clivina* 1626  
*tritum* Casey, *Bembidion* 538  
*tritum* Casey, *Anchomenus* 1212  
*tritum* Casey, *Patrobus* 722  
*triviale* Casey, *Bembidion* 593  
*trivialis* Casey, *Acupalpus* 1081  
*trivittata* LeConte, *Onota* 1354  
*trivittatus* LeConte, *Euproctinus* 1354  
*trochantericus* LeConte, *Patrobus* 716  
*troglydites* Dejean, *Bembidium* 683  
*troglydites* Dejean, *Selenophorus* 1146  
*troglydites* Krekeler, *Pseudanophthalmus* 463  
*trossulus* Semenov, *Elaphrus* 384  
*truckeensis* Casey, *Lebia* 1333  
*truncaticollis* Eschscholtz, *Carabus* 256, 1588  
*truncatum* Géhin, *Calosoma* 238  
*truncatus* LeConte, *Dyschirius* 447  
*truncorum* Crotch, *Tachys* 1627  
*trybomi* Sahlberg, *Amara* 902  
*tschernikhii* Mannerheim, *Brachinus* 747  
*tschitaensis* Jedlička, *Amara* 925  
*tschuchtschorum* Sahlberg, *Feronia* 813  
*tubensis* Cazier, *Cicindela* 298  
*tubensis* Cazier, *Ellipsoptera* 298  
*tuberculatum* Notman, *Bembidion* 548  
*tuberculatus* Harris, *Cychrus* 196  
*tuberculatus* Mäklin, *Elaphrus* 384, 1594  
*tuberculofoemoratus* Hatch, *Pterostichus* 837  
*tuckaleechee* Barr, *Trechus* 520  
*tuckeri* Casey, *Apristus* 1310  
*tuckeri* Casey, *Lebia* 1332  
*tuckeri* Casey, *Loxopeza* 1332  
*tularensis* Casey, *Callisthenes* 247  
*tularensis* Casey, *Cicindela* 288  
*tularensis* Casey, *Omus* 274  
*tullahoma* Barr, *Pseudanophthalmus* 465  
*tumescens* LeConte, *Pterostichus* 807  
*tumidiceps* Munster, *Elaphrus* 384  
*tumidulum* Casey, *Agonum* 1220  
*tumulorum* Scudder, *Bembidium* 1574  
*tuolumnae* Leng, *Cicindela* 288  
*tuolumne* Casey, *Bembidion* 572  
*turanica* Jedlička, *Amara* 898  
*turbata* Casey, *Amara* 935  
*turbatum* Casey, *Bembidion* 633  
*turbatus* Fall, *Tachycellus* 1045  
*turbidus* Casey, *Anchomenus* 1245  
*turbulenta* Casey, *Cicindela* 348  
*turbulentus* Casey, *Omus* 278  
*turbulentus* LeConte, *Dicaelus* 999  
*turculus* Bates, *Harpalus* 1132  
*turmaduodecima* Kavanaugh, *Nebria* 159  
*turneri* Jeannel, *Anillinus* 708  
*tusquitee* Barr, *Trechus* 526  
*tusquitensis* Donabauer, *Trechus* 524  
*uenoi* Habu, *Amara* 947  
*uinta* Casey, *Triaena* 951  
*uinta* Kavanaugh, *Nebria* 161  
*uintana* Casey, *Cicindela* 347  
*uintanum* Casey, *Agonum* 1217  
*uintanus* Casey, *Harpalus* 1128  
*ulkei* Horn, *Pelophila* 148  
*ulkei* Horn, *Stolonis* 768  
*ulkei* Lindroth, *Bembidion* 583  
*ulomaeformis* Wickham, *Harpalus* 1578  
*umbonata* Casey, *Euferonia* 812  
*umbra* Casey, *Rhadine* 1189  
*umbrarum* Scudder, *Myas* 1575  
*umbraticola* Casey, *Bembidion* 539  
*umbraticola* Van Dyke, *Bembidion* 643  
*umbraticum* Casey, *Bembidion* 627  
*umbratilis* Krekeler, *Pseudanophthalmus* 484  
*umbratum* LeConte, *Bembidion* 604  
*umbratus* LeConte, *Ochthedromus* 604  
*umbripennis* Chaudoir, *Tachys* 696  
*umbripennis* LeConte, *Trechus* 1258  
*umbratarsis* Casey, *Chlaenius* 972  
*umiatense* Lindroth, *Bembidion* 575  
*uncifer* Barr, *Trechus* 524  
*undulata* Carr, *Diplocheila* 994  
*undulata* Carr, *Diplochila* 994  
*undulata* Casey, *Circinalia* 1236  
*undulatus* LeConte, *Tetragonoderus* 1273  
*unicarum* Darlington, *Gastrellarius* 782  
*unicarum* Darlington, *Pterostichus* 782  
*unicoi* Barr, *Trechus* 520  
*unicoi* Sokolov, *Anillinus* 708  
*unicolor* Chaudoir, *Tetragonoderus* 1274  
*unicolor* Chevrolat, *Coptodera* 1282  
*unicolor* Dejean, *Agonoleptus* 1059  
*unicolor* Dejean, *Cicindela* 343  
*unicolor* Dejean, *Stenolophus* 1059  
*unicolor* Fabricius, *Carabus* 202  
*unicolor* Fabricius, *Scaphinotus* 202  
*unicolor* Kirby, *Cymindis* 1290  
*unicolor* Say, *Cyclotrachelus* 873  
*unicolor* Say, *Feronia* 873

- unicolor* Schaeffer, Anchonoderus 1261  
*unicolor* Sturm, Clivina 1626  
*unicoloripes* Poppius, Pterostichus 815  
*unicum* Casey, Bembidion 544  
*unifasciata* Dejean, Lebia 1279  
*unifasciatus* Dejean, Somotrichus 1279, 1616  
*unifasciatus* Panzer, Carabus 503  
*uniforme* Géhin, Calosoma 234  
*uniformis* Allen, Loxandrus 762  
*unijuncta* Casey, Cicindela 367  
*unilobus* Allen, Loxandrus 758  
*unionis* Barr, Pseudanophthalmus 497  
*unionis* Csiki, Tachys 677  
*unipunctata* Fabricius, Cicindela 291  
*unipunctata* Fabricius, Cylindera 291, 1592  
*unipunctatus* Fall, Dyschirius 452  
*uniseriata* Bates, Cymindis 1290  
*unistriatum* Sturm, Bembidium 1625  
*unistriatus* Casey, Tachys 683  
*unistriatus* Darlington, Nomaretus 209  
*unistriatus* Darlington, Scaphinotus 209  
*unistriolatus* Csiki, Tachys 684  
*unita* Kollar, Cicindela 362  
*upioides* Ball, Dicaelus 998  
*urgens* Casey, Bembidion 562  
*utahensis* Kavanaugh, Nebria 179  
*utahensis* Schaeffer, Trechus 508  
*utahensis* Tanner, Amblycheila 268  
*utahensis* Tanner, Axinopalpus 1313  
*utahensis* Van Dyke, Amerizus 530  
*utahensis* Van Dyke, Bembidium 530  
*uteana* Casey, Cicindela 355  
*uteana* Casey, Loricera 370  
*uteana* Casey, Philophuga 1349  
*uteanum* Casey, Agonum 1222  
*uteanus* Casey, Anadaptus 1035  
*uteanus* Casey, Anchomenus 1227  
*uteanus* Casey, Chlaenius 974  
*uteanus* Casey, Harpalus 1128  
*utense* Casey, Omophron 390  
*utensis* Casey, Callisthenes 248  
*utensis* Casey, Hypherpes 845  
*vacans* Casey, Agonoderus 1055  
*vacivum* Casey, Bembidion 531  
*vacivus* Casey, Harpalus 1106  
*vafer* LeConte, Chlaenius 983  
*vafrum* Casey, Bembidion 571  
*vagans* LeConte, Feronia 881  
*vagans* LeConte, Harpalus 1098, 1611  
*vagans* LeConte, Platynus 1236  
*valens* Casey, Nothopus 1092  
*valens* LeConte, Plochionus 1341  
*valentinei* Barr, Trechus 520  
*valentinei* Bell, Clinidium 145  
*valentinei* Jeannel, Anillinus 709  
*valentinei* Jeannel, Pseudanophthalmus 495  
*valentinei* Jeannel, Troglanillus 709  
*valida* Dejean, Feronia 851  
*validicornis* Casey, Dicheirus 1042  
*validus* Fall, Schizogenius 423  
*validus* LeConte, Pasimachus 393  
*valverdensis* Barr, Mexisphodrus 1196  
*vanburenensis* Barr, Pseudanophthalmus 485  
*vancouveri* Casey, Bembidion 564  
*vancouveri* Casey, Celia 923  
*vancouveri* Casey, Holciophorus 848  
*vancouvericus* Csiki, Carabus 249  
*vandykei* Bänninger, Nebria 181  
*vandykei* Blaisdell, Bembidion 637  
*vandykei* Blaisdell, Bembidium 637  
*vandykei* Csiki, Bembidion 643  
*vandykei* Darlington, Nebria 159  
*vandykei* Horn, Omus 270  
*vandykei* Jeannel, Microtrechus 526  
*vandykei* Jeannel, Trechus 526  
*vandykei* Kurnakov, Platydolus 725  
*vandykei* Notman, Pseudomorpha 1376  
*vandykei* Roeschke, Scaphinotus 201  
*vandykei* Schaeffer, Pterostichus 845  
*vanlooi* Nunenmacher, Omus 279  
*vanum* Scudder, Bembidium 1574  
*vapida* Casey, Triaena 951  
*vapidum* Casey, Bembidion 623  
*vapidus* Casey, Pterostichus 812  
*vaporariorum* Linnaeus, Carabus 1291  
*vaporariorum* Linnaeus, Cymindis 1291, 1615  
*variabilipes* Eschscholtz, Chlaenius 984  
*varians* Ljungh, Cicindela 342  
*varicolor* LeConte, Selenophorus 1135  
*varicornis* LeConte, Eucerus 1264  
*varicornis* LeConte, Harpalus 1131  
*varidens* Fall, Dyschirius 452  
*variegata* Dejean, Cicindela 295  
*variegatum* Say, Bembidion 652  
*variegatum* Say, Bembidium 652  
*variegatus* Kirby, Notaphus 593  
*variolatus* LeConte, Platynus 1202  
*variolosus* Motschulsky, Notaphus 604  
*vegae* Poppius, Pterostichus 867  
*vegasensis* Casey, Carabus 258  
*vegasensis* Casey, Pasimachus 396  
*vegasensis* Stehr, Bradytus 904  
*vegetum* Casey, Agonum 1220  
*vegetum* Casey, Bembidion 585



- vegrandis* Casey, Celia 917  
*velocipes* Casey, Loxandrus 762, 1601  
*velox* Dejean, Feronia 759  
*velox* Dejean, Loxandrus 759  
*velox* Erichson, Bembidium 649  
*velox* Gory, Coptodera 1282  
*velox* LeConte, Brachinus 737  
*velutinigrens* Johnson, Dromochorus 302  
*velutinus* Erwin, Brachinus 748  
*velutinus* Ménéttriés, Cychrus 217  
*velutinus* Ménéttriés, Scaphinotus 217  
*velutoidea* Casey, Cicindela 316  
*venator* Casey, Bembidion 544  
*venator* Casey, Euferonia 810  
*venator* Dejean, Cymindis 1284  
*venetavelutinus* Gage, Dromochorus 302  
*ventanasa* Bates, Cicindela 324  
*ventralis* LeConte, Bradycellus 1067  
*ventralis* LeConte, Harpalus 1115  
*ventralis* Mannerheim, Brachinus 751  
*ventralis* Newman, Cicindela 312  
*ventralis* Say, Feronia 807  
*ventralis* Say, Pterostichus 807  
*ventricosa* Casey, Amblycheila 266  
*ventricosa* Casey, Percosia 906  
*ventricosus* Casey, Calathus 1166  
*ventricosus* Casey, Harpalus 1132  
*ventricosus* Casey, Omus 278  
*ventricosus* Dejean, Cychrus 224  
*ventricosus* Dejean, Scaphinotus 224  
*ventricosus* Eschscholtz, Poecilus 866  
*ventricosus* Eschscholtz, Pterostichus 866  
*ventricosus* LeConte, Tachys 696  
*ventricosus* Motschulsky, Anophthalmus 488  
*ventricosus* Motschulsky, Peryphus 631  
*ventricula* Casey, Circinalia 1241  
*ventus* Barr, Pseudanophthalmus 474  
*venusta* LaFerté-Sénéctère, Cicindela 306  
*venusta* LaFerté-Sénéctère, Habroscelimorpha 306  
*venusta* LeConte, Cicindela 334  
*veridicum* Casey, Bembidion 586  
*vermiculatus* Casey, Omus 275  
*vermiculina* Casey, Lebia 1334  
*vermiculosus* Ménéttriés, Lyperopherus 814  
*vermiculosus* Ménéttriés, Pterostichus 814  
*vernalis* Panzer, Carabus 788  
*vernalis* Panzer, Pterostichus 788, 1605  
*vernica* Casey, Anaferonia 882  
*vernica* Casey, Tachyura 677  
*vernica* Casey, Anisotarsus 1018  
*vernica* Casey, Brennus 218  
*vernica* Casey, Elaphropus 677  
*vernica* Casey, Pasimachus 396  
*vernica* Casey, Tachys 697  
*vernica* Casey, Lophoglossus 780  
*vernula* Casey, Bembidion 601  
*veronianus* Casey, Bradycellus 1073  
*veronianus* Casey, Stenocellus 1073  
*versicolor* Kirby, Stenolophus 1048  
*versicolor* LeConte, Bembidion 593  
*versicolor* LeConte, Ochthedromus 594  
*versuta* Casey, Cicindela 335  
*versutulus* Casey, Pteropalus 1157  
*versutum* LeConte, Bembidion 605  
*versutum* LeConte, Bembidium 605  
*verticalis* Chaudoir, Ozaena 730  
*verticalis* LeConte, Anisodactylus 1036, 1610  
*verticalis* LeConte, Spongopus 1036  
*verus* Barr, Trechus 520  
*vespertina* Putzeys, Clivina 406  
*vespertinum* Casey, Bembidion 637  
*vespertinus* Casey, Harpalus 1121  
*vestalia* Leng, Cicindela 352  
*vestigialis* Casey, Pasimachus 396  
*vestigium* Scudder, Bembidium 1574  
*veterata* Scudder, Amara 1577  
*veterum* Cockerell, Harpalus 1578  
*vexatus* Bousquet, Pterostichus 802  
*viaticum* Casey, Bembidion 563  
*viator* Barr, Neaphaenops 502  
*viator* Casey, Bembidion 644  
*viator* Casey, Callisthenes 248  
*vibex* Horn, Cicindela 349  
*vicarius* Barr, Pseudanophthalmus 481  
*vicina* Notman, Pseudomorpha 1376  
*vicina* Putzeys, Ardistomis 429  
*vicina* Putzeys, Aspidoglossa 430  
*vicinum* Liebke, Zuphium 1357  
*vicinus* Chaudoir, Scarites 402  
*vicinus* Dejean, Chlaenius 982  
*vicinus* Gemminger & Harold, Platynus 1180  
*vicinus* Mannerheim, Pterostichus 853  
*vidua* Dejean, Feronia 879  
*viduus* Dejean, Cychrus 203  
*viduus* Dejean, Harpalus 1126  
*viduus* Dejean, Scaphinotus 203, 1584  
*viduus* Horn, Chlaenius 970  
*viduus* LeConte, Harpalus 1109  
*vietinghoffii* Adams, Carabus 264, 1588  
*vigilans* Casey, Anchomenus 1228  
*vigilans* Casey, Bembidion 544  
*vigilans* Casey, Hemisopalus 1147  
*vigilans* Say, Chlaenius 981  
*vigilax* Casey, Amara 944



- vile* LeConte, Bembidion 630  
*vilescans* Casey, Bembidion 629  
*vilis* LeConte, Ochthedromus 630  
*villigera* Chaudoir, Cymindis 1288  
*villosus* Motschulsky, Dicheirus 1043  
*vinctus* LeConte, Cyclotrachelus 872  
*vinctus* LeConte, Evarthrus 872  
*vinctus* Weber, Carabus 254  
*vinctus* Weber, Tachypus 254  
*vindicata* Notman, Pseudomorpha 1376  
*vindicatus* Mannerheim, Cryobius 866  
*vinnulum* Casey, Bembidium 620  
*vinnulus* Casey, Anchomenus 1226  
*violacea* Fabricius, Cicindela 357  
*violacea* Motschulsky, Nebria 163  
*violaceipennis* Chaudoir, Lebia 1333  
*violaceus* Bonelli, Dicaelus 1001  
*violaceus* LeConte, Cychrus 214  
*violaceus* LeConte, Scaphinotus 214  
*virens* Chaudoir, Chlaenius 978  
*virescens* Dury, Pinacodera 1294  
*virescens* Horn, Nebria 153  
*virescens* Horn, Nippononebria 153  
*virgatulum* Casey, Bembidion 590  
*virginiae* Jeannel, Anillinus 709  
*virginica* Casey, Calosoma 229  
*virginica* Casey, Celia 921  
*virginica* Casey, Lebia 1326  
*virginica* Linnaeus, Cicindela 283  
*virginica* Linnaeus, Tetracha 283, 1589  
*virginicus* Barr, Aphanotrechus 473  
*virginicus* Barr, Pseudanophthalmus 473  
*virgo* LeConte, Tachys 689  
*viridans* Casey, Anisodactylus 1037  
*viridans* LeConte, Pasimachus 397  
*viridanus* Dejean, Anchomenus 1624  
*viridanus* Dejean, Chlaenius 986  
*viridescens* LeConte, Anisodactylus 1034  
*viridescens* LeConte, Selenophorus 1142  
*viridiaeneus* Palisot de Beauvois, Harpalus 1117  
*viridiceps* LaFerté-Sénéctère, Chlaenius 1625  
*viridicollis* LaFerté-Sénéctère, Bembidion 602  
*viridicollis* Dejean, Brasiella 301  
*viridicollis* LaFerté-Sénéctère, Notaphus 602  
*viridicollis* LeConte, Cymindis 1348  
*viridicollis* LeConte, Philophuga 1348, 1616  
*viridicyanea* Vaurie, Cicindela 306  
*viridifrons* Eschscholtz, Chlaenius 973  
*viridimonticola* Gage, Cicindela 320  
*viridinigrum* Casey, Bembidion 539  
*viridipennis* Dejean, Brachinus 736  
*viridipennis* Dejean, Lebia 1329  
*viridipennis* Gory, Coptodera 1280  
*viridipennis* LeConte, Coptodera 1281  
*viridipennis* Say, Calleida 1346, 1615  
*viridipennis* Say, Cymindis 1346  
*viridis* Chevrolat, Calleida 1347  
*viridis* Dejean, Cymindis 1349  
*viridis* Dejean, Lebia 1333  
*viridis* Dejean, Philophuga 1349  
*viridis* Horn, Elaphrus 385, 1594  
*viridis* Horn, Nebria 155  
*viridis* LeConte, Anchomenus 1228  
*viridis* LeConte, Brachinus 736  
*viridis* Say, Clivina 429  
*viridis* Say, Harpalus 1117  
*viridis* Say, Lebia 1333, 1615  
*viridis* Say, Semiardistomis 429, 1595  
*viridissima* Fall, Cicindela 349  
*viridissimum* Casey, Agonum 1222  
*viridisticta* Bates, Cylindera 1592  
*viridula* Casey, Amara 940  
*viridula* Varas Arangua, Cicindela 348  
*vitiosus* Allen, Loxandrus 764  
*vitrea* Dejean, Feronia 792  
*vittata* Fabricius, Lebia 1337  
*vittatus* Fabricius, Carabus 1337  
*vittatus* Hatch, Axinopalpus 1313  
*vittatus* LeConte, Plochionus 1339  
*vittiger* LeConte, Tachys 689  
*vivax* Casey, Hypherpes 845  
*vivax* LeConte, Elaphropus 677  
*vivax* LeConte, Tachys 677  
*vivida* Bates, Metabola 1327  
*vividum* Casey, Bembidion 603  
*vividus* Casey, Agonoderus 1054  
*volatile* Casey, Bembidion 653  
*volatilis* Casey, Amara 921  
*volatilis* Casey, Celia 921  
*vorax* LeConte, Tachys 697  
*vulcanoides* Erwin, Brachinus 740  
*vulgaris* Say, Cicindela 347  
*vulgarisminor* Harris, Cicindela 348  
*vulneratus* Casey, Loxandrus 764  
*vulpecula* Casey, Bembidion 618  
*vulpeculus* Say, Harpalus 1157  
*vulpeculus* Say, Trichotichnus 1157, 1612  
*vulsum* Casey, Bembidion 659  
*vulturina* LeConte, Cicindela 317  
*wadei* Casey, Amara 932  
*wadei* Casey, Anchomenus 1201  
*wadei* Casey, Euharpalops 1111  
*wagneri* Cazier, Cicindela 288  
*wagneri* Tschitschérine, Bembidium 567



- wakelandi* Hatch, Amara 909  
*walcotti* Scudder, Pterostichus 1576  
*waldensia* Valentine, Steniridia 211  
*waldensius* Valentine, Scaphinotus 211  
*walkeri* Jeannel, Anillodes 698  
*wallacei* Barr, Pseudanophthalmus 469  
*wallisi* Calder, Cicindela 337, 338  
*wallowae* Kavanaugh, Nebria 166  
*walteri* Valentine, Nelsonites 501  
*wapleri* LeConte, Cicindela 296  
*wapleri* LeConte, Ellipsoptera 296  
*washingtonensis* Nicolay & Weiss, Euferonia 810  
*washingtoni* Casey, Carabus 255  
*washingtoni* Casey, Cryobius 862  
*washingtoniensis* Van Dyke, Harpalus 1105  
*washoeana* Casey, Celia 947  
*wayah* Dajoz, Dyschiriodes 442  
*wayah* Dajoz, Dyschirius 442  
*wayahbaldensis* Donabauer, Trechus 522  
*wayahensis* Barr, Trechus 517  
*waynei* Leffler, Cicindela 368  
*webbi* Bell, Scaphinotus 203  
*websteri* Casey, Lebia 1336  
*weesi* Hatch & Ortenburger, Bembidion 544  
*wenatchee* Hatch, Bembidion 567  
*westbournei* Calder, Cicindela 333, 334  
*westcotti* Barr, Trechoblemus 461  
*weyrauchi* Kult, Dyschirius 444  
*wheatleyi* Horn, Cychrus 1570  
*whitcombi* Freitag, Cyclotrachelus 877  
*whitcombi* Freitag, Evarthrus 877  
*whitfieldi* Scudder, Harpalus 1578  
*whitneyi* Fall, Bembidium 582  
*wichitana* Casey, Cicindela 348  
*wickhami* Hayward, Bembidion 650  
*wickhami* Hayward, Bembidium 650  
*wickhami* Horn, Brasiella 301  
*wickhami* Horn, Cicindela 301  
*wilcoxi* LeConte, Calosoma 232, 1586  
*wilkesii* LeConte, Callisthenes 251  
*wilkesii* LeConte, Calosoma 251  
*willamettensis* Hacker, Pterostichus 830  
*williamlarsi* Knudsen, Cicindela 333  
*willistoni* LeConte, Cicindela 328, 1591  
*wingatei* Bland, Amerizus 530  
*wingatei* Bland, Bembidium 530  
*wingatei* Casey, Amara 940  
*winnipegensis* Casey, Celia 921  
*winonae* Knudsen, Cicindela 333  
*wisconsinium* Casey, Bembidion 594  
*wolcottii* Casey, Triplectrus 1031  
*woodgatei* Casey, Cicindela 314  
*woodi* Ball & Currie, Pterostichus 864  
*wrangelli* Casey, Brennus 221  
*wrangelli* Casey, Pterostichus 836  
*wyeast* Kavanaugh, Nebria 181  
*xanthocnemis* Bates, Anchomenus 1235  
*xanthognatha* Bates, Celia 928  
*xanthopus* Dejean, Bembidium 678  
*xanthopus* Dejean, Elaphropus 678  
*xanthostictum* Gemminger & Harold, Bembidion 610  
*xanti* LeConte, Omus 272  
*xiaoxinganensis* Li & Liang, Nebria 372  
*yampa* Gaumer, Cicindela 1625  
*yampae* Rumpff, Cicindela 344  
*ybousqueti* O. Berlov, Pterostichus 846  
*yosemitensis* Hacker, Pterostichus 827  
*youngi* Krekeler, Pseudanophthalmus 499  
*yucatana* Horn, Cicindela 308  
*yucatana* Liebke, Colliuris 1270  
*yukonense* Wickham, Asaphidion 535, 1597  
*yukonum* Fall, Bembidion 580  
*yvesbousqueti* Donabauer, Trechus 509  
*zabroides* LeConte, Euryderus 1092  
*zaisani* Jedlička, Amara 943  
*zephyrium* Bousquet & Larochelle, Bembidion 552  
*zephyrum* Fall, Bembidion 552, 1599  
*zephyrum* Fall, Bembidium 552  
*zephyrus* Casey, Pterostichus 834  
*zimmermani* LeConte, Carabus 247  
*zioni* Van Dyke, Nebria 165  
*zuniana* Casey, Cymindis 1285  
*zuniana* Casey, Pristodactyla 1171  
*zunianus* Casey, Chlaenius 965  
*zunianus* Casey, Pterostichus 845  
*2-cincta* Hope, Coptodera 1279  
*2-notatus* Fabricius, Carabus 1020  
*2-pustulatus* Fabricius, Scarites 413  
*2-vittatus* Fabricius, Carabus 1322  
*4-guttata* Davis, Cicindela 357  
*4-punctatus* DeGeer, Carabus 1180  
*5-punctatum* Motschulsky, Agonum 1221  
*8-punctatus* Fabricius, Carabus 1239  
*9-striatus* LeConte, Notiophilus 188  
*10-punctatus* Reiche, Dromius 1178  
*12-striatus* Chevrolat, Oodes 958  
*14-striatum* Thomson, Bembidium 649  
*14-striatus* Chaudoir, Oodes 959  
*16-punctata* Klug, Cicindela 324  
*VI-punctatus* Müller, Carabus 1212